recent preparation which you may know Casumen
lish preparation of very pure soluble casein. What is
ay of them? I think that one may say that they are
t the most useful of all the artificial foods which have
troduced. There is no doubt that these preparations
added in very large amount to ordinary foods such as
and milk and even to some solid foods with great
t and without the patient being aware of the addition
seeing that these preparations contain 80 or 90 per cent.
ro proteid you can understand that the amount of
ive material which they are the means of supplying is
lderable. I know of no special indications necessitating
use but there are many conditions of disease where one
to enrich a fluid diet. If a patient is on pure milk
you want to increase the nutritive value of the milk
t is that such preparations can be made very useful
you can add them knowing that they will be easily
ted and be almost completely absorbed and that they can
patient no harm. Looking at the subject all round these
amongst the most useful of all the artificial foods and
the further advantage that, as most artificial foods go
are cheap because the casein is extracted from skim
which would otherwise be thrown away and the
tion can therefore be produced at a low cost.
third class in this group are those derived from
able sources These were introduced because people
ted to get a cheaper source of proteid animal sources
necessarily expensive The one which has been
recommended is Aleurone which is the proteid of
It is colourless, odourless tasteless, and fairly
But for some reason or other it has never properly
aught on.
The last class in the group are those containing sub-
nces derived from both animal and vegetable sources
best example of these is Tropon which is relatively
ely cheap, because it is derived from waste animal and
table substances. It was found that by wa hing away
fat from these substances a powder could be obtained
ich was practically free from odour and taste which could
kept indefinitely and which was also rich in proteid It
advertised considerably in this country but has not come
large use. It has the disadvantages of not being
lly soluble and of having a rather sandy taste.
The next sub-group includes those foods which are intended
supply especially carbohydrates. The best example are
malt extracts The e contain roughly the following pro-
ose sugar from 50 to 55 per cent., soluble starch
10 to 15 per cent. proteids, from 5 to 6 per cent. and
from 1 to 2 per cent. I want to consider for a moment
t the value of malt extracts is because they are, perhaps,
largely prescribed than any other patent food They
originally made becau e they contained diastase being
pared by evaporating down an infusion of malted barley
low temperature so that the ferment is not destroyed by
t, and it was hoped that they would help the digestion
other starchy foods by converting them into sugar
consequence of this view is that malt extracts are
essarily expensive as they have to be produced very care-
ly, in case the diastase should be destroyed. When
prescribe malt extract do you ever ask yourselves
at it is you particularly want to do? I put that question
ause I want to ascertain for my own information whether
majority of people who order malt extract have any
of diastase at all. When you order it are you
of giving your patient diastase to help him to
e rest of his starchy food? Or do you order it for
sugar and proteid matter which it contains? I hope in
d ussion which is to follow that I shall get some
rmation on this point. If the medical profession were
ay that they only wanted malt extract for the sake of its
ar then the cost of its manufacture might be reduced
cent. I think that the majority who prescribe it do
because they want sugar But what is the value of malt
ract regarded as a source of sugar? These preparations
tain only half the weight of sugar that ordinary loaf
contains. You may say that malt extracts contain
sugar but there is no proof that malt sugar is much
erior to other natural sugars. It is true that it is
digested and it certainly seems to agree better
the stomach than cane sugar But such a substance as
contains wholly digested sugar ready to be absorbed
into the blood and honey contains a larger
of dextrose than does anything else I know of
[illegible] 2s 9d, a pound of malt extract costs

3s and the honey is the better source of sugar of the two Therefore if one does not want to get diastase one is acti[illegible] more wisely by ordering honey But of course, the patie[illegible] might laugh at you if you ordered honey whilst he would swallow any quantity of malt extract costing double the price. I would put in a word here for milk sugar or lactose which is one of the best methods of enriching a diet in carbohydrates Lactose does not taste sweet and it is a food It can be added largely to liquid foods without making them unpleasantly sweet You can stir the lactose into milk and thus increase its food value without adding to its bulk Certainly I think it deserves a better place among sick room requisites than it holds.

We now pass to the third sub-group—those which are intended to supply us with fat. The most important of those is cod liver oil emulsion Here again one is met by the same question as in considering the malt extracts Why does one order cod liver oil emulsion? Wherein does the virtue consist? Is it for any particular virtue in the emulsion or is it merely for the fat? I do not know that cod liver oil fat posses es any special virtues. You believe it to be specially easy of digestion? But in cream you get a more valuable substance because ordinary cream contains more than 50 per cent. of fat, and butter fat is as easily digested and ab orbed as the fat of cod liver oil besides having the advantage of being much more palatable and considerably cheaper So I do not see any reason for ordering cod liver oil emulsion if you only want an easily digested fat when there are such substances as ordinary cream and butter procurable. I have also put down in this category petroleum emulsion because it is so largely advertised and because it is in a sense, one of the most delusive of all these artificial preparations It is certainly believed by many people to be a substitute for cod liver oil A mineral oil like petroleum can never by any chance, be absorbed into the blood, and any action of petroleum emulsion is purely local and it cannot feed any more than vaseline which you rub into the skin I took the trouble some time ago to demonstrate that by analysing the fæces of a person who was taking petroleum emulsion I was able to recover every gramme from the stools, not one single particle of it got near the blood Even if it did the body could not utili e it because it is a hydrocarbon and not a fat

Pancreatic emulsion is a fairly well known preparation and is rather pleasant to taste. It is really emulsified lard flavoured with clove oil. It keeps very well and it is quite easy to take. But it does not contain more fat than butter which contains 80 per cent. and lard is certainly not more digestible than is butter fat. As long as there is butter in the universe, therefore, I cannot see any excuse except a psychological one, for manufacturing pancreatic emulsion.

Then we come to the fourth subdivision of the first great group the mixed fatty and carbohydrate foods. One of these is Virol and another which has been recently introduced is Virvis. These are preparations containing essentially malt extract and marrow fat flavoured with lemon juice Of course such a preparation has a considerable amount of nutritive value. Virol contains 20 per cent. of fat and 60 per cent of carbohydrate and two ounces of it cost 9d Virvis is rather cheaper but I have not analysed its constituents. But here again you will see that there is no great virtue in those preparations they contain a certain amount of fat and carbohydrate so does chocolate, chocolate contains more fat and more carbohydrate while ordinary toffee, Everton toffee, consists of equal quantities of fat and carbohydrate without any water So I cannot see any use for the existenc[illegible] of those things so long as you can prescribe chocolate an[illegible] Everton toffee—except, of course a psychological advantag[illegible] I shall deal briefly with the beef extracts

I pass next to the beef extracts I shall deal briefly wit[illegible] these because you have all the essential facts in the analyse[illegible] which I have put before you in Table I Beef extracts i[illegible] the ordinary sense of the term, are of very little, if an[illegible] food value. They contain hardly any proteid, what they chiefly contain are the extractives and mineral matters Experiment has shown that the extractives are only o[illegible] use in so far as they stimulate the appetite they have no other action whatever they are not foods, they are not true stimulants and they have no particular influence in the body except that of increasing the appetite for other food So the place for them is in the kitchen and not in the sick room. That was fully recognised by Liebig and was only lost sight of by his successors. But then there came people who tried to make meat extracts of food value. They added to the ext[illegible] fibre—a [illegible] for example in the case of [illegible] so long as the sputum remains moist the surrounding atmosphere is not impregnated with the poison (tubercle bacilli or its spores), but if the sputum is allowed to dry and become pulverised the atmosphere may readily become impregnated with the poison. On this point Dr James B Russell states —

> In order to be air borne the sputum must be dried and broken up into dust If discharged into a handkerchief it speedily dries especially if it is put into the pocket or beneath the pillow In the last stages of consumption the patient becomes weak the sputum is expelled imperfectly, pillows sheets, and handkerchiefs are soiled If a male the beard or moustache is smeared Even in the hands of the cleanly, without special precautions such circumstances all tend to the production around the patient of a halo of infected dust maintained by every process of bed making or of cleaning which includes the pernicious process happily described as 'dusting In the hands of the careless and the dirty the infectivity is of course, greatly aggravated It attains its maximum of intensity where the filthy habit of spitting on the floor prevails, especially if carpeted

The process of drying does not (immediately) destroy the vitality of the tubercle bacillus and its spores Consequently, dust derived from the dried sputum of a case of phthisis is for a time at least infective, but so far as I know the maximum length of time which the tubercle bacilli and their spores may retain their vitality has not as yet been definitely determined Dust containing the tubercle bacillus and its spores may certainly remain infective for several weeks, probably, under conditions which are favourable for the retention of their vitality, for several months, and possibly for some years.[5] I say under conditions which are favourable for the retention of their vitality, and the most important seem to be the presence of dirt and the absence of fresh air and of sunlight. On the other hand, there seems every reason to suppose that under conditions which are unfavourable for the retention of their vitality (cleanliness, plenty of fresh air, and of sunlight) the tubercle bacillus and its spores quickly die On this point Professor G. Sims Woodhead makes the following very important statement —

> The tubercle bacillus may, under certain conditions, remain and grow in wall paper and even in certain soils though this as yet has not been fully proved but we may take it for granted that outside the animal body the conditions of nutrition and of general temperature are so unfavourable these unfavourable conditions are so helped by sunlight by desiccation, by oxidation and the numerous other influences that interfere with the growth of micro-organisms (especially those that have a distinct parasitic existence), that if we could cut off the supply coming from patients both human and brute, the danger from infection would soon be reduced practically to the vanishing point [6]

It seems certain that the dust derived from the dried sputum of cases of phthisis is the chief means by which the tubercle bacillus is conveyed from human beings affected with phthisis to other healthy human beings The number of tubercle bacilli which are given off in the sputum of a patient affected with phthisis in the course of 24 hours is enormous, and when it is remembered that patients with phthisis continue to expectorate and to give off countless numbers of tubercle bacilli, not only for weeks but for months and, in some cases, for years, the magnitude of this source of infection will be at once realised. On this point Professor William Osler says —

> Patients with advanced pulmonary tuberculosis throw off in the expectoration countless millions of the bacilli daily Some idea of the extraordinary numbers may be gained from the studies of Nuttall From a patient with moderately advanced disease the amount of whose expectoration was from 70 to 130 cubic centimetres daily he estimated by his method that there were in 16 counts, between Jan 10th and March 1st from one and a half to four and a third billions of bacilli thrown off in the 24 hours These figures emphasise the danger associated with phthisical sputa unless most carefully dealt with When expectorated and allowed to dry the sputum rapidly becomes dust and is distributed far and wide. The observations made by Cornet under Koch's supervision are in this connexion most instructive He collected the dust from the walls and bedsteads of various localities and determined its virulence or innocuousness by inoculation into susceptible animals Material was gathered from 21 wards of seven hospitals three asylums two prisons from the surroundings of 62 phthisical patients in private practice and from 29 other localities in which tuberculous patients were only transient frequenters (out patient departments streets, &c.) Of 118 dust samples from hospital wards or the rooms of phthisical patients 40 were infective and produced tuberculosis Negative results were obtained with the 29 dust samples from the localities occasionally occupied by consumptives Virulent bacilli were obtained from the dust of the walls of 15 out of 21 medical wards It is interesting to note that in two wards with many phthisical patients the results were negative indicating that the dust in such regions is not necessarily infective The infectiousness of the dust of the medical and surgical divisions of a hospital is in the proportion of 76 6 to 12 5. In a room in which a tuberculous woman had lived the dust from the wall in the neighbourhood of the bed was infective six weeks after her death No bacilli were found in the dust of an inhalation-chamber for consumptives The experiments of Strauss at the Charite Hospital, Paris, are important In the nostrils of 29 assistants, nurses and ward tenders he placed plugs of cotton wool to collect the dust of the wards In nine of the 29 cases these contained tubercle bacilli and proved to infective animals [7]

In some cases of tuberculous disease, including some cases of phthisis, in which the intestine is affected with tuberculous ulceration, tubercle bacilli are given off from the bowels—i.e, in the fæces But this is a much less frequent and important source of infection than the sputum of phthisis Primary tuberculous disease of the intestine is extremely rare, tuberculous ulceration of the intestine chiefly occurs in acute cases of phthisis with rapidly disseminated tuberculous lesions and in the later stages of chronic cases Tubercle bacilli may also be given off from the bodies of human beings affected with tubercle in other ways, as, for example, in the urine in which the genito-urinary tract is affected with tubercle, but tuberculous disease of the genito-urinary tract is comparatively rarely developed in cases of phthisis, and primary tuberculous disease of the genito urinary tract is, in comparison with phthisis, a very rare condition Consequently in comparison with the sputum of phthisis this is an unimportant source of infection Discharges from abscesses connected with tuberculous glands, bones, joints, &c, may also be a source of infection but in comparison with the sputum of phthisis this is a very insignificant one Such discharges contain, in comparison with the sputum of phthisical patients, few tubercle bacilli, *the material from scrofulous* joints and bone tuberculosis appears to be less virulent than that from other varieties of human tuberculosis, and further since cases of this kind usually come under the care of the surgeon at a comparatively early stage of their development and are consequently subjected to careful antiseptic treatment, this source of infection as a direct cause of phthisis and other tuberculous affections may for practical purposes be entirely, or almost entirely, ignored. Tuberculous affections of the skin (lupus, tuberculous ulcerations) need not, for practical purposes, be taken into account In such ulcerative lesions of the skin the tubercle bacillus is present in very sparse quantities and the discharges from such ulcerations may for practical purposes be ignored as a source of infection

To sum up, tuberculous disease is conveyed from one human being to another by means of the secretions, excretions, and discharges which contain the tubercle bacillus or its spores, these discharges, more especially the sputum of phthisical patients, become dried and pulverised and are inhaled in the form of dust with the inspired air. The sputum of phthisis is by far the most important source of infection by which the tubercle bacillus is conveyed from one human being to another

6 Further, if dust which contains the tubercle bacillus is capable of producing phthisis and other forms of tuberculous disease when introduced into the bodies of unaffected and susceptible persons, it follows that susceptible persons who inhabit the rooms and houses in which dust which is impregnated with the tubercle bacillus is allowed to remain and to accumulate run some risk of being affected I say susceptible persons, for, as I will presently point out, the risk which absolutely healthy persons run from inhaling the tubercle bacillus or its spores seems to be, comparatively speaking, small. It is certain that the contagious material (the dust which contains the tubercle bacillus or its spores), unless great attention is paid to cleanliness and disinfection, is apt to retain its vitality in particular houses and rooms (the houses and rooms in which patients affected with phthisis have lived and died) for considerable periods of time and that such houses and rooms are apt to be centres of infection Dr Arthur Ransome and others have recorded cases which leave no manner of doubt on this point

7 Tuberculous disease in the human subject may also be due to the introduction into the body of the tubercle bacillus or its spores derived from the lower animals, and especially from bovines, affected with tubercle, in other words, tuberculous disease in the human subject may be due to the introduction into the gastro intestinal tract of tuberculous milk or tuberculous meat Two Royal Commissions have recently considered and reported on the question of tuberculosis in its

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[5] A case recently came under my notice in which there seemed reason to suppose that tubercle bacilli or their spores had retained their vitality in a certain room for four years

[6] Edinburgh Medical Journal May, 1899 p 467

[7] Principles and Practice of Medicine, third edition, p 261

to food and milk In the report of the last Com the following statement occurs —

> have had before us the unanimous finding of the Royal Com on Tuberculosis, which reported in 1895 to the effect that disease in bovine and other animals is identical with that the human subject and that it is communicable from one to the though the manifestation of the disease differs in some respects the human subject from that in the lower animals. We have also red their finding that "any person who takes tuberculous matter to the body as food incurs risk of acquiring tuberculous disease." that has come before us in the course of our inquiry has raised doubt in our minds as to the accuracy of this opinion At the time we think that there has been a tendency in some minds to erate the extent of the risk arising from meat.

Milk.—Almost all authorities are agreed that tuberculous lk is a frequent and most important cause of tuberculous sease in the human subject Butter made from tuberculous milk is also infective And in this connexion it is to note that while the mortality from tuberculous eases of all forms, and especially from phthisis has been ormously reduced of recent years the mortality from tabes which is by far the most frequent form of tuberculous disease in children and which seems to be chiefly due infection by tuberculous milk does not seem to have gone any noteworthy diminution during the very of sanitary progress which has been associated with substantial diminution of death from tuberculous affec- at all ages in England and Wales and that this result coincided in point of time with a large increase in the onsumption of milk. The full statement of the Royal on on this point is as follows —

> We note therefore, with satisfaction that death from tuberculous ease in all its forms and at all ages has steadily fallen from 483 per million during 1851-60 to 2122 during 1891-95—a diminu- of 39·1 per cent—and also that at every age period for statistics are available there has likewise been a decrease, nes of a very substantial character Further taking the age of 15-45 years as the period of life when meat forms a very prominent article of food and dividing that term into five-yearly or 10 yearly periods, we find that the diminution of death from tuberculous disease has ranged from 62·8 per cent. at the age-period 15-20 years to 30·8 per cent at the age-period 35-45 years In recording this enormous reduction in the amount of death from this cause we must recall the fact that during this age period phthisis is the form of registered death which altogether overwhelms all other forms of fatal tuberculous affections and that phthisis may be considered as due to the reception of tuberculous infection rather by the respiratory than by the digestive tract. For the age-period 0-5 years there has also been a reduction in death from tuberculous disease in all forms from 6764 per million living at that age in 1851-60 to 4155 in 1891-95—a diminution of 27·8 per cent. This reduction is, however but little more than half that which has taken place at the age-periods 15-20 and 20-25 years; and when we come to examine that form of tuberculous disease—namely tabes mesenterica—which is believed to be mainly due to infection received by the digestive tract we find that whilst at the age-period 0-5 years, when milk forms so important an article of diet, the rate of death per million living has shown first increase then decrease, yet the rate which stood at 1625 during 1851-60 had only fallen to 1577 for the period 1891 95 a diminution of but 3·0 per cent. In this connexion we feel it necessary to recall the fact that the term tabes mesenterica as used in our death records is very indefinite and that it has comprised and doubtless still comprises a considerable amount of death from certain diarrhoeal affections which are not really tuberculous. But whilst this is so it must also be remembered that the rate of mortality from tabes mesenterica which more than any other represents tuberculosis in infancy has signally failed to undergo any noteworthy diminution during the very period of sanitary progress which has been associated with such substantial diminution of death from tuberculous affections at all ages in England and Wales and that this result has coincided in point of time with a large increase in the consumption of milk.

Although authorities are not absolutely agreed upon this point the weight of evidence seems strongly in favour of the view that the milk of a cow affected with tubercle only becomes tuberculous—i.e. contains the tubercle bacillus or spores—when the milk producing apparatus (mammary glands, milk ducts and udders) is itself affected with local tuberculous disease. In other words, the great majority of authorities are agreed that the mere presence of tuberculous disease of the internal organs is not attended with the presence of the tubercle bacillus or its spores in the milk. On this point the Royal Commission states —

> Considerable difference of opinion exists among experts as to the extent to which a cow may be affected with tuberculosis without rendering her milk dangerous. It was not proved to our satisfaction that tubercle bacilli had ever been detected in milk unless drawn from a cow with tuberculosis of the mammary gland

Dr Sidney Martin's observations and opinions on this point are very definite. He concludes that —

> When tuberculosis of the cow affects only the internal organs and not the udder the milk is not infective but that in all cases where the udder is tuberculous the milk becomes infective and is indeed often extremely virulent. Moreover, the butter butter-milk and skimmed milk obtained from this class of milk is also extremely infective There is no question, therefore, that this class of milk ought not to be used as food and it is certain that its exclusion would lead to a great diminution in the large number of cases of tuberculosis that occur in children

Infection by tuberculous milk is a most important source of tuberculous disease, more particularly of the mesenteric glands, and therefore of generalised tuberculosis and secondary tuberculous lesions in other organs and tissues, and consequently in the lungs—i.e. of secondary phthisis Infection by tuberculous milk seems chiefly to occur in children and is so far as we know comparatively speaking rare in adults It is possible, however, as Dr James Niven has suggested that adults are more frequently infected through it than is usually supposed.*

With regard to the frequency with which infants and children are affected with tuberculosis and the frequency with which children are infected through tuberculous milk the following statement from the report of the British Medical Association on tuberculosis is of importance —

> Experience has further shown that infants and children dying of respiratory and wasting diseases are in a large proportion affected by tuberculosis although the patients have not presented obvious symptoms of the disease during life The mortality from tuberculosis in early childhood is not decreasing as it is at other ages in the United Kingdom and the opinion that this great prevalence of the disease in infancy and childhood is due to infection through the alimentary canal by milk from tuberculous cows appears to be well founded The following table, showing the mean death-rates from tabes mesenterica in England and Wales among infants under one year of age per million living is given by Sir Richard Thorne Thorne in his second Harben Lecture :—

1851-60	3160	1881-85	4356
1861 70	3900	1886-90	4462
1871-80	4467	1891-95	4046*

I do not, of course mean to imply that in all cases in which tubercle has its starting point in the mesenteric glands or gastro-intestinal tract the disease is due to tuberculous milk. There is every reason to believe that in some perhaps a considerable proportion of cases the tubercle bacillus and its spores are inhaled with the inspired air and then swallowed, and in the great majority of cases in which the infection is introduced into the body in this way the poison (tubercle bacillus) is derived from cases of phthisis. It has also been suggested that tubercle may be communicated to a healthy child by kissing (the tuberculous sputum from the mouth of the affected person getting on to the lips and thence into the alimentary canal of the non affected person), through the milk of a tuberculous mother or nurse (this must be exceedingly rare for in the human subject the mammary gland and nipple are very rarely indeed affected with tubercle), by a tuberculous dog or cat licking the face of a healthy child, &c But every experienced and judicially minded observer who takes an unprejudiced view of the question will I think, allow that such methods of propagation with perhaps the exception of kissing (for it is not improbable that this is a more frequent mode of infection than is generally supposed) are so extremely infrequent and so exceptional—I would even venture to say so fanciful—that they may for practical purposes be entirely ignored In short it cannot, I think, be doubted that the tubercle bacillus is very frequently introduced into the bodies of children through the gastro-intestinal tract by means of tuberculous milk. Against this view it has been argued that milk cannot be such a potent channel of infection as is usually supposed, since tabes mesenterica and other forms of tubercle are more common in the poor than in the rich and since the children of the poor drink much less milk than the children of the rich. But this argument does not carry conviction to my mind. In my opinion the reasons why tabes mesenterica and other forms of tuberculous disease more frequently result in the children of the poor than in the children of the rich from the ingestion of tuberculous milk are—(1) that in the children of the poor the gastro-intestinal tract and mesenteric glands are so much more frequently in an unhealthy condition (the gastro-intestinal tract is in a condition to absorb the tubercle bacillus or the mesenteric glands are in a condition to form a suitable nidus for its development) and (2) that in consequence of lowered vitality (due to insufficient food insanitary surroundings &c.) the resisting power—the vital resistance as it has been termed—of the poor child against the tubercle bacillus is less than the resisting power of the rich and well cared-for child

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* Manchester Medical Chronicle vol. vii 1897 p. 8.

* British Medical Association; Report on Tuberculosis Jan. 18th 1899

That a large amount of tuberculous disease in the human subject, and especially in young children, is due to the drinking of tuberculous milk seems to be shown, as has already been pointed out, by the facts (1) that while the death rate from all forms of tuberculous disease and especially from phthisis during the age-period from birth to five years—the milk drinking age *par excellence*—has during the 45 years from 1851 to 1895 markedly diminished (the diminution from all forms of tuberculous disease being 29·9 per cent and the diminution from phthisis being 66 per cent.), the death rate from tabes mesenterica has during the same age-period diminished only 3 per cent., and below one year of age the mortality from tabes mesenterica has during the same period of time (1851 to 1895) apparently increased by no less than 27·7 per cent.,[10] and (2) that during this period (from 1851 to 1895) there has been a very large increase in the consumption of milk.[11]

Tuberculous meat —Tuberculous meat is probably also an occasional but, so far as is known, by no means a frequent, cause of tubercle in the human subject. On this point the Royal Commissioners state —

> At the same time we think there has been a tendency in some minds to exaggerate the extent of the risk arising from meat When some years ago tuberculosis in human beings and other animals was first proved to be interchangeable we think that an exaggerated view was taken of the extent of the danger arising from meat, and that this view is still acted on in certain places

Highly tuberculous meat is rarely sold for human food and rarely eaten, for a marked degree of tuberculosis in meat is readily perceived by the naked eye Further, thorough cooking destroys the vitality of the tubercle bacillus, hence, mere surface contamination of the (sound) flesh of a tuberculous animal, such as may be produced by the knife of the butcher in dressing the carcass, is not likely to lead to the production of tuberculosis in the human subject, at all events in this country It is very different in the case of milk The tuberculous character of milk can only be recognised by the skilled observer—i e, after bacteriological examination or after cultivation or inoculation experiments Further, milk is usually consumed in the uncooked state Again, it must be remembered that milk is an admirable nidus for the development of micro organisms Hence, when milk is tuberculous the dose of the poison (the tubercle bacillus) is apt to be a large one and the intensity of the poison (owing to the high state of vitality of the bacilli) is often very great

That comparatively little tuberculous disease in the human subject is due to eating tuberculous meat seems shown by the facts "(1) That during the 45 years (from 1851 to 1895) the diminution of the death rate from all forms of tuberculous disease during the age period from 15 to 45—*the meat eating age as it may be termed*—has been 45 per cent. and the diminution in the death rate from phthisis has been 48 per cent, and (2) that during this same period of time (1851 to 1895) there has been in this country an enormous increase in the amount of meat consumed."[12]

So far as is at present known tuberculous disease is almost exclusively conveyed from the lower animals to the human subject through the medium of tuberculous milk or tuberculous meat (the flesh of tuberculous cows or pigs) In both cases the tubercle bacilli or their spores are introduced into the alimentary canal of the human subject. It seems probable that the tubercle bacilli introduced in this way usually first produce (local) tuberculous disease in the mesenteric glands, and subsequently after becoming diffused, (secondary) tuberculous disease of the lungs and other organs It is, however, highly probable that in some cases in which tubercle bacilli are introduced into the gastro intestinal tract they are carried by the blood to the lungs or other tissues (cerebral membranes, for example), where they produce primary tuberculous lesions—i e, without first producing local tuberculous disease in the intestinal or mesenteric glands In this connexion I would direct attention to the following statement of Dr Sidney Martin—viz "It must be granted, from the experiments in pigs which have been recorded, that it (milk) may also be a source of tuberculous (scrofulous) glands in the neck."[13]

8 The chief sources of tubercle in the human subject are (1) the sputum of human beings affected with phthisis, and (2) the milk of cows affected with local tuberculous disease of the milk producing apparatus (udders, &c)

9 Primary tuberculous disease of the lungs *seems* to be comparatively rarely due to infection by tuberculous milk or tuberculous meat. It is probable that when children are affected with phthisis the tuberculous lung affection is either produced in the ordinary way (the tubercle bacillus being inhaled and introduced into the respiratory tract or, after alighting on the pharynx, into the gastro intestinal tract) or that the phthisis is secondary to tuberculous disease of the mesenteric glands Primary phthisis appears to be, comparatively speaking, rare in infancy and childhood Though phthisis may occur at any age it chiefly occurs during active adult life, the greatest number of deaths occurring between the ages of 35 and 45 years It has been suggested that the disease is over looked in children owing to the fact that children do not expectorate. But this explanation cannot be accepted, for it is an actual fact, definitely proved by post-mortem observation, that phthisis (I mean the condition which we clinically term phthisis, I exclude miliary tuberculosis of the lungs without cavity formation) is very rarely met with in children compared with its frequency in the adult The reason seems to be that the resisting power of the lung of the child is greater than the resisting power of the lung of the adult, or, as Sir Hugh Beevor puts it, "It is the power of the lung to resist infection which determines the curve of the phthisis rate at early ages "[14]

10 The channels through which the tubercle bacillus or its spores are introduced into the human subject The tubercle bacillus or its spores may be introduced into the human subject either (1) with the inspired air, (2) with food or drink, or (3) by means of inoculation.

Infection through the inspired air —When the tubercle bacillus or its spores are introduced with the inspired air the poison is in the great majority of cases derived from the dried sputum of cases of phthisis, though other discharges which contain the tubercle bacillus or its spores and which become dry and pulverised, may, of course, be the source of the poison When the tubercle bacillus or its spores are inhaled in the inspired air, the poison may pass into the respiratory passages and may alight on the larynx, bronchial mucous membrane, or possibly the terminal air cells of the lung, or it may alight on the nasal mucous membrane, tonsils, or pharynx. Absorption from the tonsils and throat is probably a frequent cause of tuberculous disease, more particularly of tuberculous (scrofulous) disease of the cervical glands Tubercle bacilli which are inhaled with the inspired air may, instead of passing into the respiratory tract, be swallowed and be absorbed from the gastro-intestinal tract, producing tuberculous disease of the mesenteric glands, &c.

Infection through the gastro intestinal tract —The frequency with which tabes mesenterica and other forms of tuberculosis seem to be produced in children through the introduction of tuberculous milk into the gastro intestinal canal has already been pointed out. Possibly tuberculous disease in the adult is more frequently due to tuberculous milk than is usually supposed

Infection by means of inoculation.—In man inoculation seems very rarely to produce internal tuberculosis When tubercle is induced in this way it usually remains local The warty affection which occasionally occurs on the hands of the pathologist has been proved to be a local form of tuberculosis Butchers occasionally contract the same form of (local) tubercle from dressing diseased (tuberculous) carcasses. In cases of primary phthisis the poison seems, in the great majority of cases, to be introduced into some part of the respiratory tract with the inspired air—air which contains the tubercle bacillus or its spores.

ADDENDUM. PROFESSOR KOCH'S VIEWS REGARDING BOVINE AND HUMAN TUBERCULOSIS.

In his address at the British Congress on Tuberculosis

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[10] Absolute reliance cannot I think be placed on these figures I do not mean to imply that they do not accurately represent the exact numbers and causes of death as registered They *of course do so* But exactness of diagnosis and classification have without doubt varied during the past 45 years Hence we cannot be at all certain that cases which are now classed as tabes mesenterica were so classed 45 years ago and *vice versa* Further as the last Royal Commission on Tuberculosis points out the term *tabes mesenterica* is used in a very loose way Many cases of diarrhœa in children are classed as tabes mesenterica but in true tabes mesenterica (tuberculous disease of the mesenteric glands) diarrhœa is often absent for in the great majority of cases of tabes mesenterica there is no tuberculous ulceration of the intestine

[11] Sir R Thorne Thorne Harben Lectures 1898 p 29

[12] Ibid, p 19

[13] Clifford Allbutt's System of Medicine vol ii p 29

[14] THE LANCET, April 15th, 1899, p 1066

(July 23rd, 1901) Professor Koch made the following statement Though the important question whether *man is* insusceptible to bovine tuberculosis at all is not yet absolutely decided and will not admit of absolute decision to-day or to-morrow one is nevertheless at liberty to say that if such a susceptibility really exists the infection of human beings is but a very rare occurrence. I should estimate the extent of infection by milk and flesh of tuberculous cattle and the butter made of their milk as hardly greater than that of hereditary transmission and I therefore do not deem it advisable to take any measures against it Professor Koch based this remarkable opinion (1) upon the belief, founded on experiment and observation that human and bovine tuberculosis are not identical (2) upon a series of experiments which seemed to show that human tuberculosis is not *communicable to cattle and (3) upon the* fact that primary tuberculosis (tuberculous ulceration &c.) of the intestinal tract is extremely rare in man He consequently concluded that bovine tuberculosis is very rarely if ever communicated to man by means of tuberculous milk and tuberculous meat. These conclusions *and the data on* which they are founded have not as yet been accepted by the *profession.*

Many leading authorities maintain that human tuberculosis *is communicable* to cattle Further it is argued that even if human tuberculosis cannot be *communicated* to cattle or can only with difficulty be communicated to cattle it does not follow that bovine tuberculosis cannot be communicated or can only with *difficulty* be *communicated* to man Again as Lord Lister pointed out in proposing a vote of thanks to Professor Koch for his address the fact that primary *tuberculosis* of the intestinal tract is very rare in man does not, as Professor Koch maintains prove that the ingestion of tuberculous milk *is incapable of producing* tuberculous disease in the human subject for in this country at all events it has for years been a matter of common belief that tuberculous milk *produces its injurious effects* not directly upon the gastro-intestinal tract (by leading to the production of primary tuberculosis (tuberculous ulceration &c. of the intestine) but by producing tuberculous disease of the mesenteric glands [13] But coming as it *did* from the discoverer of the tubercle bacillus—the leading authority on *tubercle—Professor* Koch's opinion has *necessarily unsettled* the whole question. The matter is still *sub judice* and is being actively investigated by commissions and skilled observers all over the civilised world. In the meantime I see no reason to modify the views which I have expressed in my lecture. With some verbal alterations it is printed in the form in which it originally was written. I am most emphatically *of opinion* that until the question is definitely settled we should continue to take every precaution to prevent the *introduction of* tuberculous milk into the gastro-intestinal tract of man. Who amongst us I ask would drink milk or would allow his children to drink milk knowing that it was tuberculous?

But while I see no reason to modify the opinions which have been expressed in this lecture I devoutly hope and trust that Professor Koch's observations and views may be substantiated *for if it* should be conclusively proved after prolonged and exhaustive observation and investigation that Professor Koch is correct in thinking that bovine *tuberculosis is* incommunicable or only very slightly communicable to man, that there is, practically speaking little or no risk from the ingestion of tuberculous milk and tuberculous meat and that it is unnecessary to take any precautionary measures against bovine tuberculosis it will be a singularly *fortunate* thing for the human race. If Professor Koch's views are correct the *prevention* of *phthisis and* other forms of tuberculous disease in the human subject will *be a comparatively* simple and easy matter for then the fundamental point to be aimed at will be the destruction and disinfection of phthisical (tuberculous) sputum.

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[13] *This view has been fully set forth* in the body of my lecture

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SMALL-POX IN DARTMOOR PRISON—At the meeting of the Tavistock board of guardians held on June 27th Mr C. C. Brodrick the medical officer of health of Tavis*tock rural district reported* that *two* convicts in Dartmoor prison were suffering from small-pox. They had been resident in the prison for six and 12 months respectively He considered the disease must have *been imported* from London by an escort. It was resolved that tents should be

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ON SOME NEW PROCEDURES FOR THE EXAMINATION OF THE BLOOD AND OF BACTERIAL CULTURES,

IN PARTICULAR

(1) ON THE POSSIBILITY OF DISPENSING WITH THE STANDARD PIPETTES AND MICROMETRICAL RULINGS OF THE HÆMOCYTOMETER,

(2) *ON A METHOD OF DETERMINING* UNDER THE MICROSCOPE THE NUMBER OF MICRO-ORGANISMS CONTAINED IN A BACTERIAL CULTURE, AND

(3) *ON A SIMPLE PROCEDURE FOR OBTAINING COAGULATION* TUBES OF STANDARD CALIBRE, *ALSO AS INTRODUCTORY TO THIS LAST A NOTE ON THE PRACTICAL IMPORT*ANCE OF THE INFORMATION OBTAINED FROM THE COAGULOMETER.

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THE series of methods which I have described (for the most part in THE LANCET) for *measuring (a) the coagulability* [1] (*b*) the alkalinity [2] (*c*) the agglutinating power [3] (*d*) the content in calcium salts, [4] and (*e*) the bactericidal power of the blood [5], further (*f*) the method devised by my colleague Major W B Leishman R.A.M.C., for measuring the phagocytic power of the blood [6] and lastly (*g*) the method described by me for determining by a cultural process the number of living *micro-organisms* contained in a bacterial culture, [7] all involve the use of capillary tubes for the purpose of measurement. 1. In the case of the majority of the quantitative procedures enumerated above the preliminary measuring diluting and mixing operations which are involved can be carried out in uncalibrated capillary tubes by the method which I have *described* for making measurements dilutions and mixtures in such tubes. Uncalibrated capillary tubes can be used in particular *for* measuring the alkalinity the content in lime salts and the agglutinating bactericidal, and phagocytic power of the blood. It will presently appear that such tubes may be employed also in connexion with the measurements which are ancillary to the enumeration of bacteria or red blood corpuscles under the microscope. 2. For the determination by cultural processes of the number of *micro-organisms in a bacterial culture* we require capillary tubes marked off in divisions corresponding to definitely known volumes of fluid. 3. Lastly for the measurement of the coagulability of the blood—since here the area of glass surface which comes in contact with the blood comes into consideration—we require capillary tubes of a standard calibre.

I may before *dealing* with the special subject-matters of this paper briefly set out though this will involve my *traversing again* some *ground* already gone over in previous papers the system of technique which enables us (*a*) to make accurate quantitative determinations in uncalibrated capillary tubes, (*b*) to divide capillary tubes into divisions corresponding to known volumes of fluid and (*c*) to mark off upon any capillary tube a measured length which *conforms* to a standard bore.

I *Method of making quantitative estimations in uncalibrated capillary tubes.*—We proceed as follows We take in hand a piece of glass tubing heat it, and draw it out into a capillary *stem of any convenient size We provide our*selves with a rubber teat which will fit tightly upon the upper wide end of our tube and with a glass writing pencil. A mark having been placed with the last upon the capillary *stem at any convenient* distance *from its orifice* and a negative pressure having been established in the interior of the tube by means of the teat we draw up in succession into the capillary stem (*a*) a volume of the dilutand such as will suffice *to fill the* capillary stem as far as the division mark (*b*) an air bubble to serve as an *index* and (*c*) the *required* number of volumes of diluting fluid these being separated

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[illegible] and
June 1st 1901 (p 1532)
[6] Brit Med Jour Jan 11th 1902.
[7] THE LANCET June 1st 1901 p. 1532.

TABLE I.—SHOWING THE RESULTS OF BACTERIAL ENUMERATIONS UNDERTAKEN BY THE METHOD DESCRIBED IN II.

Serial number	Variety of culture employed	Number of volumes of culture which were added to one volume of blood.	Number of red blood corpuscles enumerated	Number of individual bacteria enumerated on the same area.	Number of bacteria in 1 c.mm of culture as deduced from relative numbers of red blood corpuscles and bacteria.
1	Staphylococcus albus, 24 hours-old agar culture suspended in 0·75 per cent NaCl solution	1 volume 1 volume	446 562	432 561	4,860,000 5,000,000
2	Staphylococcus albus 24-hours-old agar culture treated as in 1	1 volume.	216	364	8,450 000
	A $\frac{3}{5}$th dilution of the same	1 volume	219	237	5,400,000
3	Staphylococcus albus 24-hours-old agar culture treated as in 1	1 volume	214	299	7,000 000
	A $\frac{4}{5}$th dilution of the same	1 volume	275	282	5,100,000
4	Staphylococcus albus 24-hours-old agar culture treated as in 1	1 volume 1 volume	566 159	570 142	6,000,000 4 450,000
5	Staphylococcus albus 24-hours-old agar culture treated as in 1	1 volume 1 volume 1 volume.	Not recorded " " " "	Not recorded " " " "	1 700,000 1,900,000 1,820,000
6	Typhoid bacillus, 24 hours-old broth culture	1 volume 1 volume	434 261	124 55	1 425,000 1,050 000
7	Typhoid bacillus, 24 hours-old broth culture	4 volumes 4 volumes	500 485	68÷4=17 56÷4=14	170,000 145,000
8	Typhoid bacillus 24 hours-old broth culture	4 volumes 4 volumes	602 409	149 ÷ 4 = 37 2 89 ÷ 4 = 22 2	310,000 270,000
9	Typhoid bacillus, 24-hours-old broth culture.	1 volume 1 volume	Not recorded " "	Not recorded " "	290 000 240 000
10	Coli bacillus, 24-hours-old agar culture treated as in 1	1 volume 1 volume	265 201	210 156	3 950 000 3 850,000
11	Anthrax bacillus, 24-hours-old agar culture treated as in 1	4 volumes 4 volumes	406 504	31 ÷ 4 = 7 7 36 ÷ 4 = 9·0	95,000 90 500
12	Anthrax bacillus 24 hours-old agar culture treated as in 1	4 volumes 4 volumes	489 458	54 ÷ 4 = 13 5 56 ÷ 4 = 14	138 000 142,500
13	Anthrax bacillus, 48-hours-old agar culture treated as in 1	1 volume 1 volume	461 358	165 124	1 680,000 1,730,000
14	Anthrax bacillus, 24-hours-old agar culture treated as in 1	Not recorded " " " "	Not recorded " " " "	Not recorded " " " "	560,000 470,000 500,000

Note—Each line in the table corresponds to a separate enumeration procedure In the case of the separate observations tabulated above under the serial numbers 1, 4 6 9, 10 11 12, and 13 the enumeration procedures were undertaken in each case by two separate observers The observations tabulated under 14 were made by three separate observers

TABLE II—SHOWING, FOR THE PURPOSE OF COMPARISON, THE RESULTS OF BACTERIAL ENUMERATIONS MADE (*a*) BY THE CULTURAL METHOD DESCRIBED IN A PREVIOUS COMMUNICATION AND (*b*) BY THE METHOD DESCRIBED IN II

Variety of culture	Data with regard to microscopic count		Number of undegenerated* bacteria in 1 c.mm of culture as deduced from the foregoing data	Data with regard to the number of colonies which developed on agar tubes inoculated in each case with 10 c.mm. of diluted cultures							Number of living bacteria or bacterial groups in 1 c.mm of culture as deduced from the foregoing data
	Number of red blood corpuscles enumerated	Number of individual bacteria on the same area		10 000 dilution		100 000 dilution		1 000 000 dilution			
				A	B	A	B	A	B	C	
Staphylococcus albus four-days old agar culture suspended in 0·75 NaCl solution	313	175	2,700 000	—	—	—	—	11	16	15	1 400 000
Typhoid bacillus, 24-hours-old broth culture	391	111	1 420 000	—	—	—	—	2	4	2	266 000
Anthrax bacillus, 24-hours-old agar culture suspended in 0·75 NaCl solution	489 459	$\frac{54}{4}$=13 5 $\frac{56}{4}$=14	138,000 142 000	10	3	2	1	—	—	—	Circ. 13

* Under the heading of "undegenerated" were classed all those micro-organisms which took the stain in a satisfactory manner

described under 1 in the introductory part of this paper) an aliquot volume of bacterial culture with an equal volume of blood, making a film preparation of this mixture, and counting under the microscope the number of bacteria and red corpuscles found on a series of microscopic fields. The examples embodied in Table I. will show that the method is capable of giving very satisfactory results

Before describing the details of the procedure by which the above results were obtained it will be well to bring out the following points.

1. The microscopic method which is here in *question* enables us to arrive at the number of individual elements in a bacterial culture. Cultural methods give us often only the number of separate bacterial groups or bacterial hyphæ The *microscopic method* is thus applicable to the enumeration of cultures of anthrax and of those varieties of staphylococcus which, since they cannot be effectively isolated cannot be effectively enumerated by the cultural method

2. The microscopic method enables us to determine the total number of bacteria contained in a culture The cultural method *manifestly tells up at best the number of* living bacteria or bacterial groups and hyphæ contained in the culture I have *shown* in a *previous communication* that the dead bacteria in a culture of typhoid or cholera cannot be *left* out of account when we employ the culture as a [illegible]ure of the bactericidal power of the blood Much less need they be left out of account in the standardisation of a bacterial vaccine.

3. The microscopic method gives us immediately and if we so desire it anteriorly to the employment of the culture the *number of* contained bacteria. Given that we have elicited this information and that we desire to modify our culture in the direction of diminishing its content in bacteria, we can as is shown in the case of the observations designated respectively by the serial numbers 2 and 3 in Table I. dilute our cultures to the degree necessary to obtain a standard number of bacteria in the cubic millimetre. Such a preliminary standardisation of the bacterial culture employed may usefully be resorted to in the case of every estimation of the phagocytic power of the blood. As a matter of fact it was for this object that the dilutions in the tabulated observations just referred to were undertaken. A standard of 5,000 000 staphylococci per cubic millimetre was here aimed at and approximated to

A study of Table II will throw interesting light on some of the questions touched upon and also upon the question of the relative margin of error of the two different methods of bacterial enumeration.

Details of the procedure employed for the enumeration under the microscope of the number of micro-organisms in a bacterial culture —The mixture of the blood and culture in definite proportions is achieved by employing the procedure described under 1 in the introductory portion of this paper Into the uncalibrated capillary tube are filled in in each case five volumes of fluid. Of these one is in all cases a volume of blood. The other four volumes are made up, according to the estimate which we form of the probable number of bacteria in the culture or bacterial suspension which we are dealing with of either one volume of culture and three of diluting fluid or of two volumes of culture and two of diluting fluid, or of three volumes of culture and one of diluting fluid, or of four volumes of culture [11] After thorough mixture has been effected in the neck of the tube a drop of the contents is blown out upon a slide.[12] This drop is spread out by bringing down upon it the edge of another slide and drawing this along The thickness of the film is regulated by adjusting the angle between the slides, widening this angle when a thicker film is to be left behind, and narrowing it when a thinner film is required. The film is then fixed and stained most conveniently perhaps, by the stain described by my colleague, Major W B Leishman, R.A.M.C The bacteria and red blood corpuscles are now separately enumerated on a series of fields chosen at random from different parts of the preparation. Owing to the spacing out which is secured by the 5-fold dilution of the blood this enumeration can, if necessary be carried out without restricting or subdividing the field of the microscope. It, however facilitates matters if we restrict the field by the employment of a high power eye-piece and subdivide it by inscribing a cross by means of a glass writing pencil upon a cover-glass and dropping this into the eye piece. The necessary calculations can be most easily carried out by the help of a slide rule.

Finally before taking leave of the method we may note that in the case of a mixture of an agglutinating blood with a culture of the typhoid bacillus we have to deal with the conditions which were in contemplation when it was pointed out above that the method of enumeration which we are here dealing with could not be relied upon to give satisfactory results where forces were allowed to come into operation which tended to draw together the similar elements of the mixture into separate groups.

III.

ON A SIMPLE PROCEDURE FOR MAKING FOR ONESELF COAGULATION TUBES OF STANDARD CALIBRE, AND IN CONNEXION WITH THIS A NOTE ON THE PRACTICAL IMPORTANCE OF THE INFORMATION OBTAINED FROM THE COAGULOMETER.

I have in a series of papers[13] urged the importance of measuring the coagulability of the blood in connexion with clinical work I have pointed out (1) that excessive hæmorrhage supervening upon a solution of continuity of the vascular wall produced by traumatism or pathological processes is indicative of a defect in coagulability, (2) that excessive transudation of lymph (I have ventured to denote this by the term serous hæmorrhage ") is also intimately associated with a defect of blood-coagulability (3) that a deposition of fibrin upon the wall of an aneurysm can be expected only when a patient s blood possesses a high degree of coagulability and (4) that intravascular thrombosis is indicative of an unduly high blood-coagulability The evidence upon which the last of these generalisations is based is derived from experiments on animals The third generalisation is established by considerations of the *a priori* order

The evidence for the first two generalisations may appropriately be epitomised here.

It consists in part of the data of coagulo-metrical observations made upon bleeder patients. My observations conducted upon a large number of bleeders of nine different bleeder-stocks have uniformly shown that the blood of these patients is characterised by a notable defect of coagulability Proportionate to this defect is the severity of the symptoms in particular the duration of the traumatic hæmorrhages and the frequency and persistence of the subcutaneous serous hæmatomata and of the joint effusions.

A further basis for the generalisations which are here in question is supplied by observations conducted upon a variety of patients having in common only the fact that they were suffering from localised or general serous hæmorrhage. The coagulometrical observations which I have been able to make —in particular in connexion with urticaria, chilblains and general anasarca—would seem to suggest that these pathological phenomena stand in close association with a defect of blood-coagulability

I have urged that the recognition of the pathological generalisations set forth above is of fundamental importance in connexion with therapeutics For as soon as we have ascertained that a particular set of clinical symptoms is associated with a diminished or as the case may be, an increased blood-coagulability we may appropriately apply any therapeutic agent which shall have been found to increase or as the case may be, to diminish the coagulability of the blood

I may perhaps claim to have made a contribution to the building up of a scientific system of therapeutics of the disorders of the blood (*a*) by devising a coagulometer, (*b*) by establishing by coagulometrical observations that the blood may often be rendered more coagulable by the ingestion of calcium salts and in particular of calcium chloride, (*c*) by showing that there is a certain determinable optimum addition of calcium salts which cannot with advantage be exceeded (*d*) by showing that an increase of coagulability may be expected from the ingestion of calcium salts in particular where we have to deal with a defect of coagulability dependent upon a diminution of the content of the blood in lime salts, (*e*) by suggesting a method of estimating the lime salts of the blood by which the existence of this defect may be determined, (*f*) by demonstrating that internal hæmorrhage and hæmorrhage from operation wounds may be checked or kept under control by the exhibition of calcium chloride, (*g*) by demonstrating that calcium chloride will often control or abolish chilblains and urticaria (in particular the form of urticaria which supervenes upon the administration of diphtheria antitoxin and upon the consumption of acid fruits and vegetables), (*h*) by showing that the ingestion of blood decalcifying agents, such as citric acid and the administration of soap, is followed by a diminution of blood coagulability and correspondingly increased lymph effusion, and (*i*) by bringing out more clearly the fact already demonstrated by Vierordt that the ingestion of alcohol is followed by a diminution of blood coagulability

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[11] Examples of the employment of the first and last of the mixtures here in question will be found tabulated in Table I

[12] The slide may with advantage have been cleaned and warmed immediately before use by pouring alcohol upon it and burning this off.

[13] On the Effect of the Administration of Calcium Salts in Hæmophilia and Arterial and Thickened Hæmorrhage Brit. Med Jour., July 29th 1893. Remarks on Methods of Increasing and Diminishing the Coagulability of the Blood with special reference to their Thera- [illegible] ibid July 14th, 1894. On the Treatment of the [illegible] which are associated with Deficient [illegible] Jan 8th, 1896, p 153. Note on [illegible] with Calcium Chloride British Journal [illegible] On the Association of Serous Hæmor- [illegible] tive Blood-coagulability THE LANCET [illegible] athology and Treatment of Chilblains [illegible] . 303 Discussion on the Blood in [illegible] ological Society of London 1900.

Of the therapeutical suggestions made in connexion with this work the only one which has so far been generally adopted in practice is, I apprehend, the suggestion that calcium chloride may upon occasion render useful services in connexion with the arrest of internal hæmorrhage and hæmorrhage from operation wounds. The general principle which underlies the suggestions, and which is of infinitely greater moment than any of these, has been quite overlooked This being so I may perhaps be allowed to urge that there are many indications dispersed through current medical literature which point to the need for a general advance towards that wider view of the pathology and that more rational treatment of disorders of the blood which I venture to claim is embodied in the work epitomised above I may perhaps in illustration refer to the following points.

1. The literature dealing with the treatment of aneurysm by means of gelatin injections—so much of it at any rate as is known to me—contains no reference to the practicability and expediency of determining by measurements of the coagulability of the blood before and after such injections whether the object in view, which is presumably the increase of the coagulability of the blood, is or is not advanced by this method of treatment. More than this, when recently upon the occurrence of three accidental deaths in patients under treatment by this method the suggestion was thrown out that death may have resulted from intravascular thrombosis it apparently did not suggest itself that accidents due to this cause must *a priori* be expected in connexion with any treatment which increases the coagulability of the blood. Nor apparently did it suggest itself that it would be possible to take precautions against such accidents by measuring the coagulability of the patient's blood and by taking steps to diminish that coagulability as soon as evidence was obtained of impending danger

2. In the incidental references which have from time to time been made in the medical press to the prophylactic administration of calcium chloride to patients on the eve of operation, and in the reports of a recent discussion in the course of which the efficacy of this treatment in the case of jaundiced persons was debated, it appears to have been overlooked that it would be both practicable and appropriate before proceeding to operate in a case where hæmorrhage was feared to determine whether the patient's blood has acquired the particular degree of coagulability which is desired.

3 Severe intestinal hæmorrhage supervening in the course of typhoid fever is still referred to in medical literature as if it were an unforeseeable and altogether legitimate sequela of the ulcerative processes in progress in the intestine In point of fact—and the same applies in connexion with many cases of hæmoptysis—the hæmorrhage is inordinate in quantity and is associated with a serious defect of blood-coagulability Moreover, it is possible to seek warning with a view to providing against the danger The mere fact of blood flowing profusely from a prick in the finger would of itself convey the necessary warning

4 Again, the thrombosis which is so frequent a complication of convalescence from typhoid fever and from the puerperal condition figures in medical literature as an undesirable but unavoidable complication, the supervention of which must be expected in the proper proportion of cases. A wider outlook would, on the contrary, suggest that intravascular coagulation can hardly occur, and can certainly not progress, in association with a low blood coagulability And it would further suggest that steps might be taken in typhoid fever after the period of danger from hæmorrhage had passed off to reduce the coagulability of the patient's blood. In connexion with this I may incidentally refer to the fact that Lieutenant E Blake Knox, R.A.M.C, the medical officer in charge of the acute typhoid fever wards in the Royal Victoria Hospital, Netley has recently given effect to this suggestion by putting every convalescent typhoid fever patient on a regimen of two lemons a day He informs me that, in striking contrast to what was previously the case, only one case of thrombosis, and this a case of the mildest description, has developed among some 90 successive typhoid fever patients treated by the blood decalcifying agent.[14]

5 Lastly, I may refer to the fact that urticarias supervening upon the administration of soap enemas, and urticarias supervening upon the ingestion of acid fruits and vegetables (rhubarb) are still chronicled in the medical press as events which refuse to fall into line with any known facts I have not only, as already mentioned, shown that decalcifying agents as a class when introduced into the system induce a diminution of blood coagulability, but I have, on the one hand, in myself achieved a diminution of blood coagulability and an urticaria by the ingestion of citric acid, and, on the other hand, in the dog achieved a decalcification of the blood and a diminution of blood coagulability by the administration of soap

In view of the possibility of an advance in pathology a therapeutics being made along the lines opened up by coagulometrical observations which have here been in qu tion it will be recognised that everything that conduces to t simplification and cheapening of the coagulometer, and short to its popularisation, becomes a matter of momen The way to the cheapening of the coagulometer lies narrowing down the apparatus to the bare coagulation tube and in substituting for the thick-walled coagulometer tube calibrated by the professional glass blower and scientific instrument maker, thin walled capillary tubes made by heating and drawing out ordinary glass tubing and calibrated in accordance with the principle laid down in section 3 of the introductory part of this paper

Details with regard to the method of calibration.—A preliminary word or two is required on the question of the standard calibre. A standard calibre of 0 25 millimetre was originally chosen by me for the coagulation tube It turns out, however, from a series of measurements made by filling in with mercury a variety of coagulation tubes obtained from various sources, that the suggested calibre has at best been so far conformed to as to make 0 25 millimetre the minimum calibre of the tube I have, therefore, in connexion with an abandonment of the ordinary calibration by means of standard wires in favour of a calibration with a measured volume of mercury, had to reconsider the question of the standard. I find that a convenient approximation to the wire standard of 0 25 millimetre diameter is obtained by taking as the standard for the mercury calibration a tube of a calibre such that five cubic millimetres of mercury will occupy in it a length of five centimetres

We undertake the calibration as follows Having taken a piece of ordinary glass tubing, having drawn it out into a fine and insensibly tapering capillary stem, and having sealed off this last in the flame, we introduce into the wide end of the tube five cubic millimetres of mercury measured off[15] by means of a standard five cubic millimetre pipette such as is supplied with the Gowers hæmocytometer We now as a preliminary to driving down our globule of mercury into the capillary stem break off the end of this last between finger and thumb Or better, since this avoids all chance of our mercury escaping from us through the far end of our tube, we draw out our capillary stem in the flame of peep light into an absolutely hair fine tube and then break this across. We now drive down our mercury into the capillary stem and find out by tilting the tube in such a manner as to move the mercury along whether there is any portion of the tube where the mercury column occupies a length of five centimetres. We determine this by bringing our tube down upon a piece of white paper upon which we have marked off a length of five centimetres. If we cannot find upon our tube a length which conforms to conditions of our standard we discard the tube. If on the contrary we find a length of tube which answers our requirements we mark off the upper and lower limits of this with a glass writing pencil We now for a purpose which will presently appear displace our column of mercury in the direction of the orifice of the capillary stem for a distance of from one to two centimetres We again mark off the points indicated by the upper and lower limit of the mercury and, finally, we break off our tube at the point last mentioned Before actually doing this we free the orifice of our pipette by breaking off its fine-drawn extremity, and transfer the mercury to the next tube awaiting a calibration. After calibrating a series of from six to eight tubes, we number these, inscribing the serial numbers with a glass writing pencil upon the wide upper extremities of the tubes.

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[14] A blood-decalcifying treatment is here eminently in place, inasmuch as the ordinary typhoid fever patient will have been fed for a period of weeks upon a foodstuff (cow's milk) which contains a larger percentage of lime salts than any other I have already pointed out in THE LANCET of July 22nd 1893 that the milk might with advantage, with a view to the prevention of firm clotting in the stomach and with a view to the prevention of constipation be partially decalcified by an addition of 0·5 per cent. of citrate of soda

[15] It will be found convenient to employ a (tightly fitting) rubber teat for the purpose of drawing up the mercury into the standard pipette and for driving out this measured volume into the wide end of the tube which we propose to calibrate

Method of employing the tubes —We draw blood from the finger near the nail either by means of a prick with a hypodermic needle or by a series of pricks made with a sharp spicule of glass obtained by drawing out a piece of capillary tube. It is to be observed that the prick or pricks that we make must be generous enough to give us all the blood we require with an absolute minimum of adventitious aid If such aid is required we obtain it by winding a handerchief round the finger and making gentle pressure upon the finger pulp. The pressure must be gentle so as to avoid obtaining a mixture of lymph and blood which would coagulate more rapidly than the unmixed blood from the capillaries. As soon as a drop of blood has issued from the wound a coagulation tube which has been broken off as indicated above at the lowest pencil mark is applied to the blood This last is allowed to flow in by capillary attraction until it reaches the penultimate mark—i.e. the mark which indicates that five cubic millimetres of blood have been filled in. The orifice of the tube is now withdrawn from the blood and the tube is tilted in such a manner as to bring the column of blood into position between the two marks which delimit the portion of the tube which conforms to the standard calibre. The time of filling in each tube is noted down, both minutes and seconds The blood is now kept at the temperature of the air, if this temperature conforms approximately to the standard temperature of half blood heat (18·5° C 65–66° F) In the case where the temperature of the air is sensibly warmer or cooler than the standard temperature the tube is placed upright[16] in a vessel of water of the appropriate temperature. After the usual interval (about three minutes in the case where the blood flow from the finger prick is normal about five minutes where that flow is somewhat more free) the testing of the first tube is undertaken by blowing down the expanded upper end, the orifice being meanwhile held over a piece of white filter paper in order to detect the first shreds of fibrin. The coagulation time—i.e. the minimum time occupied by the blood in forming a definite *coagulum*—will normally approximate to five minutes

Netley

CASES OF GASTROTOMY FOR RECENT GASTRIC ULCER.

BY C W MANSELL MOULLIN M D OXON
F R C S. ENG.
SURGEON TO AND LECTURER ON SURGERY AT THE LONDON HOSPITAL.

IN two of these cases the immediate cause for operation was recurrent hæmatemesis

CASE 1.—The patient, a woman, 26 years of age who was admitted into the London Hospital on May 14th 1900 had suffered severely from attacks of indigestion for the previous 18 months. Of late the pain had been intense, coming on immediately after meals or within half an hour and radiating through from the epigastrium to the back. Until the week before admission actual vomiting had only been of occasional occurrence. Since then it had been almost constant. There had been a slight attack of hæmatemesis four months previously and other attacks becoming more severe, seven days, five days (twice) and four days (twice) previously and on the morning of admission. On the last occasion the quantity was said to have amounted to more than a pint. Shortly after admission she vomited six ounces of almost pure blood. There was no history of melæna, but an enema given the day before she came to the hospital brought away a considerable quantity of blackened blood The pulse was 140 to the minute, very small in volume and of low tension and the patient was decidedly blanched. My colleague Dr F J Smith, under whose care the patient had been admitted thinking that it was not advisable that she should be allowed the chance of losing any more blood very kindly had the case transferred to my wards and an operation was performed as soon as it could be arranged. The abdomen was opened in the middle line and the serous coat of the stomach was carefully examined. As there was no scarring or other sign of inflammation the stomach itself was packed round with sponges and was opened by a vertical incision midway between the pylorus and the cardiac end. The angles of the incision were held open by pressure-forceps and the mucous surface was systematically everted and examined bit by bit that covering the posterior wall being brought into view by introducing the hand through an opening in the great omentum and lifting the wall of the stomach into the wound A large vaginal speculum introduced through the opening in the anterior wall enabled the cardiac orifice and that part of the mucous surface which could not be brought up to be inspected without difficulty A small ulcer was found on the anterior surface near the greater curvature. It corresponded fairly well with the ordinary description of a simple ulcer and had evidently been bleeding recently There was no induration about its edges and no vessel was visible on its floor An incision was carried round the ulcer and the whole of it was excised down to the muscular coat, the gap that was left being closed by fine silk sutures which served at the same time to stop the bleeding The wound in the stomach was closed by a double set of sutures, and the opening in the abdominal wall was secured with silkworm gut. Convalescence was uninterrupted except for a slight attack of parotitis on the second and fourth days. The patient vomited once after the anæsthetic. Small quantities of hot water were given by the mouth the same evening and continued at frequent intervals for the relief of thirst, but for the first four days the feeding was carried out entirely by means of nutrient enemata. Solid food (fish) was given 10 days after the operation and a few days later the patient was placed on ordinary diet. She soon regained her strength and since the operation she has been perfectly free from the pain and indigestion which troubled her so much before.

CASE 2.—A married woman 23 years of age, was admitted into hospital on April 25th, 1900 for hæmatemesis. She was sent up in an ambulance with a history of having vomited blood at frequent intervals for four days. Shortly after admission she was sick, bringing up 15 ounces of dark coloured blood and she became very much collapsed. An operation similar to that already described was performed as soon as could be arranged. When the stomach was exposed an old cicatrix was seen near the cardiac end This was excised and then a recent but chronic ulcer with indurated edges was found by its side. In the floor of this ulcer was a bleeding branch of the gastro-epiploic artery The ulcer was included in the incision and the opening in the stomach wall, which was nearly three inches long and ran almost up to the cardiac orifice was secured by a double set of sutures The patient was very much collapsed but she rallied under injections of strychnia and caffein and rectal enemata. For the first three days vomiting was very troublesome. Then it ceased and she appeared to rally She was able to take small quantities of jelly by the mouth. The bowels acted at first after enemata and then spontaneously The tongue became moist. The abdomen was soft, not distended, and moved well with respiration. But, as in the former case, parotitis set in, first upon one side and then upon the other Suppuration followed and though relief was obtained when the abscess was opened the patient died on the ninth day after operation.

At the post mortem examination the opening in the stomach was found to be merely held together by the sutures The edges were sloughing and there was an entire absence of repair The kidneys were markedly granular and contracted It is worthy of remark that parotitis occurred in both these cases though there was suppuration in only one As there had not been any case of post-operative parotitis in my wards for at least five years before and there has been none since it almost seems as if there must have been some connexion between them, but the patients were not on the same floor or in the same ward and the one died 10 days before the other was operated upon, so that in all probability it was merely a coincidence, but it was a curious one.

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[16] It will be found that it is unnecessary to seal up the orifice of the tube, the intervening column of air which is provided by the projecting portion of the tube suffices to keep the blood and water apart.

CASE 3—In this case, that of a patient who was under the care of Dr H J Capon, the immediate cause was uncontrollable pain and vomiting The patient was a married woman, 32 years of age For some months she had suffered in a very severe degree from all the symptoms of gastric ulcer with the exception of hæmatemesis and melæna. These had never occurred All the ordinary remedies, including prolonged rectal feeding, had been exhausted without obtaining the least permanent benefit. The patient had lost more than a third of her weight and was so weak that she could scarcely raise herself from her bed The pain came on within a few minutes after swallowing food and was especially severe at the ensiform cartilage The skin over this region was exceedingly sensitive. Vomiting shortly after food was the rule This relieved the worst of the pain but it usually continued with more or less severity for some hours after anything had been taken After consultation with Dr T J Maclagan it was decided to explore the stomach and on opening it a long, narrow ulcer with slightly thickened edges was found lying at the bottom of one of the rugæ on the anterior surface close by the incision It was about three quarters of an inch in length and extended down to, but not into the muscular coat. No other lesion of any kind could be found though the whole of the interior was carefully explored in the way already described The ulcer was excised, the mucous and submucous layers were sutured together and the stomach and abdomen were closed in the usual way In this case, also, vomiting continued for some considerable time The pain disappeared completely and finally, but owing to the sickness it was some time before the patient could take sufficient food to enable her to regain her strength. Recovery finally was complete

I may mention that in addition to these cases I published in THE LANCET in 1900[1] a series of three others in which I had operated for hæmatemesis, all of which terminated successfully, the patients recovering completely without any drawback. Of five cases, therefore, in which I have operated directly for hæmatemesis four patients have been cured, and I have little doubt myself that the fifth patient would also have survived had not her condition been so desperate

It is usually held that the advisability of operating in these cases can be settled at once by comparing the actual mortality of hæmatemesis in cases of gastric ulcer with that which it is supposed might follow gastrotomy performed under these conditions The former is put down at from 3 to 5 per cent, the latter is estimated very variously, according to the kind and severity of the cases selected. No such comparison, however, is possible under the present conditions On the one hand, the whole number of cases of hæmatemesis, trivial and severe alike (and the trivial ones are much the more numerous), is taken and the mortality percentage is calculated from that. On the other hand only those cases which are absolutely desperate, in which the operation is performed as a last chance after everything else has been tried and has failed, are reckoned at all. No one suggests, or has ever suggested, operating upon slight cases of hæmatemesis They should be placed entirely on one side and not be taken into calculation. The only comparison that can be made with any pretence at fairness is between those cases in which surgical measures are advised and declined and those in which they are advised and accepted. I have no doubt as to the result. In three of my five cases the patients were already so bloodless that transfusion had to be performed In two others I had to decline to operate altogether, they were beyond even transfusion The mortality of such cases, left to themselves without operation is certainly not 3 per cent., or even 5 per cent., it is much nearer 100 per cent. And they are the cases with which the only comparison can be made when the result of operation is the subject in question.

As no paper of this kind appears to be complete without statistics and as the statistics of the mortality from gastric ulcer and especially from hæmatemesis, vary a good deal according to the authority from whom they are taken, I asked medical registrar at the London Hospital, Dr R. C B Wall, kindly to tabulate for me all the cases of hæmatemesis from gastric ulcer which had been admitted into the London Hospital in the five years from 1895 to 1899 inclusive All cases of hæmatemesis from cirrhosis, malignant disease, &c., were carefully excluded The result is of decided interest. The total number was 246, 202 women and 44 men, and taking one year with another the numbers were very much the same in each The total number of deaths from hæmatemesis was 10, or 4 per cent But the incidence of the deaths according to age was very singular Under the age of 30 years there were 153 women with only one death Over that age there were 49 women with three deaths, or 6 cent. Taking the men there were only five under 30 yea of age with one death, and 39 over 30 years with fi deaths In other words, the mortality from hæmatemesi among the men over 30 years of age is 12½ per cent., an taking all the men together regardless of age nearly 14 pe cent. So far, then, as the question of operation for hæmatemesis is concerned there must, it appears to me, be one rule for women under 30 years of age and another for women over 30 years, and especially for men. But in considering the advisability of operating in general cases of gastric ulcer there is another point that must not be forgotten. These figures are only concerned with the mortality caused by hæmatemesis There are other causes of death in gastric ulcer besides this, and these causes must also be taken into consideration When the percentage of deaths due to these is added to that due to hæmatemesis it must be acknowledged that the death rate due to gastric ulcer, especially in the case of men or of women over 30 years of age, is much higher than is usually believed

I am fully aware that the treatment of gastric ulcer is, and must remain, in the hands of physicians But it is becoming more and more evident every day that there are certain contingencies or accidents which may occur in the course of a case of gastric ulcer which, if the consequences are to be avoided can only be met by the adoption of prompt and decisive surgical measures This is admitted so far as perforation is concerned, but I maintain that the principle should be carried much farther It should include all those cases in which, in spite of rectal feeding and other remedies, the pain after food is taken continues with severity, as it did in Case 3, in which vomiting after food obstinately persists, in which the patient is steadily losing ground, and in which medical treatment has been tried thoroughly for a sufficient length of time say for some months, and has failed

So far as hæmatemesis is concerned it is clear that age and sex make a very material difference A much greater risk may be run in the case of a woman under 30 years of age than in the case of those over 30 years, and especially in the case of men My own figures stand at only one death in 153 cases of hæmatemesis due to supposed gastric ulcer occurring in women under 30 years of age (I may say that I have reason to believe that that particular period of five years was an exceptionally lucky one.) Surgical treatment can rarely be required in them But if there is one single severe hæmorrhage in a case in which the previous history suggests the presence of a chronic gastric ulcer (when the bleeding is probably due to an opening in an artery of some size and is not merely capillary), if in any case there are two separate attacks of severe hæmatemesis at a short interval, or if there are frequent small hæmorrhages, so that the patient is becoming seriously anæmic, I believe that the risk of operation is very decidedly less than is the risk of leaving the patient alone, and that the best interests of the patient would be consulted by giving him or her the chance of operation before the condition becomes desperate

Wimpole-street W

A FEW OBSERVATIONS ON THE BLOOD PRESSURE IN MENTAL DISEASE,

WITH A NOTE ON THE TREATMENT OF MELANCHOLIA

BY H. DE M ALEXANDER, M D EDIN,
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THE sphygmometer of Hill and Barnard was used in t following observations and in order to ensure accuracy duplicate of the instrument was utilised The readings wer taken morning and evening at a fixed hour and the usu precautions were observed to obviate any inaccurate result which might arise from the presence of morbid physical conditions liable to produce an abnormal blood pressure. The normal blood pressure was regarded as ranging from 110 to 120 millimetres of mercury

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[1] THE LANCET Oct 20th 1900 p 1125

Melancholia.—This affection was regarded as being divisible into four varieties—simple melancholia, acute passive melancholia, acute demonstrative melancholia, and chronic melancholia. There was no marked elevation of the blood pressure in the *simple* form of this malady whereas in the *acute passive* type the blood pressure was invariably high and remained so until the acute physical and mental symptoms abated a re-elevation occurred with each relapse of the disease. The average maximum pulsation was 155 millimetres of mercury

It is probable that the high blood pressure and high tension pulse of this affection are due to the retention in the system of certain waste products of tissue metabolism as evidenced by the marked diminution in the excretion of urea and the atonic condition of the alimentary tract. The subjective physical sensations of the melancholic are probably also due to the same cause.

Dr L. C Bruce[1] and myself have already drawn attention to the marked beneficial effect of fluid diet in conjunction with the bed treatment in shortening the acute stage of this affection and a shortened acute stage generally ensures a more rapid convalescence.

Since recording these results I have treated 10 more cases of this passive acute melancholia with satisfactory results No patient undergoing this treatment should leave bed or return to ordinary diet until his blood pressure has remained normal for at least a week or 10 days I venture to assert that it only requires the further experience and observations of others to prove that the *surallment* method of treating acute passive melancholia is unphysiological

Maudsley[2] has said regarding the use of drugs in insanity that the purely medical treatment of insanity which is not maltreatment might be comprised within a narrow compass " and of all types of mental disease his observation is most applicable to the treatment of the above form of melancholia. Plenty of water three or four pints of milk daily, the exhibition of an alkaline diuretic which does not disturb digestion—such as citrate of potassium—judicious attention to the bowels, and confinement to bed are all that are required in most cases. General tonics are of little value in the acute stage of the disease. Intestinal disinfectants such as salol have been advocated, but in the acute stage it is probable that they tend injuriously to retard the process of assimilation

Paraldehyde appears to be the best drug we have at present for the insomnia of this type of melancholia and next to it comes trional. A great objection to sulphonal is that it tends to increase the already existing constipation and thus indirectly to sustain the blood pressure. It is a common experience to see a melancholic, to whom sulphonal has been administered as a hypnotic, improve at once on the withdrawal of the drug and the administration of calomel and salines.

Acute demonstrative melancholia (agitated or excited melancholia) differs from the foregoing passive type physically as well as mentally Here we have no great diminution in the amount of urine excreted, an excretion of urea little below normal, a less elevated blood pressure, and, in the majority of cases, a leucocytosis. Bodily weight is also lost more rapidly It is thus, from a physical point of view more akin to mania.

The blood pressure was taken daily in 14 patients suffering from this variety of melancholia. It followed a more irregular course than that observed in passive melancholia, did not reach such a height, and its descent was not in all cases accompanied by a marked amelioration of the mental symptoms.

The loss of weight, which is usually a pronounced symptom in this affection is best combated by confinement to bed as long as motor restlessness or marked physical debility is present. The fluid diet treatment is also very beneficial though it does not require to be so rigidly adhered to as in the former variety of melancholia.

Patients suffering from demonstrative melancholia have usually been ill" for some considerable time before they come under asylum treatment their malady is well advanced and they as a rule, take much longer to recover than the passive melancholic.

The employment of opium in the treatment of melancholia is condemned by some authorities and advocated by others. In the acute passive type of the affection opium is certainly contra indicated by the morbid physical conditions present on the other hand, in demonstrative melancholia opium often gives surprising results, especially in cases where the malady has been existent for some lengthened period. It should be given for its effect on the 'mind and not as a hypnotic if insomnia is a distressing symptom it is best combated by trional given at bedtime but, speaking generally if the opium is producing a beneficial effect the employment of this hypnotic will be found unnecessary sleep gradually returning as the delusions become less omnipotent. We have had better results with nepenthe than with any other preparation of opium or morphia It should be given in gradually increasing doses and the amount gradually diminished as decided mental improvement is observed. While taking opium the patient should be put on an ordinary full diet and a small dose of calomel given every second or third day

Trional is the best hypnotic for the insomnia of demonstrative melancholia. To paraldehyde there are two main objections firstly it generally requires to be given in an increasing dosage, and secondly it tends to increase the motor agitation of this affection on the following morning and more especially so in those patients who have previously been addicted to alcohol.

In *chronic melancholia* the blood pressure was generally low, an elevation occurred when the mental symptoms became more acute.

Mania—Dr Maurice Craig[3] found that acute mania was associated with a low pressure, the average blood pressure in 33 cases which he examined being from 105 to 110 millimetres of mercury Although I have been able to note the blood pressure only in 16 cases of acute mania the reading obtained in each of them was invariably above normal though it never attained the height observed in acute melancholia. Mental improvement was coincident with its descent though not to such a marked extent as in melancholia. The blood pressure was much lower if exhaustion was present.

In the case of recurrent insanity examination of the pulse suffices to demonstrate the rise in arterial blood pressure which ensues coincidently with the return of excitement. In women recovering from an attack of insanity the onset of the menstrual period is often associated with a recurrence of the previous mental affection, and although the mental disturbance may be only temporary it is, as a rule, accompanied by an increase in the tension of the pulse whether the relapse be characterised by excitement or by depression The recurrence of excitement in cases of relapsing mania is usually heralded by certain premonitory symptoms such as insomnia, fits of restlessness, and sometimes by a feeling of general malaise. The blood pressure was observed to be raised from 10 to 20 millimetres of mercury during this prodromal period and it rose to a maximum as the acute attack developed. The bromide sleep" was induced in a strong adult woman suffering from a very acute attack of mania, by giving three and a half ounces of sodium bromide in four days There was no appreciable alteration in her blood pressure as the result of the administration of the drug and no benefit ensued the maniacal condition returning as the sleep passed off. When the attacks of mania and melancholia in *folie circulaire* were of the acute type the blood pressure followed the course observed in the acute idiopathic varieties of those affections. The readings obtained in *stupor* varied according to the variety of the affection In the anergic and secondary forms the blood pressure was generally subnormal and in no case more than 10 millimetres of mercury above normal on the other hand a much higher reading was obtained in the melancholic resistive variety

General paralysis presents many types of insanity and the results obtained with the sphygmometer varied extremely it being only in the later demented stages of the disease that the readings approached uniformity and the blood pressure was in every case low No alteration in the arterial pressure was observed in five cases of the disease examined before and after a congestive seizure.

Professor R. Stockman and Dr F J Charteris[4] have shown that the potassium salts when given in "ordinary quantities" do not usually cause any depressing effect on the heart or on the blood pressure in the arteries, and it would also appear that potassium bromide given in large doses has no depressing effect on the blood pressure in *epilepsy*, as in 34 cases of epileptic insanity examined a blood pressure of 130 millimetres of mercury was the average reading obtained. These patients were taking 90 grains of the drug per diem. In a case of epilepsy in a boy in whom the convulsive attacks were generally nocturnal and came on regularly nearly every day between 8 and 8.30 P M no alteration in his blood pressure was observed either before or after the seizure, on the other hand in an adult woman suffering from the status epilepticus the blood pressure fell from 140 to 90 millimetres of mercury during the short intervals between the seizures—probably as the result of exhaustion

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[1] THE LANCET August 24th 1901 p. 516.

[2] Pathology of the Mind.

[3] THE LANCET June 25th, 1898, p. 1742, and Brit Med Jour 1900

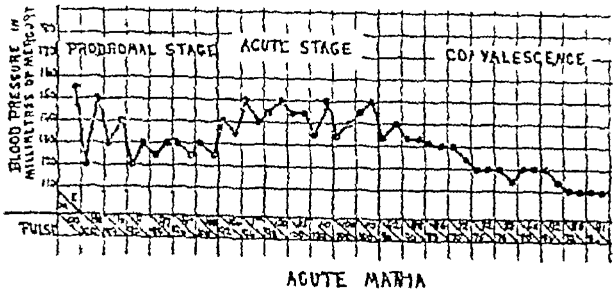
[4] Brit Med Jour 1901

In pure *senile mania and melancholia* the readings obtained corresponded to those registered in the same affections occurring in an adult or an adolescent, but the blood pressure was, as a rule, much above normal in that variety of senile insanity which is associated with dementia and which is characterised clinically by a constant fidgety motor restlessness, and it is in this form of insanity that drugs of the nitrite class are of most benefit.

In melancholia we have found the sphygmometer, in conjunction with other clinical methods, of great service in determining what stage of the affection was present and thus indicating the line of treatment to be adopted.

The blood pressure in mania appears to be considerably modified by the presence of general physical debility, and thus restlessness in the chronic maniac of poor physique is as a rule associated with a normal or even low blood pressure though an elevation may occur with any increase in excitement Without the presence of any organic disease to account for it some cases of senile dementia with constant restlessness as a marked symptom have a high blood pressure and these patients are often much benefited by the administration of such a drug as erythrol tetranitrate. As is well known an attack of mania is usually ushered in by certain premonitory symptoms and one of the commonest of these is mental depression On the appearance of any of these premonitory symptoms it is often possible to ward off the acute attack by confining the patient to bed amidst quiet surroundings and by keeping him on a low diet—precisely as a case of melancholia may be treated. I have always found the symptoms mental and physical, antecedent to an attack of mania to be accompanied by a rise in blood pressure Dr Bruce[5] stopped the onset of excitement or depression in patients labouring under *folie circulaire* by administering to them the thyroid extract and this agent lowers the blood pressure in addition to increasing metabolism The sedative and hypnotic effect induced by sulphonal in excitement has also been found to be attended by a reduction of blood pressure

I believe that mania is associated with a higher blood pressure than that attributed to it by Dr Craig and Dr W R. Dawson[6] and also that the sedative effect of a hot bath on the excitement of an acute maniac is in part due to the reduction of blood pressure induced by this method of treatment The "bed treatment" in cases of mania also tends to produce the same result by preserving the patient from sensory and emotional irritation.



I append a chart illustrating the course of the blood pressure observed in a case of acute mania which was under observation from the commencement of the affection
Aberdeen N B

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[5] Edinburgh Hospital Reports 1899 1900
[6] Dublin Journal of Medical Science 1900

VERMIFORM APPENDIX, CONTAINING FÆCAL CONCRETION ON A BLACK PIN, REMOVED AFTER DEATH FROM A CHILD, AGED SIX YEARS,

ILLNESS TWO DAYS AND NO MEDICAL MAN CONSULTED

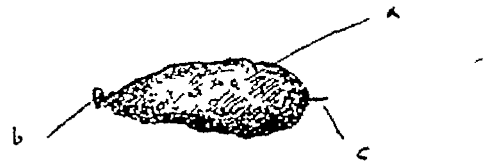
BY JOHN D MALCOLM, F R C S EDIN,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

THE concretion which is figured below was exhibited at the meeting of the Pathological Society of London on April 29th, 1902. It was sent to me, with the vermiform appendix in which it was found, by Dr Percy Rendall of Ewell, and Dr C Hubert Roberts has kindly made the accompanying sketches

The patient, a female child, whose illness lasted for two days, was not attended by any medical man, but Dr Rendall was sent for after her death. He was told that the girl was six years old and had shown no evidence of abdominal mischief before Oct. 7th, 1901. On that day she was at school and quite well. In the evening she was seized with violent pain in the abdomen, vomiting, and diarrhœa. The next day she was better, off and on, but on the 9th she died suddenly The body was opened by order of the coroner The small intestine and mesentery were found to be glued together by inflammatory adhesions so as to shut off the pelvic cavity The appendix was in a gangrenous state beneath the adherent coils and close to the peritoneum covering the sacrum Liquid fæces had exuded and had filled the pelvic cavity On incising the appendix the concretion was exposed and it was noted that the point of the pin was directed towards the tip of the appendix Before the drawing was made the concretion had shrunk so as to expose more of the head and point of the pin than was shown in the fresh moist state.

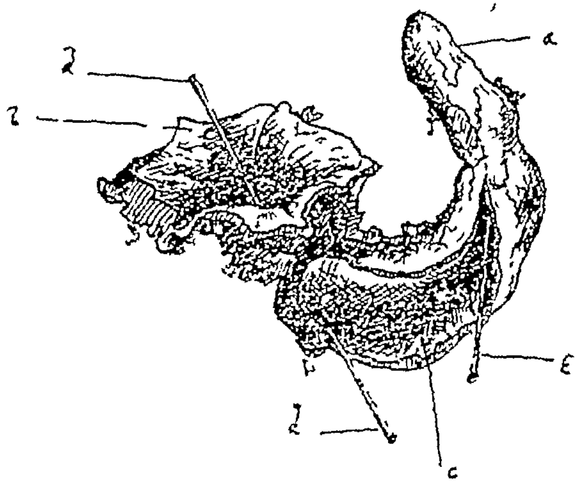
The case is interesting as it shows that the most serious mischief connected with the vermiform appendix may excite

FIG 1



Concretion —*a* The concretion *b*, Head of pin *c*, Point of pin.

FIG 2



Appendix and part of cæcum —*a* Free end of appendix vermiformis *b* Portion of cæcum removed with appendix *c* Portion of appendix opened up to show region which contained the concretion shown in Fig 1 *d d* Glass rod passed through from cæcum to opening in appendix *e* Glass rod passed into canal towards the blind end of appendix no real anxiety in the minds of a patient's friends. Prompt interference by operation was the only treatment that offered any chance of saving the patient's life, but if a medical man had been consulted immediately after the onset of symptoms it is obvious that examination of the parts in a child aged six years would have been difficult and unsatisfactory and the surgeon however great his experience might have failed to grasp the full gravity of the case in time to perform a successful operation

Portman-street W

DIFFICULTIES IN THE DIAGNOSIS OF SMALL-POX.

BY W T FREEMAN M.D DURH F R.C.S. ENG

AN interesting paper on the above subject by Dr W M Young appears in THE LANCET of June 7th p 1598. The following case also seems worth reporting

An unhealthy looking boy 10 years old, was seen by Mr J G Braden of Reading on March 15th 1902. The patient was feverish and covered with a rash of the scarlatiniform type. There was some subsequent peeling but no albuminuria. The case was notified as one of scarlet fever He soon became better of this attack but on March 25th to the 27th he again became very ill. His temperature was high (from 100° to 103° F) and node-like swellings appeared on the front of the tibia and over the forehead and left orbit. He had also swelling apparently both in and around the left knee-joint. I saw the boy in consultation with Mr Braden on April 3rd and he had still a high temperature and the swellings referred to were still in evidence, and he had developed additionally a profuse bullous rash the vesicles or bullæ ran in size from that of a pin's head to near the diameter of a shilling piece. The bullæ were principally grouped on the legs and buttocks, but some were also present on the arms and lower abdomen. Some of them had an umbilicated appearance and all were hæmorrhagic. They were commencing to dry up but tests applied as carefully as possible practically proved them to be multilocular The history of this second rash was that it first appeared as a papular one and subsequently became vesicular and bullous. There was a largish bulla on the left side of the tongue. The boy seemed to be very ill. He had all the appearances of a congenital syphilitic—typical upper incisors, flattened bridge of nose, scars at the angle of the mouth &c He had good vaccination marks but had not been re vaccinated On the 7th he was much improved the vesicles and bullæ were dried up into hæmorrhagic scabs, the swellings had nearly disappeared and the temperature was normal The patient recovered.

When I saw him on April 3rd I could not help wondering whether we were not dealing with an anomalous case of variola in a partially protected but specifically unhealthy child The scarlatiniform rash, I thought, possibly might have been a prodromal rash and I was particularly impressed with the multilocular character of the lesions. The patient had been previously seen by the medical officer of health of Reading (Dr A. Ashby) and we all determined to hold our hands as to variola. Dr Ashby was not much in favour of small pox and I declared myself more in favour of a peculiar bullous form of peliosis rheumatica than of variola, although the apparent multilocular character of the lesions was puzzling Upon a second visit, paid two days later I gave up the last shred of an idea of its having been the more formidable infectious disorder I believe that the whole condition was a developmental erythema—an erythema of the nodose type passing on through stages to a bullous type of rheumatic purpura. An unhealthy subject amidst not the best of surroundings and with a syphilitic taint, the boy was no doubt predisposed to the anomalies, both subjective and objective.

It is right to add that Mr Braden, the patient's original medical attendant, is still inclined to think that the primary rash was scarlet fever and that the symptoms and rash of ten days later were of distinct origin. It should also be added that as the boy improved he was vaccinated and a full reaction resulted.

Reading

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed et Caus Morb* lib. iv Proœmium

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET

A CASE OF BILATERAL STRANGULATED HERNIA IN AN INFANT

(Under the care of Mr T. H. KELLOCK.)

IN infants under the age of one year it is rare for strangulated inguinal hernia to occur but it must be extremely rarely that in a young child strangulation should occur in herniæ on both sides of the body In THE LANCET of June 1st, 1901 p 1536 we quoted some statistics as to the occurrence of strangulated hernia in infants, to which we refer our readers.

An infant, aged 10 weeks, was admitted to the Hospital for Sick Children Great Ormond street, on March 8th, for irreducible right inguinal hernia. The mother stated that when the child was seven weeks old she first noticed a swelling in the right groin for this she attended the out-patient department and circumcision was performed on March 4th at that time the hernia disappeared when the child was quiet and still She had never noticed any swelling on the left side. On the 6th the swelling was noticed to become larger and more tense and could not be got back it remained down for the two following days, during which the child was very fretful and vomited occasionally after taking the bottle. On admission the patient appeared to be a healthy well nourished child but very fretful crying almost continuously he had a hernia in the right inguinal region which was found to be irreducible under an anæsthetic it was therefore operated on and was found to contain a knuckle of small intestine tightly constricted at the inguinal ring which was very small. The bowel was dark blue in colour and deeply marked where it had been constricted There was an almost total absence of fluid in the sac. Before the bowel could be reduced a rather free incision had to be made in the constriction at the neck of the sac and after it had been reduced the sac—to which the vas deferens was closely adherent—was ligatured at the neck and removed. Two silk sutures were used to close the inguinal canal. The external wound was sutured and dressed with gauze and collodion.

The child progressed favourably but cried a great deal. On March 10th a hernia was found in the left inguinal region which was reduced with some difficulty On the 18th the wound was healed and the stitches were removed On this day the hernia on the left side was present again but was easily reduced On the 19th the child was discharged wearing a skein truss on the left side. He was re-admitted four days later the hernia in the left groin having been irreducible for five hours. On the evening of that day an operation was performed and there was found an almost precisely identical condition to that which had been seen on the right side. The same treatment was adopted the wound healed rapidly and he was again discharged. When seen some time afterwards in the out-patient department the condition was quite satisfactory the wounds were soundly healed and there was no sign of return of either hernia.

Remarks by Mr KELLOCK.—Except for the rarity of strangulated hernia occurring on both sides at so short an interval there is little in this case calling for comment. The child had probably a partially closed funicular process of peritoneum on both sides and into these successively the almost constant pressure from crying drove a knuckle of intestine. The inguinal rings on both sides were very small and had to be rather freely incised before the bowel could be reduced This is probably always the most difficult part of the operation in an infant and it is better to be free with the incision rather than to use any force in attempting to reduce the very slender and congested bowel The absence of fluid in both sacs was perhaps rather unusual and necessitated an extra amount of care in opening them.

LEICESTER INFIRMARY

A CASE OF DECIDUOMA MALIGNUM

(Under the care of Mr H. J BLAKESLEY and Dr R. SEVESTRE.)

CASES of deciduoma malignum are of sufficient rarity to make it desirable that they should be published, especially when the post-mortem and histological records are complete. The following case illustrates well all the typical features of the disease.

A married woman, aged 31 years, was admitted into the Leicester Infirmary in October, 1901. She stated that eight months before admission she had passed through a normal confinement, being attended by a midwife, and that one month afterwards menstruation occurred naturally 10 weeks after her confinement she began to lose blood per vaginam and continued to do so up to the date of admission except for short periods when blood stained fluid was observed She had been rapidly failing in health and losing flesh, especially during the last three months, and had complained of severe cough for about three weeks, with dyspnœa of late on the slightest exertion. Four or five days previously to admission she had noticed two swellings on the left side of the vulva. The patient's history was as follows She began to menstruate at the age of 14 years and was married at 21 years. She had had seven children, three of whom were still born, she had had no miscarriages On admission her condition was that of an emaciated and anæmic woman with flushed cheeks and frequent short dry cough and raised temperature She did not complain of any pain. On examination of the heart a systolic murmur was heard which from its position and character was believed to be hæmic in origin. Coarse moist sounds were heard over the lungs which were most marked at their bases On abdominal examination nothing of an abnormal character was found On vaginal examination an oval, smooth, non fluctuating swelling of a deep purple colour and of about the size of a walnut was found situated on the inner aspect of the posterior half of the left labium majus, immediately internal to this, but separate from it, was a smaller swelling of a similar character, with superficial ulceration on its surface The cervix was in the middle line and was patulous and torn on the left side. Bimanually the uterus was felt to be enlarged and retroverted but moveable. The catheter specimen of the urine was found to be free from albumin and sugar The case was believed to be one of retained products of conception

On the third day after admission the patient was anæsthetised with ether, the cervix was drawn down by a vulsellum, and after Nos. 12, 13, and 14 Hegar's dilators had been passed the finger was introduced. A lobulated, firm, sessile mass was felt occupying the cavity of the uterus, being attached to the left upper half of the organ, by means of the finger and curette the greater part of the mass was removed piecemeal The fragments removed had the appearance of hardened placental tissue. The amount of blood lost during this procedure was very small in quantity and the uterus contracted firmly On incising the mucous membrane over the swellings in the vulva their contents readily shelled out and consisted of blood clot with firmer strands running through them The patient rallied well after the operation, there was no further hæmorrhage, only a slight blood stained watery discharge. Her general condition appeared to improve after the operation for a few days, but very soon the lung symptoms became more severe, the temperature ranged between 101° and 102° F, but there were no rigors or other evidence of septic infection, and she died on the seventeenth day after admission

Portions of the material removed by the curette were sent to the Clinical Research Association and the report received was to the effect that it was a case of deciduoma malignum

Necropsy.—At the post-mortem examination the uterus was found to be larger than normal. On its anterior surface between the middle line and the upper part of the left broad ligament were two tuberosities placed almost vertically, but quite separate from each other which were clearly portions of growth Each tuberosity had a smooth and rounded outline, the lower one, the larger of the two, was inclined to be conical in shape, with a base of about one inch in diameter In colour they were dark red To the touch they were softer than the surrounding parts but did not give the sense of fluctuation, the peritoneum covering them was smooth and bright. The rest of the external aspect of the uterus presented a normal appearance. The uterus was opened by a vertical incision on its anterior aspect. Its cavity presented the appearance that would be expected after curettage except in the part beneath the tuberosities, where the surface was irregular and of a dark red colour, this clearly being a portion of the growth that the curette had not reached. On the left labium majus there were two raw surfaces from which growths had been removed at the operation Both lungs were studded on their surfaces with secondary growths which in outline were round and of a dark red colour, these growths were more numerous at the base than at the apex, the largest being of about the size of a walnut On section of one of these secondary nodules a reticulated appearance was seen with what appeared to be blood clot in the spaces. It was not found possible to make a complete post-mortem examination but no evidence of growth was observed in other organs

On examining a microscopic section of the uterus the margin of the growth was seen to be made of masses of cells forcing their way into the surrounding tissue. These cells were not arranged in alveoli Internally to the growing margin were seen the remains of the cells of the normal tissue with cells of the new growth and much extravasated blood, this gradually merged into a part where no definite structure could be made out but which appeared to consist of blood clot and broken down tissue. On further examining the growing margin two varieties of cells were to be seen The greater number of cells which had no stroma between them were larger and round or ovoid, with deeply staining nuclei, in some the nucleus had contracted to one side, leaving a vacuole. Besides these single cells there were here and there masses of protoplasm containing a number of nuclei, the so called syncytium, on closer examination, however, these multi nucleated masses suggested that they were made up of numbers of large ovoid cells fused together There was no appearance of new fibrous tissue. Immediately behind the growing margin a section showed patches of extravasated blood mixed with the tumour cells and it was by no means easy to say what relation the blood vessels had to the cells of the tumour

Remarks by Mr BLAKESLEY *and* Dr SEVESTRE.—This case illustrates the chief symptoms of the disease, in the first place following on pregnancy, in a multipara, the early appearance and continuance of hæmorrhage, the rapid wasting with hectic temperature, and signs pointing to extensive disease of the lungs Most of the above symptoms and signs are such as are common to cases of retained products of conception and, as a rule, the diagnosis is made from microscopic section of a portion of the growth after removal. It further illustrates the extreme malignancy of this disease, death occurring seven months after the history of its commencement Although the signs and symptoms of this disease are sufficiently clear for it to have a distinct clinical entity the same cannot be said of its pathological character and there is much diversity of opinion as to whether it should be classed among the carcinomata or sarcomata. The distribution of the secondary growths by the blood stream and some of the features noticed in the description of the microscopic section appear to support the view, which is generally held, that these tumours ought to be classed among the sarcomata.

Several views are held in regard to the origin of these tumours, by some it is thought that they arise in the uterine tissues and are modified by pregnancy or its results, by others that they arise in decidual tissues It is important to remember that these tumours always occur within a few weeks or months after abortion or delivery at term or not infrequently after the condition called hydatidiform mole. If it arises in tissues not connected with the decidua of pregnancy it is curious that its effects are noticed after delivery and not before. As regards the structures in the decidua from which the tumour may arise there is much diversity of opinion and this point is not likely to be settled till more is known of the tissues in which the placenta arises. By some the growth is considered to be a carcinoma and this view is based on the resemblance of cells to the syncytium of the chorionic villi, the syncytium being considered to be epiblastic in origin Whatever may be the ultimate views held as to its origin, it is at present clear that in regard to rapidity of growth, dissemination and the short time it takes to destroy life, it must be considered as one of the most malignant tumours known.

References —Hart and Barbour; fifth edition; Allbutt; System of Gynæcology; Journal of Pathology vol. v p. 358.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY

Secondary Carcinoma of the Eye —Leprous Ulcer of the Cornea.—A Doubtful Case of Atropine Poisoning —Bilateral Congenital Microphthalmos —Colloid Degeneration of the Conjunctiva —Exhibition of Cases and Card Specimens.

AN ordinary meeting of this society was held on June 12th Dr DAVID LITTLE, the President, being in the chair

Dr W C ROCKLIFFE (Hull) read notes of the termination of his case of Secondary Carcinoma of the Eye exhibited to the society in July 1901. The left eye was excised on July 12th, 1901, and the specimen and slide, kindly mounted by Mr W T Lister then pathologist to the Royal London Ophthalmic Hospital showed the cornea to be healthy with a rather shallow anterior chamber the angle being narrowed but not closed the lens being apparently healthy and *in situ* and the vitreous entirely absorbed. Situated at the posterior part and extending from the optic nerve to the ciliary processes was a large flat unpigmented tumour (which at the optic nerve appeared to be about from two to three millimetres in thickness and gradually tapered as it advanced) originating in the choroid The retina was completely detached. Microscopically the growth was limited to the choroid and consisted of numerous round cells grouped together with connective tissue Hardly any pigment cells were discernible except in the anterior half of the choroid where they lay internally to the new growth and from which they appeared to be entirely free. The vessels were new and were entirely confined to the connective tissue network. The optic nerve also had several tumour cells scattered among its fibres and the sclerotic at the posterior portion was sparsely infiltrated with the same. There were several areas of degeneration in this growth. On July 30th vision in the right eye was $\frac{6}{18}$ Detachment of the retina was increased and there was shooting pain round the eyeball. On August 10th there was an attack of pleurisy from which the patient appeared to recover but later there were stiffness, pain and swelling in the left leg The right optic disc was congested and the entire retina was swollen and further detached. The patient died on Nov 30th, the most troublesome symptoms having been vomiting and paroxysmal cough. Vision had gradually deteriorated but there was little or no pain in the head or in the eye. The patient had also continual constipation and was comatose during the last 48 hours. It appeared that secondary carcinoma of the eye more commonly followed carcinoma of the breast, affecting females rather than males between the ages of 40 and 60 years. The tumour was flat and consequently tension was not increased Duration of life, though varying after the first appearance of eye symptoms did not usually exceed two years.—Mr W T HOLMES SPICER cited a case in which metastasis occurred in one eye 30 months after removal of the breast for cancer Two separate detachments of the retina were noted, the appearance varied but the tension was not raised. Nutrition being good the eye was removed a few weeks ago and flat scirrhous growths were found opposite the detachments It was a difficult point to decide whether the eye should be removed in these cases.—Mr A. HILL GRIFFITH said that these flat wafer like growths were usually due to carcinoma of the choroid following a primary growth in the breast. He thought however that sarcoma of the choroid if seen in an early stage would have a similar appearance and he cited a case in which he had removed an eye having this appearance and had found the growth to be sarcoma.—Mr C DEVEREUX MARSHALL said that the tendency of carcinoma was to spread laterally whereas sarcoma assumed a mushroom shape but in the early stage the resemblance was very close Carcinoma occurred secondarily in the eye probably more often than had been supposed and since attention had been directed to the matter several cases had been recorded. In advanced cases of cancer defects in the eye were either overlooked or not paid much attention to

Dr ROCKLIFFE then read notes of a case of Leprous Ulcer of the Cornea in a young man a native of the West Indies. He exhibited prints of skiagrams showing the various bone changes taking place in this disease. He also referred to the obstinacy of the corneal ulcer to treatment in spite of frequent galvano-cauterisation &c.

Dr ROCKLIFFE also read notes of a case of Supposed Death from Atropine Poisoning The patient (one of four survivors of a family of 12) was a very delicate looking child aged 10 months who had suffered from convulsions most of this time. He first of all put three drops of a 1 per cent. solution of atropine in the eyes which did not dilate the pupils fully More atropine was applied but during the 30 hours which elapsed from the first using of the atropine only seven drops were used one-seventeenth of a grain. The temperature rose to 105·6° F The pulse was uncountable and the respirations were 72 the skin was red and the lips had a quantity of mucus about them. In this state the child died Nothing abnormal was found post mortem

Dr A. BRONNER (Bradford) read notes on Two Families with Bilateral Congenital Microphthalmos and Cataract. In one case the father and four out of eight children were affected, these were numbers 3, 5, 6 and 8. The eyes of the mother were normal. There was no consanguinity nor was there any history of syphilis In the other series the mother and all the four children were similarly affected The paternity of the children was somewhat uncertain. The maternal grandmother was said to have had similar eyes.—Dr D ARGYLL ROBERTSON had once operated on a boy with this condition the father having similar eyes and having previously undergone a successful operation for the removal of his cataract. In both fair vision resulted, though the eye was only two-thirds of the normal size —Dr P H MULES thought that in such cases there was usually congenital syphilis. He referred to two cases of the kind.—Mr PRIESTLEY SMITH said that there was no hard and fast line to be drawn between the small eye and the microphthalmic one. If the diminished size was very marked probably the lens was small and opaque, but if the lens was clear and full sized then glaucoma was almost certain to result. On the whole he thought that the subjects of the former variety were less liable to become blind than were those of the latter He had attended a father and daughter with small eyes, the cornea measuring only 10½ millimetres. Both had glaucoma.—Mr W A. FROST thought that those having a congenital coloboma were less liable to glaucoma.—Professor FUCHS (Vienna) had seen but one case a man who had lost an eye from acute blenorrhœa had a child who suffered from microphthalmos on the same side.

Major H. HERBERT I.M.S described a case of Colloid Degeneration of the Conjunctiva. This affection had been wrongly named amyloid" or hyalin" degeneration. Similar changes had been found rarely in the skin of old people and had been correctly described by dermatologists as colloid degeneration. The ocular conjunctivæ only were affected the palpebral portions being occupied by scar tissue from old trachoma a swollen translucent fold over hung the upper third of each cornea. The change consisted mainly in a swelling and breaking up and rearrangement of white connective tissue fibres (collagenous) and also of elastic fibres. In the deeper tissues the new material became moulded into rounded and elliptical blocks probably by constant stretching and movement of the fold In the centre of many of these blocks plasma cells were inclosed more rarely smaller masses of colloid or masses of blood pigment. Other blocks with central cavities represented the remains of blood vessels On the other hand other blood vessels had undergone rarefaction of their walls instead of colloid thickening and occlusion. Many of the blocks had connective tissue cells closely applied to them Special staining with acid fuchsin and acid orcein showed imbedded in many of the blocks the remains of white connective tissue fibres and in others elastic fibres. But the change was so advanced in the tissue examined that it was only close beneath the epithelium in a layer of adenoid tissue that the transition from collagen to colloid could be followed. In this layer a few true hyalin balls were to be found and both here and in the deeper tissues many golden pigment granules the remains of hæmorrhages Here and there some of the deeper colloid had coalesced into large and rather firm opaque waxy masses two or three millimetres or more in diameter In the central portions of these masses there were no blood-vessels and only the remains of cells, consisting of groups of small particles and larger spheres with some affinity for hæmatoxylin. There were still a few bands of white connective tissue remaining, but they were degenerating on lines rather apart from the primary colloid change, there were also some free elastic fibres mostly clumped near blood vessels. Some of the latter showed basophile degeneration—elacin. The only approach to amyloid reaction found was a faint indigo-blue with iodine and sulphuric acid in a few of the blocks, all alike stained pale brown with iodine alone and none of them gave any trace of pink with methyl and gentian violet.

The following cases and card specimens were shown —

Major M T YARR, R.A.M C Indirect Contusion Injuries of the Left Eye resulting in Blindness, following a Mauser bullet wound of both superior maxillary regions.

Mr J H. PARSONS Sections of a case of Microphthalmos

Dr LESLIE BUCHANAN Traumatic Separation of the Ciliary Body from the Sclera.

Mr M. STEPHEN MAYOU (1) Rodent Ulcer of the Face treated by X Rays, and (2) a case of Trachoma treated by X Rays

Mr ARNOLD LAWSON Partial Embolism of the Central Artery of the Retina in a lad, aged 18 years

Mr SPICER (1) Thrombosis of the Retinal Veins, with Cystic Degeneration of the Retina and Yellow Spot, and (2) Vessels of New Formation on the Anterior Surface of the Iris

The Bowman Lecture

The Bowman Lecture was delivered before the Ophthalmological Society on June 13th by Professor ERNST FUCHS of Vienna. It was a learned address on an avowedly intricate subject and was illustrated by enlarged drawings not yet in a state for reproduction

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SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN

Heart Disease in Children.—Infantile Paralysis—Displacement of Testes—Fleeting Amauroses in Children presenting Symptoms of Meningitis—Hypertrophy of the Right Great Toe

THE provincial meeting of this society was held at Manchester on June 21st, Dr HENRY ASHBY (Manchester) being in the chair Prior to the meeting, which was held at 4 P M and at which many London and provincial representatives were present, cases were demonstrated in the wards of the Manchester Hospital for Children by the honorary medical staff.

Dr A. E SANSOM read a paper on Heart Disease in Children He said that the chief affections of the organ were rheumatic, but not always, and were not often associated with painful and diseased joints The chief groups of them were (1) the temporarily swollen and enlarged heart of rheumatism, (2) the heart of rheumatic pericarditis, (3) the heart of rheumatic endocarditis with resulting valvular disease, and (4) the heart of slow and insidious rheumatic endocarditis inducing mitral stenosis.—Dr E CAUTLEY showed a specimen of Atresia of the Conus Pulmonalis and Patency of the Septum Ventriculorum The child died at 12 months of age from cardiac failure during an attack of dyspnœa. Dr Cautley thought that cases of congenital heart disease should be divided into two groups—those due to developmental error and those due to fœtal endocarditis Occasionally the two factors might be coexistent. He regarded congenital syphilis as the first cause of developmental error —Dr THEODORE FISHER (Bristol) thought that the most striking feature of heart disease in children was pericarditis. Dilatation slight in amount occurring in rheumatism was not serious He thought that myocarditis and pericarditis showed that the heart was poisoned as a whole He agreed with Dr Cautley's classification of congenital heart disease. A patent foramen ovale was very common and could be found in one fourth of adult necropsies if it were looked for

Mr W P MONTGOMERY (Manchester) read a paper on the Results of Tendon transplantation in 25 Cases of Infantile Paralysis of the Lower Extremity The cases were classified into various groups and the results of the various methods employed were given The work of re education was often very slow but the final state was good A number of cases were shown in the wards prior to the meeting

Dr C N GWYNNE (Sheffield) read the notes of a case of Infantile Paralysis of the Leg which he had treated by excision of the knee, the ankle, and the tarsal joints The result was most satisfactory and the boy could walk well, though with a stiff leg, but without any evidence of deformity beyond some shortening —Mr R CLEMENT LUCAS spoke of the old fashioned way of treating such cases by tenotomy with results which were not encouraging and of the great advance of the present methods He had himself done more in the way of excising the bone in the extreme cases of deformity than had been done in the present series. —Mr WALTER EDMUNDS thought the cases were very successful and regretted the shortness of the time at the disposal of the society for discussion —Mr JOSEPH COLLIER (Manchester) agreed that the best way was to graft tendon on to the periosteum, if that could be done and the tendon were long enough He had more experience of arthrodesis in cases where the limb was flail like

Mr CLEMENT LUCAS read a communication on a case of Displacement of both Testes in Perineo with an Inguino-Perineal Hernia on the Right Side No deformity had been noticed till the sudden descent of a hernia on the right side at the age of three years drew attention to the displacements A photograph showing the double displacement was exhibited A radical cure of the hernia and replacement of the testes had been affected.

Mr SYDNEY STEPHENSON related a series of cases in infants who while suffering from symptoms indicative of Posterior Basal Meningitis became Blind without Ophthalmoscopic Changes Sight was ultimately completely recovered The title of his paper was Fleeting Amauroses in Children presenting Symptoms of Meningitis

Dr R C DUN (Liverpool) read notes of a case of Hypertrophy of the Right Great Toe (radiograms, photographs, and a cast of the foot were shown) The deformity occurred in a girl, seven and a half years of age, and no overgrowth had been noticed until the child was five years old The whole of the tissues of the toe were increased, the bones taking part in the hypertrophy The greatest development was of a lipomatous nature A definite fatty mass was present on the dorsal surface of the terminal phalanx.—Mr CLEMENT LUCAS said that many such cases of hypertrophy were nævoid lipomata and asked if there was any nævoid condition of the toe and Dr DUN replied that there was not.

After a vote of thanks to the chairman and to the hospital authorities for the use of the hospital the meeting terminated

Subsequently dinner was served at the Queen's Hotel, Dr SANSOM presiding The dinner was well patronised and it passed off successfully

On the following day the members and their friends enjoyed a trip into Derbyshire. After a country drive from Grindelford luncheon awaited the party at the "Peacock," Baslow, where they also partook of tea after a visit to Chatsworth, and they were subsequently driven to Bakewell station in time for the evening train for London and for that for Manchester and Liverpool

The provincial meeting next year will take place at Brighton

The annual general meeting of the society will be held at the Hotel Cecil, London, at 6 30 P M on Wednesday, July 16th and will be followed by dinner at 7 30 P M, at which guests will be welcomed Dr Henry Ashby will be in the chair

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BOARDS OF GUARDIANS AND VACCINATION —The public vaccinators of St. Germans, Cornwall, have forwarded a petition to the Local Government Board in reference to vaccination in the St Germans Union. The petitioners complain that since Jan. 1st, 1902, in compliance with demands from the clerk of the guardians, they have been compelled to send their vaccination registers on five occasions Consequently they have been unable to enter particulars in the register at the time of vaccination and inspection The petition, in conclusion, adds "that in view of the pressure brought by various boards of guardians to prevent persons availing themselves of the benefits of the Vaccination Acts it would be for the public advantage if the administration of the Acts was taken out of the hands of the local authorities, and that public vaccinators should carry out their duties directly under the Local Government Board"

Reviews and Notices of Books.

A Handbook of the Gnats or Mosquitoes giving the Anatomy and Life history of the Culicidæ together with Descriptions of all Species noticed up to the Present Date By Lieutenant-Colonel G M. GILES, M.B. Lond. F.R.C S. Eng I.M.S (retired) Second edition London John Bale Sons, and Danielsson Pp. 530, 17 Plates, and 53 Figures in the text. 1902. Price 21*s*. net, post free abroad 22*s* 6*d*

THE appearance of this second edition of Lieutenant-Colonel Giles s well known work is not precisely opportune. We have just noticed the recently published monograph of this group by Mr Theobald which seems to include most of the information gathered together in this book and which is a good deal fuller in the systematic part. Nor is the present work so extremely low in price as to render it a ' cheap substitute" for the fuller monograph issued by the Trustees of the British Museum. All this, however is not in the least Lieutenant-Colonel Giles s fault and if his publishers chose to bring out a second edition at the present juncture that is their affair But it is difficult to understand why they did not produce a work of more attractive appearance and handier in size. The author himself does not enlighten us much as to the reasons which led him to comply with the demand on the part of his publishers for a new and revised edition. He has admittedly culled from the pages of Mr Theobald s three volumes the descriptions of such species as were not described in the earlier edition In justice to Lieutenant-Colonel Giles however we may point out that the introductory chapter dealing with structure, life-history and the connexion of mosquitoes with malaria occupies a considerably larger number of pages than are devoted to these aspects of the matter in the British Museum treatise the latter indeed is mainly systematic. Moreover—and this unquestionably adds to the value of the book—the present author has depended largely upon his own first-hand knowledge in preparing his handbook. We should have thought, however that a couple of months of constant work with the microtome and by dissection " was by no means an excessive amount of labour to bestow upon so important and vast a subject. The volume bears evident traces of an enthusiasm for the subject , so marked indeed is this that Lieutenant-Colonel Giles reads mosquitoes into everything and even where he is writing of the flea terms the family to which the pest belongs culicidæ" instead of pulicidæ. All the chief facts about these pestilent flies are brought out with clearness and the reader will undoubtedly find himself after studying the author s statements a master of what is to be known generally about the group. The illustrations though not by any means perfection are at least intelligible and will aid the reader greatly

Early in the book Lieutenant-Colonel Giles dispels a common error of newspaper correspondents concerning the mosquito. Everyone has observed from time to time a paragraph relating to the arrival of mosquitoes in this country and the reason for the arrival is attributed to the hot weather The latter part of the statement is, as a rule correct, but there is no arrival. The local swamp and pool provide us with sufficient mosquitoes of home growth which are quite up to the recognised standard in biting capacity But, as the author justly observes, as a rule they do not bite unless under the provocation of extreme heat. Hence the energy of the Indian bred species and we may add from personal experience, those of Lapland which are not a whit inferior in biting power and close application to their business to any mosquito that can be hatched elsewhere. The mosquito—and, of course by this word we understand members of the family culicidæ and not any and every biting and stinging winged creature—is, curiously enough, not naturally a bloodsucker at all. In India the author observed that the contents of the alimentary canal of both sexes consisted largely of pollen grains, the occurrence of which he remarks incidentally has led to some confusion with the parasites which the mosquitoes convey An inexpert microscopist might confuse the vegetable cell with an animal parasite. Besides pollen mosquitoes enjoy the preserved fruit and sweets laid out for dessert on an Anglo-Indian dining table" and generally anything that is semi liquid and toothsome. That they feed often, and perhaps usually by piercing the tender stems of plants, has long been known and Lieutenant-Colonel Giles is so desirous of emphasising this really rather well known fact that he actually mentions it twice on the same page. We notice indeed a little tendency here and there to unnecessary repetition, to be explained perhaps by the somewhat hasty preparation of this second edition. For instance, the author refers twice to the uninstructed paragraph of the English newspaper concerning the supposed advent of immigrants of the culex family The mosquito winds its sultry horn," as might be supposed, mainly in hot weather But, oddly enough, it does not like direct sunlight it haunts shady corners. But the larva, at any rate of anopheles, must have sunlight, so different are the two phases of life of this parasite.

The author gives some important information which has a bearing upon the spread of these flies from country to country Such minute creatures might well be supposed to have no geographical distribution in particular Here, as elsewhere, it is almost impossible to distinguish between indigenous species and those which owe their occurrence in any given country to direct, though unintentional, transport by man. Thus the ubiquitous mouse has gained this epithet through the commercialism of man. The cockroach and that unmentionable six legged denizen of bedsteads were once rare oriental creatures. Lieutenant Colonel Giles especially points out that the sea sea air and sea water are fatal to both mosquitoes and their larvæ. While serving as naturalist," he writes 'to the Indian Marine Survey I was necessarily at sea for months together and though butterflies dragonflies and other flying insects often boarded us far out at sea I found no evidence of small and delicate species being transported in this way He adds that when fairly out at sea the mosquito visitors which invaded the ship in cheerful numbers while in dock rapidly diminished and eventually disappeared. There is no doubt that even the most tender insects can often fly much further than is generally supposed—witness, for instance, the migrations of various butterflies. But even granting the strength of wind sufficient to convey a mosquito across an arm of the sea the passage would be impossible. As the author acutely points out, the very fact that sunlight is fatal to its well being would prevent such an excursion and the possible and consequent stocking of a new country with these diptera. Nor can the mosquito overcome the difficulty of transport by voyaging willy nilly in the larval stage. Lieutenant-Colonel Giles quotes Professor Celli to the effect that the young of anopheles died in 13 hours in salt water and that even brackish water was fatal with comparative rapidity That mosquito larvæ haunt marshes of a saline character has been often asserted but apparently on but slender grounds. In short carriage by land is the only way in which a mosquito can extend its range. It is often pointed out and probably most persons who know anything about the matter at all think, that the genus anopheles is to be distinguished from culex by its habit of standing on its head so to speak when at rest. This is another common fallacy which the author disposes of; his observations upon a new specimen of anopheles seem to show that this acrobatic mode of resting is not peculiar to that genus.

But here we must take our leave of this work which certainly contains much of interest and something of novelty. If the author had been better supported by his publishers in the way of "get up" we should have predicted a considerable circulation for this epitome of the structure and classification of mosquitoes.

Encyclopædia Medica. Under the general editorship of D. CHALMERS WATSON, M.B., F.R.C.P. Edin. Vol. IX. Osteo-arthropathies to Pregnancy (Physiology). Edinburgh: William Green and Sons. 1901. Pp. 518. Price 20s.

THE first contribution of importance in this volume is one on Diseases of the Ovaries, by Mr. Alban H. G. Doran. Brief remarks are made on the common affections of the ovary, and tumours of that organ are also described. The comments on ovarian cysts are well worthy of attention; an excellent description is given of the anatomy of the capsules, a knowledge of which is of high importance to the surgeon.

Dr. J. W. B. Hodsdon, assistant surgeon to the Royal Infirmary, Edinburgh, writes on Injuries and Diseases of the Palate and Hare-lip. He gives a good account of the operative procedures which are necessary for the relief of cleft palate, not forgetting the after-treatment in the way of training the voice. Much care and patience are required to enable the patient to speak properly and two main objects have to be obtained: to develop the muscles of the palate by exercises and to correct the faulty habit of speech.

The Physiology of the Pancreas is described by Dr. J. A. Milroy, late demonstrator of physiology, Yorkshire College, Leeds; whilst Mr. A. W. Mayo Robson, senior surgeon, Leeds General Infirmary, is responsible for the article on diseases of that organ. Mr. Robson believes chronic pancreatitis to be a much more common affection than are the acute and subacute forms and he has no doubt that some cases diagnosed as malignant disease of the head of the pancreas and terminating fatally are cases of chronic interstitial pancreatitis.

The subject of Paralysis is divided between three authors—Dr. J. S. Risien Russell, Dr. Frederick E. Batten, and Dr. James S. Collier. The present section deals with the so-called systemic lesions of the cord and other diseases of the grey and white matter. Descriptions are given of spastic paraplegia and infantile spastic paralysis, of family periodic paralysis, and of Landry's paralysis (acute ascending paralysis). Further, accounts are given of the forms of paralysis accompanied with atrophy of muscles. These include acute anterior poliomyelitis, subacute anterior poliomyelitis, chronic spinal muscular atrophy, and bulbar paralysis. Then follow those forms of paralysis characterised by tremor or ataxy—disseminated sclerosis, pseudo-sclerosis, paralysis agitans, and hereditary ataxia. Finally, functional paralysis is considered. These subjects would in themselves yield material for a large volume and consequently in this publication a description of them has to be rather condensed. The authors, however, have performed their task well and have given a vast amount of information in a comparatively small space.

Under the heading of Parasites Dr. W. T. Ritchie of Edinburgh contributes an article on Animal Parasites. He adopts the usual classification—protozoa, helminths, and arthropods—and for purposes of reference Dr. Ritchie's remarks will be found useful.

Dr. W. E. Fothergill of Manchester writes on the Anatomy of the Perineum and Pelvic Floor and Dr. F. W. N. Haultain on Diseases of the Peritoneum and Cellular Tissue of the Pelvis. The general description of the peritoneum is by Mrs. Garrett Anderson, Mr. H. P. Dean writing on Acute Peritonitis and Mr. D'Arcy Power on Tuberculous and other Affections of the Peritoneum.

Dr. J. A. Lindsay, professor of medicine, Queen's College, Belfast, describes the Medical Affections of the Pleura. He rightly speaks with caution on the pathology of diseases of the pleura and concludes that this part of the subject (especially the bacteriology) must be submitted to a rigid criticism and interpreted in the light of the facts of clinical experience before satisfactory conclusions can be arrived at. The Surgery of the Pleura is dealt with by Dr. T. Sinclair, professor of surgery, Queen's College, Belfast. The subject of Pneumonia is also divided into two sections, the bacteriology being considered by Dr. D. A. Welsh, pathologist to the Royal Infirmary, Edinburgh, and the clinical aspect of the disease being described by Sir J. W. Moore, Professor of Practice of Medicine, Royal College of Surgeons in Ireland. The remarks on treatment are worthy of careful attention.

The subject of Pregnancy is divided into four sections: (1) Changes in the Maternal Organism, by Dr. J. Lamond Lackie, gynæcological tutor, Royal Infirmary, Edinburgh; (2) Diagnosis of Pregnancy, by Dr. W. Fordyce, assistant physician, Royal Maternity Hospital, Edinburgh; (3) Multiple Pregnancy, by Dr. W. Stephenson, professor of midwifery, Aberdeen University; and (4) Management of Pregnancy, by Mrs. Chalmers Watson, M.D. Edin., senior assistant physician, Edinburgh Hospital for Women and Children.

There are many other contributions to this volume which add to its value but we have not space to comment on them. Suffice it to say that the standard of the publication is efficiently maintained, rendering the Encyclopædia a most useful work of reference.

A Laboratory Guide in Elementary Bacteriology. By WILLIAM DODGE FROST, M.S., Instructor in Bacteriology, University of Wisconsin. Second revised edition. Illustrated. Madison, Wis.: published by the Author. 1902. Pp. 355.

THIS work represents substantially the course of practical instruction given to the students of bacteriology at the University of Wisconsin. Its popularity is evidenced by the call for a second edition within a year of its first appearance, and the character of the instruction furnished by the book certainly justifies this appreciation. The course is divided into two parts, treating respectively of general and medical bacteriology. The latter is evidently not intended to stand by itself but it is assumed that the course of general bacteriology has been previously carefully studied. The instructions are divided into a series of short "exercises" in such a way as to make it comparatively easy to adapt the course to the varying requirements of different laboratories and different classes of students. There is some lack of courage, though less in this book than in many, in deciding whether the work is to stand alone as a complete laboratory guide or to be supplemented by demonstrations; consequently the instructions are in places too short for the first alternative and too long if the aid of a demonstrator is presupposed.

The general course begins with the study of morphology and elementary technique, passes on to the physiology of bacteria, then to a systematic study of representative non-pathogenic bacteria, and finally to the analysis of air, water, and milk and the action of antiseptics. The medical part of the course commences with the study of the principal pathogenic bacteria, followed by the methods of bacteriological diagnosis and the examination of water and milk for pathogenic germs. A characteristic feature of the book is the provision of a number of blank forms to be filled by the student with details of the morphological, cultural, chemical, and other characters of the organisms studied. If conscientiously carried out the method should be of considerable educational value. In some details the instruction might be improved The valuable hanging drop culture is dismissed with insufficient details as to sterilisation and with no reference to any medium save agar The dried drop method of collecting blood for Widal s reaction is alone described and the bacteriological diagnosis of cholera occupies only nine lines. In the differential diagnosis of bacillus diphtheriæ no mention is made of the acid production in glucose broth (Cobbett) There is a curious misprint of ' military tuberculosis" (p. 326) and Professor Delépine s name is also transformed (p. 301) On pagé 36 a magnification of 2500 diameters is said to be represented thus × 2000 These are however small blemishes in an otherwise excellent text-book which bears the impress of having been practically tested in the laboratory A most excellent series of laboratory rules is prefixed.

Morphinism and Narcomanias from other Drugs By T D CROTHERS M.D Superintendent of Walnut Lodge Hospital Hartford Conn U S A. Editor of the *Journal of Inebriety* London and Philadelphia W B. Saunders and Co 1902. Pp 351. Price 9s net.

DR. CROTHERS has long been known for his work in connexion with the nervous and mental affections associated with alcoholic and other drug habits and as medical superintendent for many years of an institution devoted to the care and treatment of patients suffering from such affections in the United States his experience has been large and varied. The present work is really a general preliminary survey of the subject of morphinism and of the nervous and mental troubles arising from drug habits generally All modern writers says Dr Crothers recognise the growth of these habits and vices, and it is stated that in the United States the sale of morphine in some large cities indicates that not one-half of the amount sold is traceable to the legitimate demands of physicians and hospitals. Dr Crothers quotes statistics and figures from a great variety of sources to show that the morphia habit is becoming largely prevalent among medical men in France Germany and the United States. The first 220 pages of the book are devoted to an excellent account of the various causes symptoms and stages of morphinism the discussion being throughout illuminated by an abundance of facts of clinical, psychological and social interest. The complication of this vice with other drug habits is lucidly sketched and a concise description is given of the treatment adopted at asylums and retreats for the reception and treatment of patients thus affected The medico-legal aspects of morphinomania in regard to criminality responsibility and competence to give evidence in a court of law are discussed and sound canons are laid down for the guidance of the physician in reference to such matters. Other forms of drug habits are then taken up and dealt with *seriatim*—viz cocainism chloralism chloroformism tobacco inebriety etherism the sulphonal and trional habit and the consumption of tinctures such as those of lavender Jamaica ginger and the like which are largely composed of crude forms of spirits The book is written throughout in an easy and somewhat popular style and appeals to the general reader as well as to those specially interested in the subject as regards its medical and sociological aspects

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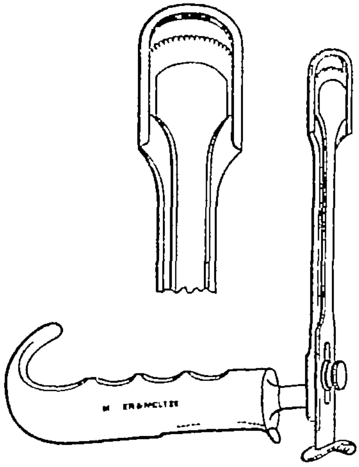
JOURNALS AND MAGAZINES

The Medical Magazine — The Inebriate Acts, 1879–98, in their Relation to Inebriety is the title of a paper by Dr Edward Norton which comprises the chief interest of the current number of this journal Dr Norton shows that although the number of persons seeking treatment in institutions is still far smaller than is desirable considering the number to whom such treatment is really applicable, yet there has been for 20 years a steadily maintained increase in the number of applicants. He is of opinion that good industrial retreats for destitute inebriates, scattered throughout the country and supported by the results of the patients own labours by local authorities and by voluntary aid, are within the range of practical politics. We agree.

New Inventions.

THE ANATOMICAL TONSILLOTOME.

THE orifice for the reception of the tonsil in this instrument is made to correspond to it in shape being oval with the long axis vertical By this means the hypertrophied tonsil can be much more completely excised and not merely clipped as is usual with the tonsillotomes most employed. Another advantage is that the lowest point of enlargement is removed and not left to keep up irritation and cough as is commonly seen when the oval tonsil is squeezed into a round or horizontally elongated orifice. The second modification consists in the serration of the blade. This has a marked effect in lessening hæmorrhage especially in adults as the tonsil is lacerated rather than sharply incised. The third new feature is that the handle is not only massive having indentations for the *fingers and thumb affording greater* grasping surface and power but that it is prolonged into a hook at the end. The advantage of this is that the operator by utilising the ulnar side of the hand has much increased power for levering outwards and thus pressing well over the tonsillar base just before driving the blade home. For the excision of large flat adult tonsils these modifications are invaluable and render this instrument a safe and efficient substitute for the slow clumsy and imperfect methods of the écraseur *morcellement* and enucleation



Welbeck-street W WM STUART LOW F R.C S Eng

ROYAL ALBERT HOSPITAL, DEVONPORT —A very successful fête was held on June 26th 27th and 29th at the Exhibition grounds Devonport, in aid of the funds of the Royal Albert Hospital To maintain this institution about £4000 are needed annually but unfortunately the annual excess of expenditure over receipts is about £1300 and the fête has been organised with the object of meeting this deficit

THE LANCET.

LONDON SATURDAY, JULY 5, 1902

The Illness of the King

WE are exceedingly glad to be able to state that His Majesty the KING is progressing well. It has been necessary to remove the drainage tubes as they could not be tolerated and gauze plugs are now used instead. The wound is granulating satisfactorily and the discharge has diminished and is perfectly inodorous. The KING suffers less, and although the dressings are still necessarily painful His Majesty bears the process with the utmost courage. His temperature has been normal since Thursday, June 26th It will, we are sure, afford the greatest satisfaction to his subjects throughout the Empire to know that the condition of the constitution of the illustrious patient is admirable He is, moreover, an extremely good patient and is absolutely loyal to his medical attendants All these things, we hope, bode well for his restoration to health at no very distant date

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THE present condition of His Majesty the KING and the future progress of his health can be gauged best by a full consideration of the case from the very beginning Our readers will be able to follow the thread of our remarks if they read in connexion with them the brief account of His Majesty's illness which appeared in our second edition last week and which we reprint below Firstly, was there any condition present which might predispose to the development of perityphlitis? Although no reference appears to have been made to it it is far from unlikely that the severe attack of typhoid fever from which the KING suffered in 1871 may have had some etiological connexion with his present illness The ulceration of the bowel in typhoid fever is especially severe near the ileo cæcal valve and adhesions occurring as a result of the intestinal ulceration, especially when the attack has been prolonged, are not uncommon. Adhesions of this nature are liable to produce displacement and torsion in the neighbourhood of the cæcum, and it is now recognised that in this way the circulation may be distinctly interfered with, and that such disturbances of position and circulation are important predisposing causes in the production of perityphlitis. So that it is quite possible that the attack of enteric fever from which the KING suffered more than 30 years ago may be really connected with the illness from which he is suffering now

The present attack appears to date from some 10 days earlier than the operation For it was on June 14th that the KING first complained of abdominal discomfort, but it was slight and did not interfere with the journey to Aldershot. At midnight of the same day abdominal pain came on, and SIR FRANCIS LAKING was summoned and was able to relieve the urgency of the symptoms, and on the next day, June 15th, His Majesty was seen by SIR THOMAS BARLOW Up to this time the signs and symptoms were indefinite, and though they were sufficient to suggest the possibility of perityphlitis, no trustworthy diagnosis could be made On the afternoon of the 15th a chilly fit occurred, this was in all probability a real rigor and marks the time at which from the after history of the case we may conclude that suppuration commenced We may interpret these symptoms by the light of our later knowledge as follows the commencement of the perityphlitis dates from the first abdominal discomfort of which the KING complained on Saturday, June 14th It may have been connected with the great fatigue of the previous day and the taking of a late supper, but it is quite possible that neither had anything to do with it. During Saturday and Sunday the inflammation extended and set up an adhesive peritonitis To this was doubtless due most of the pain of which the KING complained. Then pus began to form around the cæcum This suppuration was loca by the adhesions which had already formed betw the adjoining coils of intestine, and if our suggest be correct as to the influence of the attack of typh fever old adhesions remaining from that illness m have assisted in confining the suppurative process B Monday, June 16th, the KING had recovered sufficientl to bear well the drive to Windsor, for he arrived there without fatigue On the Tuesday signs began to appear which rendered certain the nature of the affection, and when he was seen on Wednesday, June 18th, the local manifestations were well marked In the right iliac fossa there was an ill defined, somewhat firm swelling, with distinct tenderness but no very marked pain independently of pressure. The temperature was raised and the diagnosis could be made with ease and certainty Then would arise the question of operation There are some in this country, and still more abroad, who advocate operative measures at the earliest possible moment, but by indiscriminate operation in all cases without regard to the exact nature of the local condition the best results are not obtained. It cannot be disputed that a large number of cases of perityphlitis recover without surgical aid and that many others result in the formation of a localised abscess which may be evacuated without necessarily disturbing the cæcum, without indeed it ever being established that inflammation in its vicinity was the cause of the trouble. The great danger in perityphlitis is general septic peritonitis What may be called the "natural" method of prevention of this complication is by the formation of peritoneal adhesions, shutting off the focus of infection from the rest of the peritoneal cavity To attempt to disturb the cæcum while this process of localisation of the suppuration is going on can only lead to the hastening of the evil which it is desired to avert, for the breaking down of the protective adhesions will almost certainly cause the generalisation of the peritoneal infection There is the less need to discuss the question of the superiority of early or late operation seeing that we have no proof in the KING's case that the appendix was inflamed, but we may be permitted to express our complete approval of the course adopted by His Majesty's medical advisers

With complete rest on Thursday, Friday, and Saturday the

KING'S condition improved the temperature fell to normal and he felt better in himself and the improvement continued during the Sunday so that on Monday His Majesty was able to journey to London by train. Up to Monday, June 23rd it had been hoped that care and rest had served the patient so well that the necessity for active surgical treatment had passed away This was only in accord with the earnest wish of the KING who was extremely anxious to carry out at whatever pain to himself the arrangements that had been made. On Monday however the probability of the presence of pus in the right iliac fossa was suspected and on the morning of Tuesday June 24th, it became clear that suppuration had occurred. The iliac swelling was again obvious the pain had increased, and the temperature was once more elevated. All these signs pointed clearly to the formation of a localised abscess. The danger of delay was great. The formation of pus was evidently proceeding rapidly and the abscess was extending In such circumstances the impossibility of sanctioning any attempt at carrying out the Coronation ceremony was at once obvious Nay more, the necessity for the immediate evacuation of the pus was urgent, for if no outlet for it were provided the far greater danger of general septic peritonitis was imminent, a condition in which surgical interference is too often of small avail Lord LISTER and Sir THOMAS SMITH agreed that an operation was imperative and the KING gave his assent reluctantly not because of the pain or the risk to himself but because he knew the severe disappointment the change of plan would occasion to the many thousands who were assembling in honour of his Coronation.

To Sir FREDERICK TREVES was committed the heavy responsibility of performing the operation. An incision was made a short distance above Poupart's ligament on the right side the wound was steadily deepened but it was not until it had obtained a depth of some four and a half inches that pus was reached This was evacuated and the abscess cavity was drained by means of two rubber tubes. By the evacuation of the pus and the subsequent drainage the immediate risk of the involvement of the general peritoneal cavity was averted and thus the danger of the disease was greatly reduced The effects of the operation soon showed themselves. The pain from which the patient had suffered severely was markedly relieved, the temperature rapidly fell and it was evident that the septic absorption had ceased. It was possible for his medical attendants to announce on the same evening that the KING'S condition was as good as could be expected after so serious an operation, that his strength was well maintained, and that the pain had diminished There was an addendum to the effect that it would be some days before it could be said that the KING was out of danger, this was a necessary warning to the public, for it may happen that the extension of the suppurative process does not cease with the evacuation of the pus.

During the earlier part of the first night after the operation His Majesty was restless and did not sleep but after one o'clock some sleep was obtained. A fairly comfortable day followed and but little pain was experienced except at the dressing of the wound. His strength was fairly well maintained. On the second night he had some refreshing sleep and he improved in all respects and the state of the wound continued satisfactory On Friday June 27th, it was announced that a fair night had been passed and that the temperature remained normal. On Sunday the fifth day after the operation, the KING was sufficiently recovered to permit his being moved on to a couch for a few hours, and up to the time of writing the improvement has steadily continued. A fair amount of sleep is obtained the KING'S strength increases and the wound continues to progress in a satisfactory manner It is, of course, most important that the abscess cavity should close completely and from the bottom, otherwise an intractable sinus would be not unlikely to result. The wound is therefore packed with gauze and this necessarily occasions no small amount of pain. This is unfortunate but cannot be avoided and it is consoling to remember that the pain will decrease with each dressing

We have followed the illustrious patient's progress from the commencement of his illness to the present time and we are now in a position to consider the prognosis. The dangers which may arise may proceed from the patient's constitution or be connected with the local lesion. As to the KING'S general constitution there is but little cause for anxiety At his age, 61 years he is probably as strong as the average of his subjects and apart from the harassing nature of his duties and the energy and zeal with which he has ever undertaken all that he is called upon to do there has been nothing materially to impair his general health The severe attack of typhoid fever in 1871, to which we have already alluded served for a time to weaken him but the effect was transient. It cannot however be doubted that the grave disappointment which the KING feels at having to postpone the Coronation may exert some depressing effect on him To dispel as far as possible any untoward mental or sentimental condition must be the best endeavour of those around his bedside. Turning to the local conditions we find several possibilities of harm. The wall of the abscess cavity is formed by coils of small intestine which have become adherent owing to adhesive peritonitis some of these adhesions have probably already commenced to organise. Somewhere in this wall there may be a peccant appendix matted to the intestine by exuded lymph from it and from the other parts of the wall of the abscess cavity pus may be still secreted. The chief danger is the extension of the suppurative process to the general peritoneal cavity but day by day the adhesions localising the mischief are growing stronger organisation proceeds rapidly and before long they will be strong enough to resist any strain to which they may be subjected. The danger from this cause has steadily grown less and less with every favourable bulletin. Again the risk of the absorption of septic products from the abscess cavity is now very small as all tension has been removed and the granulations which have formed offer an effective resistance to the passage of the toxins into the blood vessels and lymphatics at any rate, the state of the temperature shows that now no absorption is taking place. The chance of the occurrence of general septicæmia may be disregarded. On a critical review of the situation of the KING it may be said that there is great promise of a speedy and safe recovery from his illness, speedy we say though many weeks must elapse before he is well, for we must bear in mind the severity of the illness and of the operation performed for its relief, and safe because the probability of any complication supervening is remote. On the maintenance of his strength, apart from care in dressing the wound, depends mainly the recovery of His Majesty.

One further point requires consideration. If, as we may not unreasonably hope and expect, the KING recovers from his illness, will a recurrence be likely or will it ever be necessary to interfere with the appendix? The answer which would be given by those surgeons who have had most experience in abdominal surgery would surely be "No." When an abscess has developed in connexion with the appendix and has been successfully drained it is rare, indeed, for any recrudescence of mischief or for any further operation to be required.

THE following account of His Majesty's illness appeared in the second edition of THE LANCET, published on Wednesday, June 25th:—

We were able to state yesterday, June 24th, that an abdominal operation had been successfully performed on His Majesty by Sir FREDERICK TREVES on that morning. The anæsthetic was administered by Dr. FREDERIC HEWITT and was borne well, His Majesty recovering consciousness without any ill effects whatever. The operation was attended by no complications; a large abscess was found and evacuated. To-day, June 25th, we are able to give the following account of his illness.

We give this account of His Majesty's illness and purposely do so in the briefest and plainest terms, because we know that although our statement will primarily be read by our medical readers it is certain to reach the public, and it seems to us at the present juncture that it is highly important that the public should know the real state of the case. We may preface our remarks by saying that while it is impossible to disguise the serious nature of the KING'S condition it is also our joyful privilege to be able to contradict flatly some of the sinister rumours that during the last 48 hours have been prevalent throughout the world.

On Friday, June 13th, His Majesty the KING towards the evening was suffering from great fatigue. After attending the Court and the many arduous duties of the day, he had a late supper and went to bed, and on the following morning, Saturday, June 14th, he complained of abdominal discomfort. His Majesty was seen during the day by Sir FRANCIS LAKING, Physician in Ordinary to the KING and Apothecary to the Household. In the afternoon he was distinctly better. He then left for Aldershot where he dined with the QUEEN, being present in the evening at a "tattoo" held under unfortunate atmospheric conditions. On Saturday at midnight he complained of abdominal pain and a feeling of distension. Sir FRANCIS LAKING was sent for and arrived at Aldershot at a quarter to five in the morning. Remedies were administered and the symptoms were all relieved. It may be added that no morphia was given. But Sir FRANCIS LAKING, recognising the presence of an abdominal trouble that might be serious, telegraphed for Sir THOMAS BARLOW, Physician to the Household, who arrived on Sunday, the 15th, and stayed there during the day. On the afternoon of Sunday His Majesty had a chilly fit which in all probability amounted to a rigor. On the following day, Monday, the 16th, he proceeded in a carriage to Windsor, adopting this method of travelling by his physicians' advice, for it was felt by his medical advisers that if, unfortunately, his symptoms should develop for the worse it would be much better that he should be in his own home. The journey was made in comfortable circumstances, he bore it well, and felt better at the end of it. On Tuesday, the 17th, recognising that, in view of the approaching Coronation, no physical labour which could possibly be avoided should be undertaken, His Majesty reluctantly abandoned the idea of being present at Ascot. He remained recumbent most of the day but drove for three quarters of an hour in the private grounds attached to the Castle.

On Wednesday, the 18th, His Majesty was seen by Sir FREDERICK TREVES, and this point in the clinical history of his disease is one of the highest interest to medical men. The temperature was then elevated, there were swelling and tenderness in the right iliac fossa—in short, there were symptoms of perityphlitis. But during the following Thursday and Friday all these ominous symptoms disappeared. When Sir FREDERICK TREVES saw His Majesty on Saturday, the 21st, his temperature had fallen and had been normal for two and a half days, the swelling in the iliac region had nearly vanished, and in every way the KING was much better. It was then believed that the KING was on the road to rapid recovery, and that he would be able to go through the Coronation ceremonies. Sunday, the 22nd, was uneventful, and on Monday, the 23rd, the KING travelled from Windsor to London, his entrance to the capital being received by the public as a proof that they need attach no credence to any of the many alarming rumours that had now become widespread. The KING made the journey by railway. On his arrival the KING saw Sir FREDERICK TREVES again and at this period His Majesty's medical and surgical advisers began to be suspicious that there might be pus in the right iliac region.

Next day the necessity for operation became clear. At 10 o'clock on Tuesday morning the urgency of an operation was explained to His Majesty, and recognising that his ardent hope that the Coronation arrangements would not be upset must be disappointed he cheerfully resigned himself to the inevitable. Before the actual decision upon operation was arrived at Sir FREDERICK TREVES, Serjeant-Surgeon to the KING, took the advice of the two other Serjeant-Surgeons, Lord LISTER and Sir THOMAS SMITH, and they, as well as Sir THOMAS BARLOW and Sir FRANCIS LAKING, came to the unanimous conclusion that no course but operation was possible in all the circumstances. To delay would, in fact, be to allow His Majesty to risk his life. At 12.30 on Tuesday, the 24th, the operation was performed by Sir FREDERICK TREVES, and concerning this there is very little to add to what we have already said. The KING was placed under an anæsthetic by Dr. FREDERIC HEWITT, anæsthetist to His Majesty, an incision was made by Sir FREDERICK TREVES in the usual place, and a large abscess was opened. The incision was four and a half inches deep and some decomposed pus was evacuated The cavity was drained by two tubes of large calibre and packed with iodoform gauze.

Such is the brief clinical history of His Majesty's illness and only one or two comments are necessary from us to enable the public to understand the position It will be seen that the story makes the bulletins completely clear and shows them to be exactly accurate The idea that some dreadful news is being kept back ought, we think, to be dispelled.

Firstly the KING in his illness has throughout been advised by his proper medical attendants. When Sir FRANCIS LAKING Apothecary to the Household and Physician in Ordinary to the KING desired a consultation Sir THOMAS BARLOW, Physician to the Household was sent for When a surgical opinion was necessary in view of unfortunate developments Sir FREDERICK TREVES, Serjeant-Surgeon to His Majesty, was called in to consultation When he and the two physicians recognised the urgency of His Majesty's symptoms the two other Serjeant-Surgeons to the KING Lord LISTER and Sir THOMAS SMITH were summoned to express an opinion before the last critical step was taken.

The second point to which we would call attention is the absolute sincerity of every bulletin that has been issued for this sincerity it seems to us, should prevent the public from giving heed to the wild rumours now rife. His Majesty is suffering from perityphlitis and nothing else. It is an unfortunate fact with regard to perityphlitis as all our readers know that the symptoms may for various reasons be entirely masked This it was that absolutely prevented the necessity for operation being apparent until the Tuesday before the Coronation

There was no symptom of malignancy present.

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The Daily Press and the Illness of the King

THE news of His Majesty s illness naturally created widespread interest and the daily press in its anxiety to give read every information discharged its duties to its readers th accuracy on the whole. Especially was this the case where the clear and adequate bulletins were carefully followed mastered and used as texts for exposition Still, a few extraordinary statements require a word or two of comment from us. Nearly all the papers, apparently on the authority of the *Press Association* stated that the trouble took the form of an intestinal abscess the growth of which blocked the natural channel. The obstruction having been excised a system of tubing was resorted to to make the intestine available for its natural functions. The confusion here expressed between a drainage-tube and a Murphy's button is perhaps natural in a layman s mind and the information upon which the paragraph was founded could only have come from an ignorant person But the result of the publication of this paragraph was to give a very sinister complexion to the KING S illness, for an excision of a portion of the intestine was clearly implied. Our simultaneous statement that the operation was attended by no complications served we have been informed to modify that impression. More than one paper waxed learned about the stitching up of the wound, attaching importance to the day or hour when the stitches would be removed and basing prophecy thereon the would be medical writers not seeing that, of course, the wound was not closed the exact medical description of the dressings employed conveying nothing to them In the *Westminster Gazette* an eminent surgical authority fell into this obvious blunder and caused this carefully-edited evening paper to mislead its many readers in a mischievous way We do not think that Mr HARRISON CRIPPS will approve of the manner in which the *Westminster Gazette* quoted his book in support of a treatment which has not been and could not be followed. The most amazing error however appeared in the *Daily News* of June 25th. It purported to be a medical practitioner s view" and began as follows —

> Perityphlitis," said our professional informant is inflammation of the tissues surrounding the kidney—round about the kidney in contradistinction to inflammation of the kidneys—and it is extremely difficult to say till the operation has taken place whether the case is perityphlitis or is inflammation of the kidney itself "

Then followed a hopelessly tangled and muddled set of statements concerning an operation for calculus of the kidney While publishing this statement upon the authority of a member of the medical profession of high standing the *Daily News* seems to have felt that there was something wrong and so a second medical man was applied to This gentleman was not quite so much at sea as the first one for he did associate perityphlitis with the intestine and not with the kidney but when he went into details he lost himself. It is difficult to believe that the rubbish published by the *Daily News* was written by a medical man and we simply cannot understand how it came to be published One paper our excellent contemporary the *World* has earned an official contradiction that has not been granted to less important periodicals. A highly ludicrous picture of the operation given in its columns on Wednesday last, July 2nd, has been pilloried as entirely inaccurate," and again it is impossible to understand how such a description could have been published in the face of the bulletins and the statements in our columns and those of the *British Medical Journal*

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The Coronation Honours

THE Coronation honours which were made public on Thursday the day appointed for the ceremony so unavoidably postponed are of particular interest to medical readers. This is so not only because of the large number of our profession whose services have been found worthy of recognition on the occasion which was intended to be the official commencement of the reign of King EDWARD VII. but because the general design of the Crown, and of the advisers of the Crown, appears to have been to do ample justice to workers in the cause of humanity at large. The honours have been distributed in accordance with a broad and generous conception of the character of the labour that has been for the good of the generation and not exclusively as rewards for party or administrative zeal. This fact is well displayed by the new Order which His Majesty has been pleased to institute—viz. the *Order of Merit and to which the following appointments have been made* —Field Marshal Earl ROBERTS of KANDAHAR, K.G K.P V C Field Marshal

Viscount WOLSELEY, K.P., G.C.B., General Viscount KITCHENER of KHARTOUM, G.C.B., G.C.M.G., Lord RAYLEIGH, F.R.S., Lord KELVIN, G.C.V.O., F.R.S., Lord LISTER, F.R.S. Admiral of the Fleet the Honourable Sir HENRY KEPPEL, G.C.B., the Right Honourable JOHN MORLEY, M.P., the Right Honourable W. E. H. LECKY, M.P., Admiral Sir EDWARD HOBART SEYMOUR, G.C.B., Sir WILLIAM HUGGINS, K.C.B., P.R.S., and GEORGE FREDERICK WATTS, R.A. All our readers will rejoice to find among the 12 men first selected for the new honour Lord LISTER, Lord KELVIN, Sir WILLIAM HUGGINS, and Lord RAYLEIGH, for it is deeply gratifying to men of a scientific profession to find three Presidents of the Royal Society and a fourth who is an inevitable holder of that post in so select a list—a list obviously intended to classify those mentioned as the very salt of His Majesty's subjects. The work done by this small band of men is so historic in its character that it needs no particularising from us, but we may be permitted to offer our special congratulations to Lord LISTER, the father of modern surgery. Lord LISTER has also been made a member of the Privy Council—a distinction which we believe has never been previously conferred upon any medical man save the late Professor HUXLEY.

The KING has been pleased to confer baronetcies upon two members of the medical profession—Sir FRANCIS LAKING, K.C.V.O., Physician in Ordinary to His Majesty, and Sir FREDERICK TREVES, K.C.V.O., C.B., Honorary Serjeant-Surgeon to His Majesty. The position these two gentlemen occupy now at His Majesty's bedside invests their honours with interest. The whole list of knighthoods is not a very large one taking all the circumstances into consideration so that the number of medical men selected for this distinction is in proportion a goodly one. His Majesty has been pleased to confer the honour of knighthood upon Dr. W. J. COLLINS, an ex chairman of the London County Council, a Radical of the advanced school, and an able surgeon; Mr. ALFRED COOPER, a member of the Council of the Royal College of Surgeons of England; Dr. J. HALLIDAY CROOM, President of the Royal College of Surgeons of Edinburgh; Dr. THOMAS R. FRASER, F.R.S., President of the Royal College of Physicians of Edinburgh, whose work in connexion with the Indian Plague Commission and with the poison of serpents has made his name justly prominent; Mr. VICTOR HORSLEY, F.R.S. whose neurological labours rather than his medico political labours are probably being rewarded, but who has striven for the good of his professional colleagues with a courage and vigour that will lead them all to rejoice in his knighthood; Mr. H. G. HOWSE, President of the Royal College of Surgeons of England and Senior Surgeon to Guy's Hospital; Mr. HENRY BELL LONGHURST, Honorary Surgeon Dentist to His Majesty; Professor WILLIAM MACEWEN, F.R.S., Regius Professor of Surgery in the University of Glasgow, and a pioneer in the modern surgery of the brain and spinal cord; Dr. THOMAS MYLES, the President of the Royal College of Surgeons in Ireland; Dr. ISAMBARD OWEN, Senior Deputy Chancellor of the University of Wales, who is also physician to, and the urbane and energetic Dean of, St. George's Hospital; and Professor WILLIAM WHITLA of Belfast, the brilliant pharmacologist, the generous donor of the medical institute to the Ulster Medical Society, and, we believe, the first Belfast medical man to receive a title. Another medical man, Dr. CONAN DOYLE, the well known author, has been knighted, the honour coming as a testimony to the value of his national services in chronicling the story of the great war now so happily closed and in correcting foreign misstatements and misapprehensions concerning the British attitude before, and conduct during, martial operations. We also have to congratulate on the occasion of their knighthood Professor OLIVER LODGE, F.R.S., the Principal of the Birmingham University; Professor ARTHUR RÜCKER, F.R.S., the Principal of the University of London; Mr. W. J. SOULSBY, C.B., C.I.E., secretary now, as on many previous occasions, to the Lord Mayor of London and a tireless worker in many charitable causes; and Mr. CHARLES WYNDHAM, the popular and admirable actor who, more than 30 years ago, before adopting his present calling, was a member of our profession, obtaining a medical degree and serving in a medical capacity in the American civil war.

In divisions of the different Orders the names of many medical men will be found. Sir WILLIAM CHURCH, Bart., President of the Royal College of Physicians of London, has been appointed a Knight Commander of the Bath (Civil Division), while in the Military Division of the same Order will be found the names of Inspector General of Hospitals and Fleets J. D. MACDONALD, R.N., Professor WILLIAM RAMSAY, the eminent chemist, Surgeon-General ANNESLEY C. C. DE RENZY, I.M.S. (retired), Surgeon General (ranking as Lieutenant-General) WILLIAM TAYLOR, Director General of the Army Medical Service; and Surgeon General JOHN A. WOOLFRYES, C.M.G. Among the new Companions of the Bath (Civil Division) will be found the names of Major RONALD ROSS, F.R.S., I.M.S. (retired), who has worked day and night that some of the malarious possessions of the Crown may benefit by the discoveries, in which he himself played no small part, as to the etiology of malaria; of Dr. B. ARTHUR WHITELEGGE, His Majesty's Chief Inspector of Factories, whose official and medical work have alike brought him credit; of Dr. DUNCAN HILSTON and Dr. ROBERT GRANT, who both hold the rank of inspector general of hospitals and fleets; of Lieutenant-Colonel Sir JAMES R. A. CLARK, Medical Staff Corps, the eldest son of the late Sir ANDREW CLARK; and of Lieutenant-Colonel G. T. BEATSON, Medical Staff Corps. Two medical men are made Companions of the Bath (military division)—viz., Fleet-Surgeon JAMES PORTER and Lieutenant Colonel PATRICK F. O'CONNOR, I.M.S. Two medical men have been appointed Knights Commanders of the Order of St. Michael and St. George—viz., the Hon. Dr. FREDERICK W. BORDEN, Minister of Militia and Defence of the Dominion of Canada, and Surgeon General H. H. PINCHING, head of the Sanitary Department at Cairo. Dr. HO KAI has been appointed a Companion of this Order. The KING has granted the Kaisar-I-Hind medal for public service in India to the following gentlemen among others: Captain T. W. A. FULLERTON, I.M.S., Lieutenant-Colonel JOHN LEOPOLD POYNDER, I.M.S., and Mr. EDGAR THURSTON, L.R.C.P., superintendent Government Central Museum, Madras. A list of naval and military honours, so far as they affect the medical departments, will be found in the columns of this issue of THE LANCET under the heading of The Services ', and this list completes a total of distinctions received by our profession that is gratifying to contemplate.

Annotations

' Ne quid nimis."

THE IMPERIAL VACCINATION LEAGUE

VACCINATION is a procedure of undoubted value. But proportionately to its value it has aroused bitter opposition and although for the most part its detractors are men and women of no intellectual calibre who are moreover absolutely ignorant of pathology yet on the well known principle that if enough mud is thrown some of it will stick the fact remains that vaccination is unwelcome to a large number of persons. The Jenner Society has done, and is doing excellent work but its provincial position in some ways hinders its usefulness. The Imperial Vaccination League which has been developed from the league started last year by Mr John Carrington will work in alliance with the Jenner Society which will remain to carry on its good work in Gloucester and to keep Jenner's memory green in that city and its neighbourhood. The Imperial League which was formally constituted on June 30th has for its president the Duke of Fife. The treasurer is Lord Avebury and among the vice presidents are the Archbishop of Canterbury the Bishops of London, Rochester and Stepney Cardinal Vaughan the Chief Rabbi, Sir W Broadbent, Sir James Crichton Browne Mr Jonathan Hutchinson, and Mr Claude Montefiore. The provisional committee consists of Dr J C Thresh, Dr J G Glover Dr T D Acland Dr Dudfield Mr R. Brudenell Carter Dr E. Garrett Anderson the Revd. H. L. Paget, Mr John Carrington, and Mr. Greenwood The league will at present aim at collecting opinions as to what amendments of the Vaccination Act of 1898 may be urged upon the Government when the time comes for dealing with the subject, and among the most important points for consideration the promoters of the league include —

(a) Whether revaccination at school age should be made obligatory

(b) Whether the administration of the vaccination law should be transferred from the Poor law authorities to the hands of the sanitary authorities.

(c) As to the need for the establishment of thoroughly well-equipped laboratories for the preparation of a supply of glycerinated calf lymph adequate to meet all ordinary demands and for the systematic inspection of all establishments where lymph is prepared in this country

(d) As to securing a legal definition of what constitutes efficient vaccination and as to requiring all certificates of vaccination to state if the vaccination has been efficient or not

The league will assist all persons who have the opportunity to make known by means of leaflets lectures meetings, and the like the necessity for and the value of vaccination and revaccination This and other work will, of course cost money Members of the league promise at least 5*s* annually while associates give not less than 2*s*. 6*d* Cheques and postal orders may be sent to the secretary Dr. Edward J Edwardes at the offices of the league 53, Berners street London, W The bankers are Messrs. Robarts, Lubbock, and Co. 15, Lombard street, E.C We cordially welcome the league, for there is plenty of work for it as well as for the Jenner Society Only by steady work and constant pressure upon Parliament can the libels and misstatements of the baser sort of anti vaccinationist be overcome.

THE DISTRIBUTION OF PLAGUE

THE weekly return of the Director-General of the Sanitary Department of Egypt shows that for the week ending June 22nd there were 5 new cases of plague admitted all of them occurring in natives. The deaths numbered 2, the recoveries 14, and 13 cases remained under treatment. A telegram from the officer administering the Government of Hong Kong received at the Colonial Office on June 24th states that for the week ending June 21st there were 49 fresh cases of bubonic plague and 51 deaths.

THE KING'S TUESDAYS

THE principal events in the life of His Majesty, King Edward VII. have happened on a Tuesday—viz. on Tuesday Nov 9th, 1841, His Majesty was born on Tuesday Jan. 25th, 1842, he was baptised on Tuesday March 10th 1863, he was married on Tuesday Dec. 8th, 1863, he was appointed a member of the Privy Council on Tuesday Nov 21st, 1871, it was definitely ascertained that he had contracted typhoid fever, on Tuesday Feb. 27th 1872, he attended the Public Thanksgiving Service for his recovery on Tuesday Jan. 22nd 1901 he succeeded to the throne, on Tuesday Jan. 29th, 1901 the Royal Standard was hoisted at Marlborough House for the first time, and on Tuesday June 24th, 1902, His Majesty underwent an operation for perityphlitis As an exception to the above-mentioned cases it may be stated that it was on a Monday (July 18th 1898) that the King sustained a fracture of the left patella through missing his footing while descending the spiral staircase at Waddesdon Manor during a visit to the late Baron Ferdinand de Rothschild.

DISABILITIES OF THE POETIC TEMPERAMENT

IT has been said that every good physician is a poet,' and like most aphorisms, the saying combines a modicum of truth with a large leavening of mistaken notion. The idea that the author of this remark wished to convey was the perfectly correct one that something of the ready sympathy and something of the emotional susceptibility which belongs to the poet must be present in the character of any man who is to be highly successful in medically understanding and treating his fellow creatures. The practice of medicine, an art which deals with the minds and bodies of human beings let it be founded to however great an extent upon exact science, cannot be, and never will be, successfully pursued by the kind of man who is called hard." A hard rugged exterior is the familiar apparel of the medical practitioner of a certain class of novel. The writers of such books are careful, though to let it be seen that this forbidding appearance and this harsh manner conceal an unusual softness of heart, and in doing so they are not merely being just to the medical profession but they are acting in accordance with a recognised and correct opinion—to wit, that a doctor must be kind. So far then our claimant for poetic attributes in the physician is justified. There is however a great deal on the other side of the question that he overlooks That very sympathy which is the essence of the poetic temperament is a dangerous asset to the practitioner of medicine At least, if it is essential to the perfection of his character as a physician it must be kept sternly under control in a manner that would ruin its favourable influence upon a poetic output. With the poet everything that appeals to his sympathy everything that touches the strings of his heart, should move them to a musical note. When the poet feels he expresses his feeling and the expression is poetry He has been described as a man who expresses what other people only feel With the physician, on the other hand a prime duty is often not only not to express but even carefully to hide his real feeling When he realises the gravity or the hopelessness of a case is he to weep at the bedside? That would be the poetic attribute to the situation, it is scarcely that of the true medical man. In another way too the poetic temperament has disabilities tending to encumber the physician. The poet's qualities are in constant strife with reticence The physician, it has been well said, must have not only sense but reticence Confidence in the inviolability of confidences is an essential element of a patient's trust in his medical man. Stern must be the control which the poetic physician exercises over his natural tendencies, for reticence and the poetic temperament are natural foes The matter-of-fact man may lay this balm to his soul, that if he cannot be a great physician at least he is much more easily a harmless one than his fellow with the great possibilities—and great disabilities—that accompany the poetic temperament.

THE BOARD OF TRADE AND THE ELECTRICAL ENGINEERS

On June 18th a deputation from the Institute of Electrical Engineers was received by Mr Gerald Balfour, President of the Board of Trade The deputation, which included amongst its number Lord Kelvin and Sir Michael Foster, urged that something should be done to remove impediments which they stated stood in the way of the industrial development of electricity One of their chief grievances appeared to be the fact that local authorities possess the power to oppose, and do often actively oppose, electrical enterprises which they, rightly or wrongly, think would be disadvantageous to the people who live in the districts which they represent, and the further fact that Parliament frequently listens to the expression of opinion given by local bodies concerning local interests Mr Gerald Balfour pointed out that the number of vested interests existing in an old country is necessarily greater than that in a newly populated one and that for that reason the rapid developments possible in a sparsely populated area cannot take place in London. The President of the Board of Trade was unable to promise that there was any prospect of immediate legislation which would facilitate the extension of the industrial application of electricity A delay in this question is not altogether a matter for regret. At the present time the risk to life to which those engaged in the application of electricity to trade purposes are exposed has not received sufficient attention. A committee appointed by the Home Office recommended that a number of regulations should be made for the protection of those engaged in the work and the regulations advised were made chiefly on the opinion of Professor C V Boys and of other well known electricians Since the report of the committee was published experience has proved that exposure to a current of electricity is a source of greater danger than some professional electricians supposed Mr Hamilton P Smith, in his chapter on "Electric Generating Works," which forms part of the book edited by Dr Thomas Oliver on "Dangerous Trades,"[1] deals fully with this question and gives examples of cases in which fatal results have occurred from exposure to electric currents which, according to the previous teaching of electricians, should not have produced lethal results On the other hand, from several papers read before the Institution of Electrical Engineers on Feb 27th, 1902, it would appear according to their authors, that the dangers of electric shock are generally exaggerated One paper was published in our issue of March 8th, 1902, in which the author, Mr F B Aspinall, made some valuable suggestions as to treatment in case of shock. In a leading article in the same issue we pointed out that the question of the mode of death by electric shock was not fully settled, although there was much to support the view that the heart is the most susceptible of the vital organs and that death from electric shock is very often death from arrest of the heart's beat. Artificial respiration should therefore always be made use of Dr Oliver's recently published book has already been referred to in laudatory terms in the columns of The Lancet,[2] and the chapter on Electric Generating Works will be found a most instructive one, although it is somewhat full of technicalities At the present moment we are only concerned to point out that it is necessary in the public interest that the dangers of strong electric currents should be appreciated and that adequate precautions should be taken for the protection, not only of those engaged in the trade, but of all those who might suffer from the absence of sufficient protection from highly charged wires in the streets. It is due to the medical department of the Board of Trade to point out that the staff is thoroughly alive to the importance of the subject and it is satisfactory to note that Dr Arthur Whitelegge in his recently issued report[3] congratulates the Board on the appointment of an electrical inspector, Mr G S. Ram, M Inst. E E, whose term of office commenced on May 1st.

THE DINNER OF THE OBSTETRICIANS AND GYNÆCOLOGISTS OF THE EMPIRE

Sir James Graham, lecturer on midwifery at the University of Sydney, made some interesting remarks upon British obstetric medicine at the dinner of the Obstetricians and Gynæcologists of the Empire held on June 24th at the Hôtel Métropole, London The first passage in his speech which excited the admiration of the audience was a reference to the fact that the dinner had taken place at a time when the Angel of Peace had again visited our shores, smoothing the wrinkled front of war and turning the horrors of a stupendous campaign into a joyful season of delightful pleasure. He then proceeded to draw a comparison between the history of British obstetric medicine and the history of the British Empire. British obstetric medicine, he said, appeared first as a small speck on the map of British medicine but at the present time it stood out as a strong branch of the science of medicine It had attracted during its process of growth a large body of eminent men and of distinguished investigators who had been fired by the enthusiasm of scientific research. He declared that it was with a sense of just pride that he drew their attention to the fact that among the distinguished men who had adorned obstetric medicine the names of Simpson and Lister were acknowledged as the foremost by the whole world. Loud applause greeted the orator after this sentence and he gained still further plaudits by saying that those leaders of thought had made experiment possible. A large field of enterprise to the scientific worker had been opened up and it had brought British obstetric medicine to its present position of honour and esteem, decorated with garlands which many a joyous mother and living child had woven around it. Professional men who worked in distant parts of the empire found difficulty in adequately expressing what they owed to the teaching of the British obstetricians. Nothing made them feel their comparative national youth in the lands beyond the sea more than the fact that they had contributed so little to the common stock of obstetric medicine Not only did the dwellers in those far lands love the old country with passion but there had been transplanted into their midst, in addition to the old laws, customs, language, and religion, an intense love for the aspirations and ideals of those at home which they humbly and earnestly were seeking to follow The lives and examples of the famous men who had adorned British obstetric medicine were beacon lights on the professional path of those on the other side of the world, and those lives were rendered sacred by the memory of their character of their labours and of their genius. Their professional trials, their doubts and difficulties, their temptations, and their honours were all separate strands which woven together constituted the bond which kept them together Sir James Graham in concluding remarked Sir may it be our good fortune to maintain the high traditions of our calling and if possible, to add to its history and to hand down to those who follow even a better record than we ourselves have received." Dr (now Sir) J Halliday Croom (President of the British Gynæcological Society) who was one of those who responded to the toast proposed by Sir James Graham of British Obstetric Medicine ' prophesied that in the course of the next generation gynæcology would have become part of general surgery and gynæcologists would have become absorbed in the ranks of general surgeons. Mr Alban H. G Doran proposed 'The Guests and a speech by Dr F H Champneys giving the company the toast of 'The Chairman was followed by a reply from Sir John Williams in which he earnestly sought to interest the profession beyond the sea in the study of comparative human pathology He pointed out that the British Empire contained many different races and the study of comparative human pathology must be carried on at the present time because the tendency of races was to mix and to result in a type representing no definite characteristics Beyond that there was much work to do in the way of coördinating the work of gynæcologists and obstetricians

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[1] Dangerous Trades the Historical, Social, and Legal Aspects of Industrial Occupations as Affecting Health by a number of Experts Edited by Thomas Oliver, M.A Durh, M D Glasg, F R C P Lond London: 1902.

[2] The Lancet, June 21st 1902, p 1785

[3] Annual Report of the Chief Inspector of Factories and Workshops for the year 1901, Part I Reports 1902.

THE TURNING EFFECT OF A THUNDERSTORM ON FOODS SUSCEPTIBLE TO CHANGE

DURING serious electrical disturbances in the atmosphere it is well known that beer may become ' hard, milk may go sour and meat may frequently turn. Considerable speculation has arisen as to the cause of this change. It has been suggested that an ozonised state of the air due to electric discharge has something to do with it or that the formation of nitrous acid in the air is responsible for the change. It is, however not probable that the atmosphere undergoes any chemical change sufficient to account for the extent to which certain foods turn. Moreover any important quantity of ozone or nitrous acid would be calculated to exert a preservative effect, as both are powerful antiseptics It may be urged again that the phenomenon is due to oxidation by means of ozone, but this can hardly be the case in view of the large quantities of beer and milk that are soured in relation to the very small quantity of ozone which a thunderstorm produces. In the case of meat, at any rate the turning can scarcely be attributed to the action of ozone or of oxygen. The change is probably due not directly to chemical agencies but purely to a disturbance of the electric equilibrium. It is well known that an opposite electrical state is set up by induction, so that an electrical condition of the atmosphere induces a similar condition, though opposite in character in the objects on the earth. Persons near whom a flash of lightning passes frequently experience a severe shock by induction though no lightning touches them and in the celebrated experiment of Galvani he showed that a skinned frog in the neighbourhood of an electrical machine although dead exhibited convulsive movements every time that a spark was drawn from the conductor In the case of milk turning" or of beer hardening" or of meat becoming tainted it is probably therefore, an instance of chemical convulsion or it may be of a stimulus given to bacteriological agencies set up by an opposite electric condition induced by the disturbed electrical state of the atmosphere. Although these changes are most marked during a thunderstorm, yet undoubtedly they occur at other times, though not to the same degree when there is no apparent electric disturbance. But even when the sky is clear the atmosphere may exhibit considerable electrical tension. The electroscope constantly shows that a conducting point elevated in the air is taking up a positive charge (as a rule) of electricity the tension rising with the height of the point. This effect increases towards daybreak until it reaches a maximum some hours after sunrise. It then diminishes until it is weakest a few hours before sunset when again it rises and attains a second maximum value some hours after sunset, the second minimum occurring before daybreak. There are accordingly constant changes of electrical tension going on changes however which are more rapid and much more marked during a thunderstorm and which are quite powerful enough to exert an evil influence on certain articles of food or drink susceptible to change, notably meat, milk, and beer or cider There is no doubt that the unfavourable effects on the feeling of well being experienced by many individuals, such as headache and oppression and nervous distress on the advent of a thunderstorm have a similar foundation and are due to the same electrical differences of potential, the effects passing away as the disturbed condition of the atmosphere or the storm subsides.

THE EGYPTIAN MEDICAL CONGRESS

A YEAR ago it was decided to hold a congress of medicine in the buildings of the Government Medical School in Cairo during the third week of next December and we understand that the preliminary arrangements for its success are now fairly advanced. The Khedive and his Ministers have warmly accepted the scheme and will not be lacking in showing hospitality to visitors and in giving Government aid in various ways of which printing the proceedings is an important item. Already 300 medical practitioners resident in Egypt have joined the congress, and 250 from Europe and other parts have announced their intention of being present. Steamship companies will carry members of the congress at a reduced rate to Egypt, and once arrived there they will find special facilities while staying in the hotels and while making excursions in the country The coming winter in addition *to the usual attractions of Egypt*, will allow foreigners to see for the first time the finished dam at Assouan and the new Egyptological Museum with all its assorted treasures. In every European country some honorary presidents have been appointed those for Great Britain including Sir William Church Bart. K.C B. Sir Frederick Treves, Bart. K.C.V O C B Sir Christopher Nixon Sir W Taylor K.C B. Director General of the Army Medical Service Dr Patrick Manson, C M G and Professor A. E. Wright of Netley Delegates have already been appointed to represent various bodies, such as the Royal College of Physicians of London the Royal College of Surgeons of England the Royal College of Physicians of Ireland, the Clinical Society of London the Laryngological Society of London, the Royal Medical and Chirurgical Society the Rontgen Society and other societies The work of the congress is to be divided among only four sections Medicine, with Dr F M Sandwith a one of the vice-presidents Surgery with Mr H. M. N Milton as president and Mr F C Madden as a vice-president Ophthalmology with Dr E C. Fischer as vice president and Tropical Diseases presided over by Dr M A. Ruffer An English committee under the presidency of Sir Frederick Treves has been formed to forward the interests of the congress, and Sir Thomas Smith Bart. K C V O Dr Stephen Mackenzie, Sir Lauder Brunton Dr Savage, Sir Victor Horsley Dr James Taylor and Mr W Watson Cheyne C B most of whom have recently travelled in Egypt, have consented to act upon it. Dr W Page May, of 9, Manchester-square, London, W , has been appointed honorary secretary of this local committee, and to him all questions on the subject should be addressed In wishing success to the first Egyptian Congress of Medicine we may remind those of our readers who are fortunate enough to be able to take a winter holiday of the saying of an old Jewish physician "He who hath not seen Cairo hath not seen the world Her soil is good, her Nile is a marvel, her air is soft with an odour above aloes, refreshing the heart And how should Cairo be otherwise when she is the Mother of the World?"

THE PREVALENCE OF SMALL-POX

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned —On Saturday, June 28th, there were 14 fresh cases , on Sunday, the 29th, there were eight fresh cases , on Monday, the 30th, there were 12 fresh cases , on Tuesday, July 1st, there were 14 fresh cases , and on Wednesday, the 2nd, there were six fresh cases. For the week ending June 28th 15 fresh cases of small pox were notified in the county of Essex, and owing to the marked diminution in the number of cases the weekly list hitherto issued by the medical officer of health will be discontinued for the present, its place being taken by a monthly return

OPTIC NEURITIS PRIMARILY PRODUCED BY SYPHILIS

OPTIC neuritis primarily resulting from syphilis is decidedly rare and, indeed, its existence has been denied by some writers In the majority of cases of optic neuritis following syphilis of some years' standing the neuritis has been observed to follow the formation of a cerebral gumma, but in the class of cases referred to below the antecedent condition was one of recent syphilis directly producing the symptoms in question Leber states that the optic neuritis of primary syphilis is different from that secondary to cerebral gumma, but the former disease is, as already stated, so rare that Horstmann (1889) was able to collect only eight cases from medical literature In the *American Journal of the Medical Sciences* for June Dr C A Veasey of Philadelphia reports two cases of the disease, together with the results of treatment The first case was that of a man, aged 45 years, who had been suffering from growing dimness of sight and diminution of visual acuity for a fortnight. The ocular media were clear and the pupillary reactions were normal Ophthalmoscopic examination showed a moderate degree of papillitis more marked in the left optic disc The patient had had a syphilitic chancre three months previously, the infection being followed by the development of a characteristic cutaneous rash and mucous patches The field of vision was symmetrically contracted but there was no central scotoma The patient had been taking mercury irregularly He was now treated with mercurial inunctions and rapidly increasing doses of potassium iodide. Improvement began in a week and in two months the optic neuritis had disappeared and vision was normal The second case was that of a woman, aged 43 years, the wife of the above patient. She suffered from gradually increasing inability to see objects Ophthalmoscopic examination showed commencing papillitis in the right eye and moderate papillitis in the left. The patient had been infected with syphilis by her husband and had been taking mercury irregularly since then The field of vision was contracted only in the left eye. She was put through the same treatment as her husband with the result that the papillitis subsided in six weeks and vision was restored to the normal soon after The very favourable results of treatment in these two cases are attributed by Dr Veasey to the early administration of mercury and iodides, as it has been proved that in cases of such neuritis occurring more than a year after infection recovery was rarely obtained.

THE WASTE OF WATER IN CITIES

PARIS was one of the cities which were held up as examples to London of the beneficial effects of a municipal water-supply and M Gaston Cadoux, chef de bureau of the Prefecture of the Seine, was good enough to come, at the request of the London County Council, that he might instruct Lord Llandaff's Commission[1] on the question. *Le Figaro* of June 28th, which is usually well informed on all matters Parisian, gives an amusing sketch of the effects of the heat on the chief director of the water supplies of the city He will not agree with his secretary that the climatic conditions are superb—in fact, he hates dry and hot weather He sees from the windows of his office a profusion of vegetables and of flowers The vegetables are washed in water and they will be cooked in water, the flowers will be put into water to keep them fresh. In a few days the water will fail and then they will blame him. It had been prophesied that there would be no heat and no drought before the end of June and he did not therefore expect to have to take any "special measures" before July The secretary inquires as to the nature of the special measures which will be adopted "What naturally would they be? We shall limit the consumption of water, we shall put the consumers on a fixed allowance, we shall close the conduits That is the best way of preventing the Parisians from being without water" If the *Figaro* is not too severe on the director of the Paris water supplies it must be admitted that his views as to the waste of water accord very accurately with those of some of the present metropolitan water company directors and of some of their engineers

A NEW GASOMETRIC METHOD FOR THE QUANTITATIVE DETERMINATION OF FREE HYDROCHLORIC ACID IN THE GASTRIC JUICE

A KNOWLEDGE of the amount of free hydrochloric acid present in the gastric juice is frequently an important element in diagnosis and many analytical processes have accordingly been devised for this purpose. The well known method of Sjoqvist depends on the fact that when gastric juice is evaporated with barium carbonate and the residue gently ignited the organic acids are destroyed, but the barium chloride produced by the action of the free hydrochloric acid remains unaffected and can be estimated as usual. This may obviously be done either by precipitation and weighing or volumetrically, but Professor E Riegler of Jassy, in Roumania, has suggested a gasometric process which he considers to be simpler than the preceding and more applicable for clinical purposes. His method, which is described in the *Deutsche Medicinische Wochenschrift*, of June 19th, is based on the reactions (1) that barium iodate is precipitated when a solution of barium chloride is treated with iodic acid, and (2) that nitrogen is evolved from a mixture of barium iodate and hydrazin sulphate. He mixes 10 cubic centimetres of gastric juice with half a gramme of barium carbonate in a platinum capsule thoroughly with a glass rod, evaporates to dryness in the water bath, and ignites gently till the ash becomes grey The residue is extracted with a small quantity of boiling water, which must not exceed 40 cubic centimetres, and this solution is treated in a small flask with five cubic centimetres of a 6 per cent. solution of crystallised iodic acid, shaken, and left at rest for a quarter of an hour The precipitated barium iodate is then washed on a filter until the total filtrate and washings measure 100 cubic centimetres, after which the filter with its contents is placed in the inner compartment of the evolution flask of a nitrogen apparatus—namely, either a Knop-Wagner azotometer or a Riegler's urea apparatus. 40 cubic centimetres of a 2 per cent. solution of hydrazin sulphate are placed in the outer compartment of the evolution flask, which is then immersed in a vessel of water at the temperature of the room After the lapse of 10 minutes the usual flexible air tight connexions are made between the flask and the graduated burette of the apparatus, and the flask is violently shaken for half a minute at short intervals until its contents, which at first were yellow from liberated iodine, become ultimately colourless. For each two molecules of hydrochloric acid six atoms of nitrogen are evolved. The volume of nitrogen after reduction to 0° C. and 760 millimetres pressure gives when measured in cubic centimetres and multiplied by the coefficient 1·083 the weight of the hydrochloric acid in milligrammes to which 3·2 milligrammes must be added for the amount of barium iodate dissolved in 100 cubic centimetres of filtrate and washwater If the foregoing analysis be performed without igniting the residue left on the water bath the result will give the total acidity of the gastric juice expressed as hydrochloric acid

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[1] At the twenty second sitting of the Royal Commission on the London Water supply May 16th, 1898.

THE CAMPAIGN AGAINST PALUDISM IN THE ROMAN CAMPAGNA

IN order to investigate the progress of the campaign against malaria which is being carried on in the Roman Campagna under the auspices of Professor Grassi Dr Guiart of Paris paid a visit to Ostia last September and has recorded his observations in a short article which appears in the *Archives de Parasitologie* vol. v No. 3. On the present occasion Professor Grassi determined to discard all mechanical means of protection against the attacks of the anopheles being desirous of testing the prophylactic virtues of quinine both alone and also in combination with other drugs. At first the peasantry residing in the vicinity refused to submit themselves to the treatment, but by degrees, on the appearance amongst them of malarial symptoms, they changed their minds and went voluntarily to the dispensary The preventive system recommended by Koch, in which quinine is given at intervals of eight or nine days having proved a failure the salt was administered daily but with equally bad results. Professor Grassi then made trial of a compound, containing quinine, iron, and arsenic which had been prepared for him by Signore Bisleri of Milan and found it perfectly successful This compound is employed in two forms—as a pill and in solution In the first form to which the name of esanophele" has been given the ingredients in each pill are as follows bichlorhydrate of quinine, 0·10 gramme citrate of iron 0·03 gramme, arsenious acid, 0·001 gramme, and bitter extract, 0·15 gramme. Adults take six pills daily for 15 days 90 pills in all. Children aged from seven to 14 years take four pills daily, from three to six years, two pills daily Under three years of age the medicament is administered as a solution which is said to possess an agreeable taste. This form, which is prepared in three strengths, has been named esanopheline." The foregoing is called the intensive" treatment the object being in the first place curative and secondly prophylactic After 15 days the daily dose for adults is reduced to two pills every morning while that for children and infants undergoes a proportionate reduction. It goes without saying continues Dr Guiart, that the treatment is very seriously supervised, the medicaments being given in the presence of Professor Grassi himself In a certain thrashing floor 120 workmen were employed of these 60 were left without treatment, and they all, without a single exception contracted malarial disease. The other 60 were given preventive ' esanophele " regularly and have remained healthy The Campagna around Ostia is being re-peopled, remarks Dr Guiart in conclusion. Instead of migrating as usual the inhabitants stand fast with their families and all keep in good health. No ague cakes are to be found the people all look well. Citizens from Rome now come to Ostia to spend their holidays. The anopheles continues to sting but no longer finds germs to disseminate

THE MEDICAL SERVICE OF INTERCESSION FOR THE KING

THE Guild of St. Luke organised on behalf of the medical profession a service of intercession for His Majesty the King at St Paul's Cathedral on the evening of July 2nd Although but short notice had been given upwards of 400 medical men were present, including Sir Dyce Duckworth, Dr Symes Thompson Mr George Cowell, and Mr Hutchinson. The music was directed by the Rev J B Croft of St. Matthew's Westminster The Litany was sung in procession and owing to the occasion being penitential the procession went by way of the north aisle. The clergy wore red copes and the Doctors of Medicine wore their scarlet. At the conclusion of the service, the order of which more or less followed the Office of Compline, the following message was sent to the Queen

The Guild of St. Luke, associated with many members of the medical profession, having assembled in St. Paul's Cathedral this evening to offer an intercessory service to Almighty God on behalf of His Majesty the King in his sickness, beg leave to present their humble duty to your Majesty and to express their fervent wishes for His Majesty's speedy and complete recovery

EMPYEMA OF THE FRONTAL SINUS IN MEASLES

EMPYEMA of one of the nasal sinuses is an exceedingly rare complication of measles At the meeting of the Société Médicale des Hôpitaux of Paris on May 30th M. Joseph Belin described a case in which empyema of the frontal sinus occurred A youth aged 18 years who had indifferent health was seen on Nov 12th, 1901 He had been ill three or four days and presented the early symptoms of measles—coryza and congestion of the palate and pillars of the fauces. Frequent douching of the eyes, mouth, nose, and ears with a saturated solution of boric acid was ordered In the afternoon the eruption appeared. On the following day the left eyelids were very œdematous the patient could not move them. *The œdema was not limited to the eyelids* Over the left frontal sinus there were redness and swelling and pressure was acutely painful. Inflammation of the frontal sinus was diagnosed and in addition to the boric douches previously ordered moist compresses to the left eye and instillations of menthol oil into the nose were prescribed. Next day the œdema was still greater and appeared to involve the tissues covering the right frontal sinus. On the following day the right side was no longer involved but there was severe pain in the position of the left upper lid and frontal sinus. Surgical intervention was intended bu epistaxis suddenly occurred from the left nostril and was soon followed by discharge of fœtid pus Improvement took place at once and the swelling of the forehead and left eyelids diminished. The purulent discharge continued for five or six days Swelling persisted only over the upper lid. Redness and fluctuation showed that there was an abscess in its outer part, which was incised. The pus discharged from the nose contained several varieties of microbes

—streptococci and staphylococci in great number, some pneumococci, and few micrococci tetrageni. The pus from the abscess contained streptococci and staphylococci aurei In empyemata of the nasal sinuses the pus rarely yields pure cultures but several microbes which are normally present in the naso-pharyngeal cavity

PRACTICAL POINTS FOR PLUMBERS

THE series of lectures for plumbers which has been commenced under the auspices of the Worshipful Company of Plumbers is an excellent departure. The first of these lectures was given at King's College, London, on June 20th by Mr E Russell, B Sc, F I C, the senior demonstrator of state medicine at the college, who chose for his subject "Physics and Chemistry in Relation to Plumbers' Work." The lecture was illustrated by diagrams and practical demonstrations In dealing with the action of water on metallic lead the lecturer pointed out the effect of very soft waters upon lead and of acid waters, while the protective action of lime salts which give water an alkaline reaction was demonstrated The part that gases play in this action was also discussed. The action, for instance, of beer highly charged with carbonic gas upon the lead of the beer-engine was quoted. It was stated that cabmen served with the first draught of beer in the morning get a large amount of dissolved lead but that after the first serving the beer runs quickly enough for practically no action to take place The lecturer also referred to other sources of the metallic contamination of water and in one instance he traced the perforations in a galvanised iron tank to a galvanic action which had been set up by the copper ball valve The lecture was given in the simplest terms and was listened to with evident interest, a short discussion following We wish the movement every success as a very practical step in education.

FLUORIDES IN BUTTER

DOUBTLESS the anticipation that the Preservatives Committee of the Local Government Board might be led to condemn the use of the most common preservative, borax, prompted certain butter-makers to look further afield for a preservative which so far would be beyond legislative control. For this purpose sodium fluoride appears to have been tried with some success According to Mr Otto Hehner, in a paper read at a recent meeting of the Society of Public Analysts the use of fluoride for this purpose is at present confined to certain French butters, but it is not unlikely especially in view of the fact that a small quantity of the fluorides suffices and that the determination of the actual amount is not easy, that the practice may spread Fluorides are not interdicted in any way in the recommendations of the Departmental Committee and it seems to us that before these recommendations are resolved into regulations under the Board of Trade the question of fluorides should be considered and determined. These salts have not been very fully studied in regard to their action on the organism but experiments have already established that they are inhibitory to the digestive processes even in the very small amounts used In view of this fact it would be very regrettable, we think, if the Departmental Committee did not take cognisance of this matter before allowing its recommendations to become part of the statutes regulating the sale of foods We cannot understand why the recommendations thus laid down have so far not been put into effect although the report was published over six months ago The delay, however, is perhaps fortunate in one respect, for it will enable the committee to deal with fluorides in the same way and in the same category as the better-known preservatives It is quite probable that the fluorides may not in the small quantity necessary for the purpose be any worse than borax, but it is desirable that the use of all antiseptics in food should be brought under effectual control.

PARALYSIS OF THE OCULAR FIBRES OF THE SYMPATHETIC NERVE IN PULMONARY TUBERCULOSIS

AT the meeting of the Société Médicale des Hôpitaux of Paris on May 23rd M A. Souques called attention to complication of pulmonary tuberculosis which appears not have been previously observed. He showed a man, the subjec of chronic pulmonary tuberculosis, who presented symptom of paralysis of the left cervical sympathetic nerve—myosis, narrowing of the palpebral fissure, and retraction of the eye. Nothing in the history or condition of the patient pointed to any of the usual causes of this paralysis—affections of nerve roots, pachymeningitis, myelitis, or bulbar lesions. M Souques was wondering whether there was any relation between the paralysis of the sympathetic nerve and the tuberculosis when he found in two other cases of pulmonary tuberculosis the same nerve symptoms. The pupil-dilating fibres of the sympathetic pass out from the spinal cord principally, if not entirely, by the ramus communicans of the first dorsal nerve, to the first thoracic ganglion of the sympathetic, thence they pass by the inferior cervical ganglion to the cervical sympathetic trunk. The first thoracic and inferior cervical ganglia are so nea one another that they are often confounded as one unde the name of the ganglion of Neubauer This ganglion is very close to the apex of the lung Hence inflammation of the latter may give rise to pleuritic thickening and adhesions which may involve and paralyse the pupil dilating fibres of the cervical sympathetic either in the rami communicantes or in the ganglion. In the absence of necropsies the exact position of the lesion cannot be stated

A BLEACHING POWDER EXPLOSION

SINCE bleaching powder is not a particularly stable compound it is not difficult to imagine conditions under which it would evolve gas and cause an explosion. Neverthele accidents of this sort do not appear to be of frequent occu rence, which may be attributed to the fact, perhaps, that bleaching powder is commonly sold to the public in a loose package When the powder is contained, however, in an air tight tin the gas evolved may accumulate in sufficient quantity to give rise to pressure This apparently was what happened in a case which was the subjec of an action in the King's Bench Division on June 30th The plaintiff stated that she purchased a tin of chlorinated lime at a branch establishment of the Army and Navy Coöperative Society The tin was provided with a lever top which on being eased was suddenly forced outwards and a portion of the contents of the tin went into her eyes and caused great pain Evidently something of the nature of an explosion had occurred, for the floor was covered with white powder within a radius of seven feet from the tin and the lid of the tin was found in the fireplace 10 feet away Eventually the jury awarded the plaintiff £175 damages and no doubt they were very much impressed by an experiment made on behalf o the defence A witness for the defence proceeded to ope a similar tin in court and as soon as the lid was eased a quantity of the contents was discharged and scattered itself on the witness's clothing Strong freshly prepared chlorinated lime does undoubtedly give off oxygen gas under certain circumstances We have known a mixture of chlorinated lime and bicarbonate of soda to explode violently The moral of this case would appear to be that fresh chlorinated lime should not be packed in absolutely air tight cases or else directions should be given to prick a hole, however tiny in the lid before attempting to remove it This would allow the escape of any gas that may have accumulated and then the lid could be removed without danger

THE CHOLERA IN ARABIA OUTBREAK IN THE YEMEN

THE British delegate to the Ottoman Board of Health writes to us as follows During the past few weeks cholera, which had completely disappeared from the Hedjaz with the end of the Mussalman pilgrimage has broken out in the more southernly Arabian province of the Yemen. Although information is at present lacking which would definitely prove that the infection has been carried to the latter by pilgrims returning from the Hedjaz, it is highly probable that the outbreak in the Yemen has been brought about in this way The outbreak was first reported by telegram from the quarantine station at Camaran on May 10th. One of the medical officers of the sanitary service was at once despatched to Sabia, the scene of the epidemic, to report upon the nature of the disease Sabia is stated to be an Arab town with about 22,000 inhabitants, living in *ariches* or mat huts. It is about seven hours journey from the Red Sea coast and is described as situated in a deep valley entirely devoid of vegetation. It is provided with a water supply of very bad quality and is said to be in the worst of sanitary conditions The population resisted all attempts at treatment or at isolation and other precautionary measures and the medical mission had to content itself with examining a few of the patients and determining the nature of the disease. The description of the symptoms contained in the reports received up to the present leaves practically no room for doubt that the disease is true Asiatic cholera. Down to May 20th the outbreak was confined to Sabia itself to the village of Omeh Hassim to the north and to two other villages named Selama and Melche. About 200 cases and 80 deaths were believed to have occurred in all down to the date just named This outbreak being confined to the interior of the country the measures taken to control it are in the hands of the Turkish Government, but, in accordance with precedent, the services of the medical and other employés of the sanitary administration (under the Ottoman Board of Health) have been lent to the Government. The measures have taken the nature of a cordon round the infected district and certain dispositions to prevent the disease spreading to the surrounding districts or to the coast. Later telegrams from Hodeida, on the Red Sea coast, have reported an extension of the disease to the district of Abon Arish, but telegrams from other sources have, on the other hand, denied the statement."

THE prizes will be distributed to the students of the medical school of St. Thomas's Hospital on July 10th at 3 P M, by Sir Henry F Norbury M D K.C.B. Director General of the Medical Department of the Royal Navy in the Governors Hall of the hospital before and after which the various departments of the hospital and school will be open for the inspection of visitors.

A GARDEN party will be held at the Epileptic Colony Chalfont St Peter Bucks, on July 9th, when visitors will be afforded an opportunity of seeing the colonists engaged in their usual work upon the farm, in the gardens in the workshops, and in the laundry

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THE annual meeting of the Association for the Oral Instruction of the Deaf and Dumb will be held at the Portman Rooms (Dorset street entrance) on Wednesday July 9th, 1902, at 3 30 P M when a short illustration of the system will be given. The Earl of Crewe will preside.

THE STATISTICS OF CREMATION

BY SIR HENRY THOMPSON BART, F R C S. ENG

CONSULTING SURGEON TO UNIVERSITY COLLEGE HOSPITAL, ETC.
PRESIDENT OF THE CREMATION SOCIETY OF ENGLAND SINCE 1874

I AM indebted to my friend M Georges Salomon, secrétaire générale de la Société pour la Propagation de l'Incinération de Paris, for the following statistics of French and other European crematoria for the year 1901

The following facts are gathered from the report read and speeches made, by M Georges Salomon and Dr Bourneville at the annual meeting of the Société pour la Propagation de l Incinération de Paris.

Germany possesses seven crematoria. The following table gives the number of cremations performed at each during the year 1901 —

Gotha ..	218	Jena ...	85
Hamburg	181	Mannheim ..	23
Heidelberg	104		——
Offenbach	82	Total	693

The crematorium at Mannheim was opened in February 1901 while the seventh—at Eisenach—was only inaugurated in January last. The total shows a considerable increase on that of the previous year Recently a petition signed by over 3000 medical men has been presented in the Reichstag with a view of rendering compulsory the cremation of persons who have died from infectious diseases.

England also possesses seven crematoria. The following table gives the number of cremations at each for 1901 —

Woking	273	Hull	17
Manchester	95	Darlington	2
Liverpool	40		——
Glasgow	18	Total	445

Those at Hull and Darlington only commenced working during the course of the year while the seventh that at Leicester has not yet been inaugurated Yet another is in process of construction in the north of London on a tract of land several acres in extent and 2000 trees have already been planted there so as to form a park round the crematorium It is expected that it will be ready to commence operations before the end of the present year The total of 445 cremations for England for 1901 compares with 301 in 1900 and 240 in 1899

There are 26 crematoria in the United States of which 24 are in operation (see below)

In Canada, notwithstanding the opposition of the Roman Catholic clergy the legislature of Quebec has declared the legality of cremation and a crematorium has just been inaugurated at Montreal in which special regard has been had to the beauty of the building and its surroundings.

Returning to Europe we find that Italy possesses 22 crematoria, the last opened being at Pistoia, which was inaugurated during the meeting there of the fifth congress of the Italian cremation societies in October last. The only statistics furnished are those of Bologna, where 21 cremations were performed in 1901 (see below)

In Switzerland there are three crematoria—viz. at Zürich, Basle, and Geneva. At Zürich 127 cremations were performed as compared with 116 in 1900 In Geneva the first body was burned on March 8th last only A fourth crematorium is in course of erection at St. Gall which is expected to cost about £3000

Sweden possesses crematoria at Stockholm and Gothenburg and Denmark possesses one at Copenhagen, at which 34 cremations were performed in 1901 as against 28 in 1900

In Austria Hungary societies for the promotion of cremation continue to be formed under the influence of the Vienna society Die Flamme" and branches exist in Budapest, Innsbruck Gratz, Prague, and Mährisch-Ostrau but the practice of cremation has not yet been legalised.

This right however has been conferred on Madrid by a royal decree of August 3rd 1901, which bases its introduction on hygienic grounds.

Even in Russia, in spite of the protestations of the Procurator of the Holy Synod, the Government proposes to issue a decree in favour of making cremation optional.

Finally, in France, we have the statistics for the crematorium at Père la Chaise, Paris, which are presented in tabular form with those of previous years for comparison Omitting hospital remains, &c., which are cremated in Paris, from the original report, but not deemed necessary to be quoted here, the number of cremations among private families from the commencement in 1889 to 1901 inclusive is 2299 Those for the last-named year were 306, as compared with 297 in 1900

I am able to add to the above, having directly communicated by letter with each of the crematoria in the United States, the following statistics to the end of 1901 —

No	—	1901	Total from commencement
1	Fresh Pond N Y	654	4557
2	Buffalo, N Y	50	534
3	Troy, Earl C N Y	19	166
4	Swinburne Island N Y	3	114
5	Waterville N Y	1	39
6	St Louis Miss	141	1195
7	Philadelphia, Pa.	119	1037
8	San Francisco "Odd Fellows" Cal	666	2201
9	San Francisco "Cypress Lawn, Cal	91	723
10	Los Angeles Cal	65	552
11	Boston, Mass	171	—
12	Cincinnati Ohio	89	736
13	Chicago	182	877
14	Mount Auburn Cem , Mass	119	169
15	Pittsburg Pa	24	239
16	Baltimore.	20	200
17	Lancaster, Pa	2	101
18	Davenport, Iowa	29	162
19	Milwaukee.	45	223
20	Washington	33	149
21	Washington, "Le Moyne."	1	43
22	Pasadena, Cal	46	158
23	St. Paul, Minn	20	76
24	Fort Wayne Ind	5	18

For Italy, besides Bologna above mentioned, I can add the following, the first column also showing total to the end of 1901 —

—	1901	Total from commencement
Asti	2	30
Bologna	21	176
Lodi	2	52
Udine	2	49
Rome	69	941
Venice	7	50
Modena ..	2	29
Milan	103	1647
Cremona	1	124
Spezia	5	5
Turin	23	260
Florence ..	16	301
And also—		
Basle (Switzerland)	17	68

Finally, as on every preceding occasion of publishing annual statistics of crematoria, I append the total of the cremations at Woking, of which the first took place in 1885, with three in number for that year, the total amounting to 2097 at the end of 1901 —

Record of Cremations performed at Woking from Commencement of Operations[1]

Year	No	Year	No.
1885	3	1895	150
1886	10	1896	137
1887	13	1897	173
1888	28	1898	240
1889	46	1899	240
1890	64	1900	301
1891	99	1901	273
1892	104		—
1893	101	Total	2097
1894	125		

THE GENERAL MEDICAL COUNCIL MR GEORGE JACKSON'S REPORT TO THE ELECTORS

MR. GEORGE JACKSON of Plymouth has sent us the following with a request for its publication —

In accordance with my promise to the electors I write a short *résumé* of the proceedings of the General Medical Council, touching especially on the points of general interest and those in which I took some small part The special meeting of the Council which took place in February was held for the special object of dealing with the question at issue with the Colleges of Physicians and Surgeons—viz , as to the recognition of certain schools as proper places for the commencement of medical studies. This question was referred to the May meeting to receive a report of the primary examinations As this has not yet been done no report was before the Council. It is, however, probable that some additional places, such as technical schools, may be recognised It is important that whilst no places be recognised which are unfitted as places of study, yet it should be made possible that the commencement of medical studies may be made at such places

The work of the General Medical Council is much more complex and varied than would appear to be the case to an outside observer

Judicial Duties of the Council

This session the work with regard to penal cases, which were to a great extent dealt with *in camera*, was very heavy and, I think I may say, somewhat painful. The Council was called upon to decide cases in which the moral character of medical men was brought into question, it being alleged against them that they had taken advantage of their positions as medical men to act improperly towards female patients These cases appeared to reveal a tendency on the part of the public to try to punish delinquents of this sort by means of the Council instead of by the ordinary courts of law It was, however, held by the legal advisers of the Council that the Council would be only doing its duty in dealing with such cases One satisfactory feature was the case of Dr Rendall who had been acting for the National Medical Aid Company He announced that he had discontinued his connexion with the company in obedience with the request of the Council. This will therefore have the effect of checking the advertising and touting for members by these medical aid societies.

The Financial Position.

One of the most important subjects brought before the Council on this occasion was the financial position of the Council. It is evident that unless some radical steps are taken the Council must become bankrupt. Its expenditure exceeds its income very considerably—last year by £1509 Various propositions, as it will be seen by the report, were made I moved a resolution to the effect that a small annual licensing fee of 10s. should be paid by all those medical practitioners who were in practice, not of course to apply to those who had already paid the £5 registration fee, for the first five years. The effect would be to bring the profession more in touch with the Council and possibly as one of the members suggested, lead to an increase in the number of Direct Representatives by the fact that representation should accompany taxation. Roughly speaking this plan should provide an income of £12,000 per annum. This would not be too much in the face of the additional work put on and expected of the Council. Some economies might also be practised—i.e. as suggested by Mr. George Brown, the grouping together of some of the corporations and so diminishing the number of Representatives instead of as at present, increasing it every time a new university is created or when the right to a Representative on the Council is also granted. I am glad to say that this proposition was supported by the three Direct Representatives for England and Wales

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[1] From the Transactions of the Cremation Society of England, No XV published in the spring of 1902

The Midwives Bill

The report of the committee on this question was not accepted, it being thought that the Council had already done all that could be done but Mr Brown s resolution condemning the Bill, which I had the pleasure of seconding was passed by a large majority A matter of considerable interest to members of the medical profession was also carefully considered—viz. the regulations as to the necessary curriculum for the Diploma of Public Health, three months being substituted for six months as the period allotted for outdoor sanitary work and three months to be spent in attending a course of lectures on sanitary law and cognate subjects The conclusion that attention should be paid to methods of administration in an infectious hospital was adhered to. This is doubtless a very essential point, as in the provinces, at all events, medical officers of health have infectious diseases hospitals under their control.

The question of preliminary education was the subject of a deputation from the British Medical Association to the Education Committee of the Council, urging amongst other matters the institution of a preliminary examination by the Council itself. If this was done it would insure a uniform standard of efficiency and need not prevent universities, &c. holding their own examinations as well. The reply of the committee will be made in due course

Looking Back.

FROM

THE LANCET, *SATURDAY, JULY 3*, 1824

Taliacotian Operation for a New Nose. From the Gazette de Sante June 15

One of the most horrible deformities is undoubtedly that which results from the loss of the nose, and that operation may be regarded as a great triumph of surgery by which we are enabled to make if not a perfect, at least a supportable nose by taking a portion of skin sufficient for this purpose from the forehead of the patient. This operation, which has recently been called the *rhinoplastic* has been successfully performed by Professor DELPECH The patient who was the subject of it had lost his nose from the effects of syphilitic ulcers, after a long course of treatment, the operation was performed on the 4th of June 1823. In the month of August following the cicatrix was perfect, and the patient returned to Toulon his country where he became an object of general astonishment so happily was nature imitated by his artificial nose.

We learn from an English Medical Journal that Mr Travers a Surgeon of St. Thomas s Hospital recently performed the same operation but not with the same success half of the skin detached from the patient s forehead having mortified

QUACKERY *alias* SWINDLING

A fellow of the name of *Munstcall* who for some time past has been flourishing not a hundred miles from Liverpool, in the character of a Medical Practitioner and as a Member of the Royal College of Surgeons in London, has lately deemed it prudent to remove to this Metropolis and has taken up his residence in the neighbourhood of Cavendish square We consider it our duty to caution all persons against having any transactions with this worthless impostor He has duped and ruined hundreds in the North, and we suspect that it is his intention to be guilty of similar atrocities here. We however will frustrate his intention by exposing to the whole world the real character of the nefarious scoundrel and in doing which, though we shall execute a most irksome task yet we are confident it will prove of great public service.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8383 births and 4258 *deaths were registered during the week ending June 21st.* The annual rate of mortality in these towns, which had been 16 5 16 0, and 15 0 per 1000 in the three preceding weeks, further declined to 14 9 per 1000 in that week. In London the death rate was 14 4 per 1000 while it averaged 15 2 in the 75 other large towns. The lowest death rates in these towns were 4 1 in Hornsey 7 0 in East Ham, 7 6 in Bournemouth 7 7 in King s Norton 8 2 in Walthamstow 8 3 in Hanley 9 1 in Yarmouth and 9 3 in Wolverhampton and in Aston Manor the highest rates were 20 1 in Middlesbrough 20 5 in Barrow in Furness 21 0 in Tynemouth 21 8 in Rhondda 22 9 in Sunderland, 23 6 in Rochdale, and 24 6 in Wigan. The 4258 deaths in these towns in the same week included 481 which were referred to the principal infectious diseases, against 555 and 496 in the two preceding weeks of these 481 deaths 156 resulted from measles 103 from whooping-cough 60 from diarrhœa, 53 from diphtheria, 52 from scarlet fever 31 from small pox, and 26 from fever" (principally enteric) In Croydon Hornsey East Ham Reading Aston Manor Stockport and seven other smaller towns no death from any of these diseases was registered , while they caused the highest death rates in Tottenham West Bromwich St. Helens Rochdale, Barrow in Furness, Gateshead and Rhondda. The greatest proportional mortality from measles occurred in Burton-on-Trent West Bromwich, Rochdale Barrow in Furness, Sunderland Gateshead and Rhondda from scarlet fever in St. Helens from whooping-cough in Southampton and South Shields and from fever" in Burnley The mortality from diphtheria showed no marked excess in any of the large towns Of the fatal cases of small pox registered in the week 24 belonged to London four to West Ham and one each to Willesden West Ham and Liverpool but not one to any other of the 76 large towns. The number of small pox patients under treatment in the Metropolitan Asylums hospitals, which had been 1274, 1162, and 1035 at the end of the three preceding weeks had further declined to 861 at the end of the week 107 new cases were admitted during the week against 251 188, and 157 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday June 21st was 2450 against numbers increasing from 2207 to 2347 on the five preceding Saturdays 378 new cases were admitted during the week, against 319 310 and 282 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 261 200 and 166 in the three preceding weeks rose again in the week to 173, but were 15 below the corrected average number The causes of 51, or 1 2 per cent of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham Bristol, Salford Leeds Newcastle and in 47 other smaller towns The largest proportions of uncertified deaths were registered in Reading Birmingham Leicester and Liverpool

During the week ending June 28th 6823 births and 4293 deaths were registered in 76 of the largest English towns The annual rate of mortality in these towns which had been 16 0 15 0 and 14 9 per 1000 in the three preceding weeks, rose again last week to 15 1 per 1000. In London the death rate was 14 2 per 1000 while it averaged 15 4 per 1000 in the 75 other large towns. The lowest death rates in these towns were 6 5 in Wallasey 7 6 in Bournemouth 7 7 in Ipswich, 8 9 in Grimsby 9 0 in Hornsey 9 2 in Smethwick and in York and 9 5 in Croydon the highest rates were 18 8 in Manchester and in Barrow in Furness 19 9 in Warrington 20 0 in St. Helens 21 4 in Merthyr Tydfil, 21 9 in Liverpool, 24 2 in Oldham and 30 5 in Wigan The 4293 deaths in these towns last week included 476 which were referred to the principal infectious diseases, against 555 496, and 481 in the three preceding weeks of these 476 deaths 127 resulted from measles 117 from whooping cough, 59 from scarlet fever, 59 from diarrhœa, 54 from diphtheria, 34 from "fever" (principally enteric), and 26 from small pox. No death from any of these diseases was registered last week in Croydon, Walthamstow, Hastings, Northampton, Great Yarmouth, Grimsby, Bury, Rotherham, or York, while they caused the highest death rates in East Ham, Hanley, Coventry, Derby, St. Helens, Wigan, Barrow in Furness, Middlesbrough, and Rhondda. The greatest proportional mortality from measles occurred in Bournemouth, Plymouth, Derby, Barrow in Furness, Bradford, and Rhondda, from scarlet fever in Burnley, from diphtheria in Coventry and St. Helens, from whooping cough in Leyton, Norwich, St. Helens, from Barrow in Furness, Middlesbrough, and West Hartlepool, from "fever" in St Helens, and from diarrhœa in Willesden and Hanley The fatal cases of small pox registered last week included 17 which belonged to London, four to West Ham, two to Tottenham, two to Swansea, and one to Bootle The number of small pox patients under treatment in the Metropolitan Asylums hospitals, which had been 1162, 1035, and 861 at the end of the three preceding weeks, had further declined to 837 at the end of last week, 129 new cases were admitted during the week, against 188 157, and 107 in the three preceding weeks The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, June 28th, was 2496, against numbers increasing from 2207 to 2450 on the six preceding Saturdays, 276 new cases were admitted during the week, against 310, 282, and 378 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 200, 166, and 173 in the three preceding weeks, further rose last week to 194, and were 21 above the corrected average. The causes of 35, or 0 8 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Bristol, Birmingham, Manchester, Salford, Newcastle, and 51 other smaller towns, the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Warrington, and Blackburn.

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns, which had been 19 3 and 19 0 per 1000 in the two preceding weeks, further declined to 16 4 per 1000 during the week ending June 21st, but showed an excess of 1 5 per 1000 over the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 12 6 in Leith and 13 5 in Dundee, to 18 1 in Glasgow and 19 2 in Paisley The 531 deaths in these towns included 18 which were referred to measles, 17 to diarrhœa, 13 to whooping cough, four to scarlet fever, two to diphtheria, and not one to either small pox or "fever" In all 54 deaths resulted from these principal zymotic diseases in the week, against 57, 61, and 68 in the three preceding weeks. These 54 deaths were equal to an annual rate of 1 7 per 1000, which was also the death rate in the week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 13, 22, and 18 in the three preceding weeks, were again 18 in the week, and included seven in Glasgow, four in Edinburgh, four in Paisley, and two in Perth The deaths from diarrhœa, which had been 15, 16, and 18 in the three preceding weeks, declined again to 17, of which 13 were registered in Glasgow The fatal cases of whooping-cough, which had been 15 and 21 in the two preceding weeks, declined again to 13, and included four in Glasgow, three in Edinburgh, two in Aberdeen two in Paisley, and two in Perth. The four deaths from scarlet fever corresponded with the number in the preceding week, while the fatal cases of diphtheria showed a slight decline from recent weekly numbers. The deaths referred to diseases of the respiratory organs in these towns, which had been 116 and 129 in the two preceding weeks, declined again to 96, but were slightly above the number in the corresponding period of last year The causes of 26 or nearly 5 per cent., of the deaths registered in these eight towns were not certified

The annual rate of mortality in the eight Scotch towns, which had been 19 3, 19 0 and 16 4 per 1000 in the three preceding weeks, rose again to 19 2 per 1000 during the week ending June 28th, and showed an excess of 4 1 per 1000 over the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 15 9 in Leith and 17 8 in Aberdeen to 25 8 in Greenock and 29 7 in Perth. The 620 deaths in these towns included 16 which resulted from diarrhœa, 15 from measles, 14 from whooping-cough, four from scarlet fever, four from diphtheria, and four from "fever" In all 57 deaths resulted from these principal infectious diseases last week, against 68 and 54 in the two preceding weeks. These 87 deaths were equal to an annual rate of 1 8 per 1000, which was slightly above the mean rate last week from the same diseases in the 76 large English towns The fatal cases of diarrhœa, which had been 13 and 17 in the two preceding weeks, further declined last week to 16, of which seven occurred in Glasgow, four in Edinburgh, and four in Aberdeen The deaths from measles, which had been 18 in each of the two preceding weeks, decreased to 15 last week, and included six in Edinburgh, three in Glasgow, three in Paisley, and two in Dundee, The fatal cases of whooping cough, which had been 21 and 13 in the two preceding weeks, rose again last week to 14, of which four were registered in Edinburgh, three in Glasgow, two in Aberdeen, two in Paisley, and two in Perth. The deaths from scarlet fever, which had been four in each of the two preceding weeks, were again four last week, and all occurred in Glasgow The four fatal cases of diphtheria were slightly in excess of the numbers recorded in recent weeks, and included two in Edinburgh where two of the four deaths from "fever" also occurred. The deaths referred to diseases of the respiratory organs in these towns, which had been 129 and 96 in the two preceding weeks, rose again last week to 101 and were slightly in excess of the number in the corresponding period of last year The causes of 24 or nearly 4 per cent, of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 22 3, 19 8, and 19 7 per 1000 in the three preceding weeks, further declined to 17 9 per 1000 during the week ending June 21st. During the previous four weeks the death-rate had averaged 19 9 per 1000, the rates during the same period being 15 0 in London and 17 5 in Edinburgh The 130 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 13 from the number in the preceding week and included eight which were referred to the principal zymotic diseases, against eight, six, and 10 in the three preceding weeks, of these, five resulted from measles, one each from scarlet fever, from diphtheria, and from "fever," and not one from either small pox, whooping cough, or diarrhœa. These eight deaths were equal to an annual rate of 1 1 per 1000, the death rates from the same causes in the week being 1 8 in London and 1 5 in Edinburgh. The fatal cases of measles, which had been two, three, and four in the three preceding weeks, further rose in the week to five, while the mortality from diphtheria and that from "fever" corresponded in each case with that recorded in the preceding week. The 130 deaths in Dublin in the week included 25 of children under one year of age and 33 of persons aged upwards of 60 years, the deaths of infants showed a slight decline, while those of elderly persons were in excess of the number recorded in the preceding week. Four inquest cases and two deaths from violence were registered, and 51, or nearly two-fifths, of the deaths occurred in public institutions. The causes of four, or more than 3 per cent., of the deaths registered in Dublin were not certified.

The death rate in Dublin, which had declined from 22 3 to 17 9 per 1000 in the four preceding weeks, rose again to 19 9 per 1000 during the week ending June 28th. During the 13 weeks of the quarter ending on that date the death rate averaged 22 7 per 1000, the rates during the same period being 16 1 in London and 18 3 in Edinburgh The 145 deaths of persons belonging to Dublin registered during the week under notice were 15 in excess of the number in the preceding week, and included nine which were referred to the principal infectious diseases, against six, 10 and eight in the three preceding weeks, of these, four resulted from "fever," three from measles, two from scarlet fever, and not one from either small pox, diphtheria, whooping cough, or diarrhœa These nine deaths were equal to an annual rate of 1 2 per 1000, the death rate last week from the same diseases being 1 6 in London and 2 9 in Edinburgh. The fatal cases of "fever," which had been one in each of the two preceding weeks, increased last week to four, while the deaths from measles decreased from five in the preceding week to three last week. The 145 deaths in Dublin included 29 of children under one year of age and 30 of persons aged upwards of 60 years the deaths of infants slightly exceeded the number in the preceding week while those of elderly persons showed a decline. Three inquest cases and four deaths from violence were registered and 53, or more than a third of the deaths occurred in public institutions. The causes of 11, or more than 7 per cent of the deaths registered in Dublin last week were not certified.

THE SERVICES

THE CORONATION HONOURS

To be Knight Commander of St Michael and St George

Surgeon General H. H. Pinching Head of the Sanitary Department at Cairo

To be Knights Commanders of the Bath.

Inspector General of Hospitals and Fleets John Denis Macdonald R.N (retired)

Surgeon General John Andrew Woolfryes, C B., C M G honorary physician to the King

Surgeon-General Annesley Charles Castriot de Renzy C B. I.M.S (retired)

Surgeon General (ranking as Lieutenant-General) William Taylor C B., honorary physician to the King

To be Companions of the Bath.

Lieutenant-Colonel Patrick Fenelon O Connor I M.S

Fleet-Surgeon James Porter R.N

Inspector-General of Hospitals and Fleets Duncan Hilston R.N (retired)

Inspector General of Hospitals and Fleets, Robert Grant, R N

Lieutenant-Colonel Sir James Richardson Andrew Clark, Bart. (Brevet Major) R.A.M.C (Medical Staff Corps) (Militia)

Lieutenant-Colonel George Thomas Beatson (Medical Staff Corps) the Glasgow Companies, R A.M.C (Volunteers)

To be Companion of the Indian Empire

Lieutenant-Colonel T E. L. Bate, I.M S.

South African List

The King has also been graciously pleased to give orders for the following appointments to the undermentioned officers and soldiers in recognition of their services during the operations in South Africa.

To be Companions of the Bath.

Colonel J D Edge R A.M C

Lieutenant-Colonel W A. May R.A.M.C.

Lieutenant-Colonel R. V Kelly New South Wales Medical Corps.

Veterinary Lieutenant-Colonel T Flintoff, Army Veterinary Department.

Lieutenant-Colonel Henry James McLaughlin, Reserve of Officers (late R. A. M C.)

Lieutenant-Colonel C. E. Nichol R.A.M C

Major H. N Thompson, R.A.M C

Major W H. W Elliot, I M S.

Captain G Leslie, Medical Officer

To have the Honorary Rank of Captain.

Quartermaster and Hon. Lieutenant J B. Short, R A.M C.

Quartermaster and Hon. Lieutenant A. Freshwater R A.M.C. (since deceased).

To be Companion of St. Michael and St George

Mr A. L. Langman, jun. Langman s Hospital.

To have the Decoration of the Royal Red Cross

Superintendent Miss F M Chadwick Army Nursing Service (with hospital ship *Maine*).

Nursing Sister Miss M. C. S Knox, Army Nursing Service.

Nursing Sister Miss Elizabeth Cochrane Shannon Army Nursing Service Reserve, with Scottish National Hospital.

Miss H. Hogarth Army Nursing Service Reserve, hospital ship *Princess of Wales*

Mrs. George Cornwallis West, hospital ship *Maine*

Mrs. Theodosia Bagot, Portland Hospital.

Mrs T C. Wolley Dod, Mrs Keith, and Miss Knight, care of prisoners of war Pretoria.

Miss Frances Amelia Lowrie, Matron, Bourke Hospital Pretoria

Mrs. P H. Johnston, President Army Hospital Aid Society Natal.

Miss Ada Whiteman Maritzburg and Leper Hospital, Pretoria.

Miss Lucy Alice Yeatman Colonial Nurse, Ladysmith.

Mrs Melina Rorke, Colonial Nurse Bulawayo

Mrs. Redpath, Colonial Nurse, Ladysmith.

Mrs. Jessie Burrill and Mrs. Emma Francis Durban Women s Patriotic League.

Mrs. Jane Waterston and Mrs. Sclater Good Hope Society Natal.

Georgina, Dowager Countess of Dudley

Miss Ethel McCaul.

Mrs Kilpin and Mrs. Ball Good Hope Society

To be enrolled as Honorary Associates of the Grand Priory of the Order of the Hospital of St John of Jerusalem

Miss Martha Thomson Miss Sarah Emily Webb Miss Sarah Elizabeth Oram Superintendents and Miss Louisa Watson Tulloh Nursing Sister Army Nursing Service.

The notification regarding the above four ladies which appeared in the *London Gazette* of Sept. 27th 1901, is hereby cancelled.

To be enrolled as an Honorary Associate of the Grand Priory of the Order of the Hospital of St. John of Jerusalem —Miss Mary Cecil Florence Kate Cole Superintendent, Army Nursing Service.

The King has also been graciously pleased to give directions for the following appointments in recognition of services in this country the Mediterranean, and the Channel Islands during the operations in South Africa.

To be Companions of St Michael and St George

Lieutenant-Colonel Henry Charlesworth R A M C

Major William Grant Macpherson, R A.M.C

Kaisar i Hind Medal for Public Service in India

Captain T W A. Fullerton, I.M.S and Lieutenant Colonel J L. Poynder I.M S have been granted the gold medal.

Royal Navy Medical Service.

Deputy Inspector General (retired) J Lyon to be Surgeon and Agent at Manchester Staff Surgeons A M. Page to the *Hood* and J Parry to the *Australia* Surgeons H. C Arathoon to Haslar Hospital and H. W M. Rees to the *Vivid*

Royal Army Medical Corps.

Surgeon-General G J H. Evatt, A.M.S. Principal Medical Officer Western District, has been appointed Principal Medical Officer 2nd Army Corps, but will continue for the present to hold his position in the Western District in addition to his other duties.

Army Medical Reserve of Officers.

Surgeon Lieutenant Neish Park Watt, Forth Division Submarine Miners Royal Engineers (Volunteers) to be Surgeon Lieutenant.

Volunteer Corps.

Rifle 2nd Volunteer Battalion the Durham Light Infantry Surgeon Lieutenant G Stephen to be Surgeon Captain.

Volunteer Infantry Brigade Bearer Company

East Surrey Surgeon Major J J de Z. Marshall from the 3rd Volunteer Battalion the East Surrey Regiment, to be Surgeon Major and to command under paragraph 55A Volunteer Regulations.

South African Notes.

Civil Surgeons Francis Alban, and Boyd are on passage home from South Africa.

Civil Surgeon Clarke is progressing favourably

The Titles of Volunteer Medical Officers.

In a letter from the War Office dated June 25th, 1902, in answer to a communication from the Volunteer Medical Association, it is stated that Mr Brodrick notes that it is the opinion of the council of the Volunteer Medical Association that there is no inclination among senior medical officers of volunteer infantry brigades to drop the word brigade in the title brigade-surgeon lieutenant-colonel With reference to the recommendation of the council that the rank of colonel (or surgeon-colonel) may be granted after 24 years and recognition, I am compelled to say that in the particular instances he cites (ship and hospital practice) his arguments are somewhat puerile. Ships' surgeons are derived mainly from two classes firstly, young men freshly qualified who, perhaps, are somewhat run down from hard reading and who in any case seize the opportunity of their irresponsible position to see the world at the expense of some shipping company, and, secondly, practitioners of some years' standing who, owing to ill health, are obliged temporarily to give up their work on shore and who go to sea to recuperate The majority of sea-going surgeons remain in the same company for a few voyages only Surely they cannot expect to receive £300 or even £200 a year where there is no fixity of tenure on their side And even if the first-named salary were offered, what surgeon worthy of the title would be content to laze away his life on board ship where the opportunities of following up his profession are so few and the limitations to its practice so many? Your correspondent delicately remarks that many ships' surgeons are "scabs" The query is obvious

Most companies offer £10 a month to their prospective surgeons. At first sight the remuneration does not appear peculiarly generous, but consider the accompanying advantages—a free passage to some of the most interesting parts of the globe, social intercourse with people of all classes, nations, and opinions, a cuisine rivalling that of a first-class hotel, an assured social position (if the individual can maintain it), and, lastly—if one can call it an advantage—very little to do Furthermore, few men leave the mercantile service without having supplemented their income with private fees which they are allowed to receive but not to *demand* I need not refer to the question of hospital surgeons, the same law of compensating advantages applies

I am, Sirs, yours faithfully,
F B RYAN, M B R U I,
Late Royal Mail Service

June 29th, 1902.

A NEW METHOD OF KEEPING IN APPOSITION THE EDGES OF SURGICAL INCISIONS AND WOUNDS IN ORDER TO PROMOTE UNION

To the Editors of THE LANCET

SIRS,—In THE LANCET of June 28th, p 1839, is described a new method of keeping in apposition the edges of surgical incisions and wounds in order to promote union The idea is not new, any more than the inventive plagiarism, unconscious or otherwise If you will look back to your own esteemed pages of Sept 27th, 1884, you will see that Messrs Arnold and Sons made a similar suture for me, you will see that mine is a step further towards perfection, as a matter of fact, necessarily an evolution of that now described, which latter I found painful and inefficient and requiring, indeed, considerable energy to introduce, as must be so with sewing-needle points and arms of equal length Who are the "surgeons of highest rank" who recommend this suture? There are other very valuable modes of closing wounds not used for some reason or other The following is one I often used Take one or more couple or couples of curved surgical needles, thread them in couples Introduce *along* each side of the wound, bring the points to the necessary extent together (to close the wound), fix them by a piece of cork or indiarubber, bring the eye ends together to an equal extent, and tie the thread.

I am, Sirs, yours faithfully,
JAMES MACMUNN

Finsbury Pavement E C June 29th 1902.

MOTOR CARS FOR MEDICAL MEN

To the Editors of THE LANCET

SIRS,—Frequent inquiries have been made through your journal for information respecting a trustworthy and simple car and price within reach of the general practitioner I am running a car now which meets these requirements The car is built by the Pick Motor Co, Limited, Stamford, is of British workmanship throughout, and can be seen built in every stage at the works My car is a 6 h.p voiturette, double cylinder, two speeds, belt driven (Dicks), which are inclosed in case and protected from wet and dirt, when the bonnet is off the whole engine is *in situ* and the parts are easily got at, and the mechanism is so simple that anyone with ordinary knowledge can put it right. Another advantage is that you can easily get duplicates of any of the parts, as this is a standard type of car for which there is a demand One coil with a trembler is only necessary fo the two cylinders I can get up to 32 miles per hour spee and most hills can be climbed on the fast speed, in fact, I have had to use the low speed very little. Having seen a large number of cars of different types I do not know of one that can touch it for workmanship and reliability The price of my car complete is £150

Any tyre can be put on. I know none equal to the Goodrich single tube.

I am, Sirs, yours faithfully,
H. T BENSON, J P, L R C P Lond, &c.,
Member of the Lincolnshire Automobile Club

Market Deeping June 21st, 1902.

THE RECONSTITUTION OF THE BRITIS MEDICAL ASSOCIATION

To the Editors of THE LANCET

SIRS,—I shall be glad if you will kindly allow me to intimate to your readers that there will be a meeting of those members of the Association interested in the report on Tuesday night, July 8th, at 8 30, in the St. Martin's Town Hall, London —I am, Sirs, yours faithfully,

JAS BRASSEY BRIERLEY

ADMINISTRATION OF CHLOROFORM FROM A CLOVER INHALER

To the Editors of THE LANCET

SIRS,—In THE LANCET of June 21st, p 1779, Mr F Victor Millward, in describing his ingenious combination of two Clover inhalers, states that he considers it possible to administer chloroform alone from the inhaler after removal of the bag, but has not made trial of this method. That this is quite feasible I pointed out in a letter to your columns of Feb 9th, 1901, p 434 Since that date I have almost invariably administered chloroform from a Clover inhaler, minus the bag, of either the ordinary or large bore type and I find this method a great improvement on the frequent bottle tilting or ball squeezing inseparable from the open and Junker methods and as safe a method as is possible when chloroform is the anæsthetic. The large bore, although of service in administering ether, gives no additional advantage when the anæsthetic is chloroform, for which the ordinary bore is ample.

I am, Sirs, yours faithfully,
C HAMILTON WHITEFORD

Plymouth, June 21st 1901

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT)

Instructions concerning Electric Wire Accidents —The Natives of Ind Plague Epidemic and the Famine —The Value of Indian Opium. and Cigarette Smoking —1.

IN consequence of accidents from electric wires in Calcutta I understand that a committee consisting of ambulance lecturers and electrical engineers has been formed and that it has drawn up the following simple instructions for the police and the public.

ACCIDENTS WITH ELECTRIC WIRES

Notice —The thick trolley wires over the tramway lines and the electric light wires are the dangerous wires The other wires in the street are harmless so long as they do not touch the above wires but if they be broken and fall on and touch the above wires they then also become dangerous

Instructions —If a wire falls harmlessly leave it alone but prevent anyone from touching it. If the end hangs loose or the wire is an obstruction it may be pulled on one side by means of a stick or piece of rope and may be tied by means of string or rope out of the way b it must on no account be touched with the bare hands If it b necessary to use the hands they must be covered with a very thick dr cloth In moving a wire great care must be taken that it does not touch any other wire Never stand on a fallen wire. The constable must not leave his post until the wires have been made safe. If a wire falls on a person and winds round him or becomes entangled in the clothing the wire should be pulled away with a stick or by wrapping the hands in a thick dry cloth Great care must be taken that the wire does not touch the bare skin of the person or that of the rescuer

Injuries —A person injured by a fallen or broken electric wire may receive an electric shock, may be burnt may be cut by the wire or may be knocked down.

First aid treatment.—If any wire be touching the injured person it must first of all be removed as above directed If the person be severely cut by the wire or burnt, or otherwise severely injured but remains conscious he may be removed to the hospital If apparently dead the person should be laid flat on his back with the head low and " artificial respiration " should be immediately resorted to and should be kept up until medical assistance arrives The limbs may also be rubbed and cold water may be applied to the head but no stimulants of any kind should be administered.

The plague epidemic is rapidly declining This week only 4214 deaths have been recorded, as against 5498 during the previous seven days. For the corresponding week last year only 1658 deaths were returned from plague. The details are Bombay city, 166 , Bombay districts, 260 Karachi 59 Madras Presidency 16 Calcutta, 132 , Bengal 107 United Provinces 116 , the Punjab 3226 , Mysore, 116 and Kashmir 15. The famine is still further spreading An increase of 9000 in the number of those under relief has taken place and the total now stands at 457,760.

Cigarette smoking seems to have taken hold of the natives of India. There has been a very large increase in imported tobacco chiefly in the form of cigarettes. The weight of cigarettes imported has been considerably over 1 000 000 pounds. These have come chiefly from the United States and Great Britain. It is common now to see natives smoking American cigarettes and boxes of them are being regularly hawked about the towns.

Certain recent schemes concerning the opium traffic in China give special interest to the peculiarities of Indian opium. It is said that the high value of Indian opium—viz. about three times the cost of its production is due to its mildness when smoked and that it contains a low proportion of morphine as compared with the Turkish variety

June 7th

MANCHESTER.

(FROM OUR OWN CORRESPONDENT)

Manchester Royal Infirmary

THE report of the board of management of the Manchester Royal Infirmary recommending that the infirmary should be rebuilt on the present site has been issued and a special general meeting of the trustees is to be held on July 22nd to receive consider and if approved, to adopt, the same and to authorise the board to proceed with the work of reconstruction. The need for enlargement may be illustrated by a conversation that took place at the meeting of the board of guardians on June 23rd. It was stated that a man who had been injured was refused admittance for lack of room and was sent to the Crumpsall workhouse hospital The view of the chairman of the guardians and others of the board seemed to be that beds should be reserved for cases of exigency as, indeed they are, and one of the guardians asked If the Royal Infirmary is not to receive poor people what does it exist for? forgetting apparently that the reserve beds may all have been filled. It was so in this case, as appears from the answer to a letter from the guardians, which said that the whole of the beds, including those reserved for emergencies, had been filled, and the patient had been sent to the Crumpsall hospital contrary to all intention through an oversight of one of the resident officers It goes on to say that " such regrettable cases afford further evidence of the necessity for the proposed enlargement of the hospital." According to the proposed plans the beds for patients will be increased from 292 to 452 at an estimated cost of £200,000. As one of the local papers puts it, the battle of the sites is over and as no millionaire has come forward to help the city to purchase the infirmary area the idea of a superb art gallery and reference library on the Piccadilly site, with a modernised infirmary near the Owens College, must be abandoned Millionaires unfortunately do not seem to be kept in stock." It is felt by many to be a misfortune that for an indefinite future the principal hospital of Manchester will be fixed in the centre of a dense town, on a cramped and insufficient area, surrounded on all sides by streets dusty and noisy with never-ceasing traffic, and penetrated from time to time with fog the pungency of which is most irritating and injurious. But though this is so all credit must be given for a sincere and strenuous effort to meet what seems an unfortunate necessity

The Infirmary and the late Dr Leech

At the close of the ordinary business yesterday the board of the Manchester Royal Infirmary received a deputation of medical men from the Leech Memorial Committee asking them to accept a portrait of the late Dr Daniel J Leech similar to one recently presented to the Owens College The deputation consisted of Mr Walter Whitehead, Dr J Dreschfeld Mr Joseph Collier Dr A Hill Griffith Dr Judson S Bury and Dr E. M. Brockbank. Mr Whitehead said that he had been asked to make the presentation because he had known Dr Leech longer and more intimately perhaps than any one present. They were fellow-students and elected to the staff of the infirmary on the same day He spoke truly and generously of Dr Leech s self sacrifice for the sake of medical education and the public welfare of his devotion to work, of his simplicity of character and his candour Few persons " he said are aware how much he did to help on the careers of medical students who were crippled in funds and who but for his generosity would have had to suspend their medical education. As Mr Whitehead said in asking the board to accept the portrait, it can, however excellent but inadequately represent to future generations the noble and unselfish life of the late Dr Leech. Sir F Forbes Adam chairman of the board, said that he accepted on behalf of the board of the infirmary, with very great pleasure indeed the replica of the portrait of the late Dr Leech and he paid a high tribute to his character and the great services that he had rendered to the infirmary

Royal Infirmary Appointments

At the meeting of the board of management of the Manchester Royal Infirmary yesterday Sir F Forbes Adam presiding Dr W S. V Stock was re-appointed resident medical officer for a year from July 8th and Dr H. B. Wyman was appointed assistant medical officer at Cheadle for a year

A Manchester University

The Convocation of Victoria University consisting of graduates, discussed the question of separate universities for Manchester Liverpool and Leeds at a meeting held on June 23rd at Owens College. The attendance was large and a long debate took place after which Professor Tait s resolution was passed —

> That under existing circumstances Convocation is of opinion that the cause of higher education and the interests of the constituent colleges of the University will best be served by the adoption of the course recommended by the University Court.

This course wa it may be remembered that of disruption The resolution was carried by 137 votes to 87 The discussion was marked by a good deal of animation and the philosophic doubts on one side or the other were not always expressed without acrimony The presence of lady graduates did not quite avail to soothe the savage breasts " for when one lady proceeded to speak at length against disruption in seconding an amendment moved by Professor Smithells she was met by cries of Vote and Time, and she had great difficulty in continuing her remarks," so that another lady graduate observed reprovingly Those are university manners Perhaps it may be hoped that in time this feminine influence may soften the ruggedness of northern culture. So far as public opinion can be judged by the leaderettes in the two chief Manchester papers it is in favour of an independent as against a federal university but the question would probably have remained dormant, so far as Manchester and Leeds are concerned had not Liverpool first felt the stirrings of ambition. Whether the cause of higher education and the interests of the constituent colleges will be best served by federation or disruption the future may determine. Able men hold opposite views but it would be difficult, if not impossible for Owens College whatever the result may be, not to take up the challenge of Liverpool. It may seem ungracious that Leeds should be as it were cast off against her will, but she has energy enough to face the future without fear

Salford Sewage Works

One is almost weary of the adjourned actions brought by the Mersey and Irwell Joint Committee against the corporations of Manchester and Salford for their delinquencies as regards sewage purification At the last hearing however on June 23rd his Honour Judge Parry was able to congratulate Salford on the great progress that had taken place since his last visit to the works. Mr Strachan, the consulting engineer thought that 12 months ought to be allowed for the completion of the present scheme for the treatment of the sewage The effluent, he said, was now satisfactory, but he would like to see the filter at work for three months before giving a final opinion His Honour said that it would remain to be seen whether the actual number of filters when completed would be sufficient for the needs of the neighbourhood, and attention should be given as to how far the present provision would be sufficient for future needs There seems hope, therefore, that Salford may overcome its sewage difficulties

County Constabulary and Charities

The Bury division of the Lancashire County Constabulary held its annual sports recently and devoted the profits, amounting to £107 7*s* 9*d*, to various charities The Bury Infirmary receives £45, the Ramsbottom Cottage Hospital £10, and three sick nursing associations £10 each There are also donations to the Society for the Prevention of Cruelty to Children and the Society for the Prevention of Cruelty to Animals, to the Police Orphanage, Harrogate, and to the police poor box This is a good example, and might, perhaps, be followed more frequently than it is by the cricket and football clubs whose matches are watched by thousands

July 1st

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

University of Dublin

A MEETING of the Senate of the University of Dublin was held on June 30th to elect a member of the council for "Classis Tertia." Professor Edward Hallaran Bennett was unanimously elected

Death of John Harrison Scott, M B Dub , F R C S Irel.

The death is announced at the early age of 40 years of Dr John Harrison Scott, formerly of Fitzwilliam square, Dublin Dr Scott was in bad health for some years but was formerly well known in medical circles in Dublin where he filled the posts of surgeon to the Adelaide Hospital and of medical officer to St James s Gate Brewery and other important appointments

Vacant Chairs in Queen s College, Belfast

The Dunville professorship of physiology and the chair of natural history in Queen's College, Belfast, are both vacant and the appointments rest with the Crown Candidates must send their applications to the Under Secretary to the Lord Lieutenant of Ireland, Dublin Castle, on or before July 5th The endowment of the chair of physiology is £250 and the class fees in the session 1900-1901 (the last reported) were £308, while the endowment of the professor ship of natural history is £282 and the class fees for 1900-1901 were £190 It should be added that both of the former professors in these subjects held examinerships in the Royal University, which increased the value of their annual incomes

Scale of Fees in Irish Dispensary Practice

It has been decided to appeal in the case of Mr J W Olpherts (medical officer of Downpatrick Dispensary District) *v* Downpatrick Union, against the decision of the county court judge to the effect that the scale of fees for extra-professional assistance fixed by a board of guardians and sanctioned by the Local Government Board cannot be exceeded even though the medical practitioner concerned had not agreed to the scale and had stated when his services were requisitioned what his fee would be The Irish Medical Association is anxious that every effort should be made to obtain a reversal of this decision which affects every medical practitioner in Ireland, whether in the Poor-law service or not The Irish Medical Association will bear the costs in this appeal case

The Royal University Commission

Mr F H O'Donnell, M.A. (a Royal University graduate), has published a letter with statements in reference to his treatment when on May 22nd he tendered himself for examination before the Royal Commission on University Education in Ireland, which certainly demands an early and full explanation. He denies the correctness of the official report of his appearance which has been sent to him, and publishes a corrected report of what took place which he has sent to the secretary of the commission When he informed the Commissioners on appearing before them that he had 20 pages of notes on very important points and that he was prepared to read them or speak from them (the usual course adopted by witnesses) the chairman, Mr O'Donnell writes, said "The commission does not think it necessary, we have your book and the summary of your evidence, and I do not think we need trouble you further" On Mr O'Donnell protesting against being suppressed, he was silenced by the commission, the chairman exclaiming "Call the next witness Call the Lord Chief Justice" The publication of this letter of Mr O'Donnell has produced a bad impression The newspapers are asking why in the first place did the commission decide to ignore Mr O'Donnell's offer to give evidence, a course it persisted in for a long time Was it owing to public press criticism that it afterwards agreed to hear him, and having done so why did it decide when it allowed him to appear before it that he should not be permitted to say anything?

Small pox in Belfast

Only one new case of small pox has been admitted into the Union Fever Hospital, Belfast—that of a man who had been in several lodging houses and who had spent during the period of incubation a few days in the Royal Victoria Hospital as he was suffering from hæmorrhoids It was fortunate that no surgical operation was done, as shortly after leaving the hospital the rash of small pox appeared.—The new hospital, erected in a period of 20 days at Purdysburn by the public health committee, has been completed and is now ready for patients The hospital, a one-storeyed one, is built of wood and iron with a corrugated iron sheeting and has been constructed for 32 patients It consists of four large wards The most complete arrangements have been made in connexion with ventilation, heating, bath, and sanitary arrangements There is an excellent administrative block with nine rooms for the medical officers and nurses who have charge of the patients It is connected with the hospital by a covered passage 100 feet long by four feet in breadth At a radius of 100 feet from the buildings strong corrugated ironwork is being put up and a small mortuary has also been constructed apart from the main building This new small pox hospital, complete in every respect, is a great addition to the medical institutions of Belfast Unfortunately the residents around Purdysburn object to its location there very strongly and have held a public meeting and again protested on the ground that it was too near (nearer than the regulations of the English Local Government Board would permit) to a public school and to other houses in the neighbourhood Mr T W Russell, M P, has asked a question in the House of Commons on the subject.

Royal University Graduates' Association

The third annual meeting of the Royal University Graduates' Association, a body embracing 600 graduates representing all professions (clerical, medical, legal, engineering, and teaching) was held in Belfast on June 28th From the report (presented by Dr R. W Leslie, one of the secretaries) and the speech of the chairman (Dr W A McKeown) who is the president of the association, it appears that the association is in a most flourishing condition Special reference was made to the sittings of the University Commission (and the council of the association believes that the case for the establishment of sectarian and petty universities in Ireland has been damaged past hope of recovery), to the victory achieved by the association in the recent election of representatives on the Senate of the Royal University, all pledged to the appointment of extern examiners, to the refusal of the commission to hear Mr F H. O'Donnell M A, and to the policy of the association in reference to the university question, which is, first, reorganisation of the Royal University on an academic representative basis and the abolition of Crown nominations, and, secondly, the severance of the connexion of the Crown with the Queen's Colleges and their government by a body representing various and local academic interests Dr. McKeown was unanimously re elected president of the association for the ensuing year

July 2nd

PARIS

(FROM OUR OWN CORRESPONDENT)

Scandals at the Competition for the Post of Hospital Physician

THE scandals at the yearly competitions offered by the administration of the Assistance-Publique for the post of hospital physician or surgeon grow worse and worse and are the subject of much comment even in circles outside the medical profession. Only a month ago there was a scandal of which I have already spoken.[1] The recent competition for the posts to be occupied by six physicians has been marked by most regrettable incidents which have naturally been made much of in the lay press. Those incidents were such that two members of the jury M Albert Robin and M. Henri Huchard, wrote a strong letter of protest to the Director of the Assistance Publique which appeared in the public press. On Saturday June 14th, when the results were published and before the successful candidates had been nominated M Robin and M. Landrieux sent in their resignations. M Huchard had already sent in his All these scandals have been the cause of acute comment among the public, although they cause no surprise in medical circles, where the undesirable methods which obtain in the public competitions have been long known. The hospital physicians and surgeons as a body are annoyed at the action taken by three of their members, and at the meeting of the Hospitals Medical Society which followed on the competition the reception of M Robin and M Huchard was very cool. As, however both of these gentlemen are of considerable scientific eminence they are indifferent to this action and their bold, independent attitude is most favourably commented on by the great body of medical men as a step towards the reform of the present methods in vogue in public competitions.

Alcoholic Drinks

About a year ago in the course of a Parliamentary discussion upon the law as to drinks, a Socialist deputy Dr Vaillant, proposed that the Academy of Medicine should be requested to make out a list of alcoholic drinks such as liqueurs, apéritifs, and the like which contain essences dangerous to public health with a view to interdict the manufacture or sale of such As the Minister concerned did not accede to this request the Academy has at last sent into Parliament a report on its own account. M. Laborde has published the report in the name of the commission appointed by the Academy The report states that the essences used are very poisonous. Synthetic essence of anisette contains a quantity of hydrocyanic acid The inhalation of a little of this essence from an open bottle containing it causes grave syncope and a feeling of illness lasting for several days. Chartreuse is very poisonous and contains 13 substances which can bring about serious effects. Vulnerary contains 15 very poisonous substances. The genuine vegetable essences are bad enough but these are not used now and the essences are all made with synthetic flavourings which are even more poisonous than the genuine vegetable essences Gin (*genièvre*) contains a poison and bitters are also very dangerous. M Laborde proposes that the sale of the following should be absolutely forbidden except for medicinal use absinthe and its compounds, bitters vermouth noyeau, chartreuse, gin, and vulnerary It is proposed that the authorities shall forbid the manufacture or sale of these drinks as containing substances harmful to public health. If this is not done the laws existing on the matter should be rigorously applied

The Physiological Education of Deaf mutes

At the meeting of the Academy of Medicine held on July 17th M. Laborde gave an account of the method employed by M. Dussaud in the education of deaf mutes. M Laborde showed a number of patients in whom M. Dussaud's method had brought about excellent results. The principles are as follows the child at the age when speech would normally begin to develop is put through a series of exercises addressed to the ear with a view to developing the auditory function the coöperation of which is at the outset at least necessary for the acquirement of speech He uses an apparatus devised by himself for amplifying sounds called the *amplificateur audiométrique* It is a kind of loud speaking phonograph It is of great value especially at the beginning of the educational course to make use of musical sounds as well as spoken sounds. M. Laborde showed nine children who had been enabled to speak by means of this method

Apparatus for Anæsthesia

At the meeting of the Therapeutic Society held on May 28th M. de Crésantignes showed an apparatus for administering volatile anæsthetic agents such as the bromide or chloride of ethyl. The apparatus consists of a mask which hermetically seals the mouth and nose of the patient. This mask leads into a vessel which collects the air expired by the patient and by sinking in at the moment of inspiration returns it to him Thus no loss of anæsthetic occurs and the patient gets no air which is not saturated by the anæsthetic. Owing to this there is no period of excitability

A New School of Hygiene

The municipality of Marseilles has just concluded some negotiations with the Minister of War with regard to the creation of a school of colonial hygiene at Marseilles. The municipality has offered to place at the disposal of the Minister the left wing of the Pharo together with certain of the surrounding buildings. When the school is fitted up there will be accommodation for 100 pupils. The municipality has further promised to bear the cost of the work necessary for getting the buildings ready for occupation which will amount to about 150,000 francs. This sum will include the cost of a new block and the doing up of rooms to serve as class rooms together with a theatre for lectures and demonstrations

July 1st

BERLIN

(FROM OUR OWN CORRESPONDENT)

Statistics of Hay Fever

DR. THOST a specialist in nasal and laryngeal diseases in Hamburg has been carrying out a collective investigation into hay fever and its causes. The investigation includes 400 cases partly from his own practice and partly collected among the members of the Hay Fever League an association of sufferers from hay fever from Germany Austria, Holland, and Switzerland who in May and June every year meet at Heligoland and patronise any research into the etiology and therapy of this disease. Dr Thost's report which is published in the *Münchener Medicinische Wochenschrift* states that to produce hay fever in a person three things are necessary a specific cause a local disposition of the mucous membrane of the nose and the respiratory organs and a general disposition of the nervous system. As to the specific causes it was found by the statements of the patients that hay fever was brought on by grass flowers in 89 cases by pollen in 61 cases by hay in 32 cases by lawns in 18 cases by flower-dust in 59 cases, by the smell of flowers in 17 cases, by flowering plants bushes and trees in 30 cases, and by corn flowers cornflour and cornfields in 33 cases. Many patients had an idiosyncrasy with regard to certain flowers one patient was attacked by hay fever in winter time because he had cultivated hyacinths in his room Apart from flowers and their pollen the following causes were said to produce attacks of hay fever dust in 86 cases and smoke stone dust and flour dust once, respectively , bad smells in 10 cases tobacco-smoke in 13 cases smell of horses twice and a draught of air in seven cases A railway journey is given as the exciting cause in 56 instances sunlight 69 times , heat, 43 times dry air 18 times bad air five times change of temperature 13 times fog once , a stay in fresh air 16 times. Other less frequent causes are mental work muscular strain and drinking , eight patients said that their attacks were due to neurasthenia and one patient even said that the attacks occurred when she thought of hay fever whilst in another case an attack happened when the patient thought of a cornfield. Of still more peculiar causes one patient may be mentioned who was attacked by the disease when he combed his hair another when covered by woollen textures a third by furs and a fourth when cats were in his room. It is however remarkable that only three patients alleged catching cold to be the cause of the illness. Pollen is generally believed to contain the irritant agent by which the fits are produced A great many examinations of the nasal mucosa however showed that pollen grains were present in the nasal mucus in a few instances only one patient even reported that he was able to snuff plenty of pollen without catching hay fever on the other hand it was rather striking that so many patients accused the smell of certain flowers as producing the fits so that possibly a volatile agent may be the cause. As to the nature of the disease being eventually discovered to be parasitic the bacteriological examination of the nasal mucus performed at the Hamburg Hygienic

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[1] THE LANCET May 31st 1902, p 1563.

Institute showed a white staphylococcus, which was present in hay fever patients exclusively, this staphylococcus accordingly was inoculated on the mucous membrane of some medical men who agreed to this experiment but the results were negative Concerning the local disposition it was found that the majority of patients previously to their having caught the disease had suffered from catarrhal affections of the nose and the respiratory organs and that a great irritability of the olfactory organs was present. As to the general disposition it has been known for a long time that peasants though very much exposed to the above-mentioned alleged exciting causes are seldom attacked, while inhabitants of the great towns often are. As a rule the patients belong to the upper classes and those engaged in mental work are specially liable. Dr Thost's statistics, indeed, show that a great number of patients belong to learned professions Sometimes the first fit occurred immediately after a great mental strain or over exertion, sometimes as a sequel to some exhausting disease, such as scarlet fever or diphtheria. Gout, which in England is alleged to be connected with hay fever, was found to be present in 30 out of 400 cases only Hay fever having increased during the last years Dr Thost suggests that there may be eventually a connexion with influenza, this suggestion being confirmed by the fact that 187 of the patients had suffered from this disease As to the symptoms the statistical research showed that 266 patients were affected with real asthmatic fits, 134 with catarrhal symptoms only, and that about 75 per cent besides complained of general uneasiness Dr Thost finally gives a report of the therapeutic measures and states that there is no safe cure for the disease in every case, the Hay Fever League recommends snuffing tobacco, some cases were benefited by cauterisation of the nasal mucosa, others by the local application of narcotic compounds, others by the administration of iodine, quinine, &c There exists only one remedy against hay fever—namely, the stay in a place without vegetation, for Germany the island of Heligoland where members of the league are accustomed to stay in the spring, is especially suitable

The Struggle against Venereal Diseases

As already announced in these columns[1] a German Society for the Repression of Venereal Disease is in course of formation A provisional committee, consisting of Dr Blaschko of Berlin, *Professor Neisser of Breslau*, Professor Lesser of Berlin, Dr Galswoky of Dresden, Professor Wolff of Strasburg, and Professor Kirchner of Berlin, has issued letters to the medical profession, to the committees of sick clubs, philanthropic societies, insurance companies, &c, to invite them to become members and to make known the objects of the society The letter is signed by the above executive committee and also by about 200 medical men and others and even by some philanthropic ladies It is said in the letter that tuberculosis, alcoholism, and syphilis are the three scourges of the human race, tuberculosis and alcoholism have begun to be combated on a large scale by the united efforts of both medical and lay circles, as to syphilis nothing of the kind hitherto has been done The result is that the frequency of venereal diseases, their dangers, their spread, and the means of prophylaxis, are unknown to all except the medical profession Besides, mistaken ideas of modesty oppose public discussion of these questions and any enlightenment of people and thus aid the spread of syphilis Although the total abolishment of prostitution is not possible at present, there is nevertheless a good deal to be done in diminishing the injury done to the health of the entire nation by this plague The new society will follow the example of, and be in connexion with, the Société Internationale de Prophylaxie Sanitaire et Morale founded in 1899 at Brussels It will try to gain as many members as possible from all classes of society and public meetings will be held, addresses delivered, and popular essays distributed concerning sexual hygiene, moreover, the society will try to induce the Government and Parliament to alter the laws on prostitution, on the exclusion of venereal patients from relief by sick clubs, &c The meeting to constitute the society will be convoked this autumn at Berlin

Statistics of the Prussian Universities

At the 10 universities of Prussia 17,880 students have matriculated for the summer semester Berlin has 5676, Bonn 2091, Breslau 1827, Halle 1727, Göttingen 1371, Marburg 1362, Kiel 1156 Königsberg 968, Münster 877, and Greifswald 825 students The greatest number (7679) belong to the philosophical faculty, next comes the legal faculty with 5053, the medical faculty with 2928, and the theological faculties (both the Protestant and Roman Catholic) with 1289 and 941 students respectively The medical students are distributed as follows Berlin, 1018, Kiel, 439, Greifswald, 237, Bonn, 235, Breslau, 228, Marburg, 210, Königsberg, 201, Halle, 198, and Göttingen, 162. 657 ladies are admitted to the lectures at the universities, their regular matriculation being at present impossible under the university by-laws of Prussia In Berlin there are 370, in Bonn 106, in Breslau 65, in Göttingen 38, in Königsberg 36, in Halle 28, in Kiel 10, and in Marburg 4 lady students respectively The number of foreign students is 1440, of whom 888 are matriculated at Berlin, 162 at Halle, 89 at Göttingen, 88 at Marburg, 67 at Bonn, 62 at Königsberg, 47 at Breslau, 25 at Greifswald, and 16 at Kiel Of the 888 foreigners of Berlin University 323 are Russian, 102 Austrian, 66 Swiss, 47 Hungarian, 36 British, 20 Bulgarian, 17 French and Roumanian respectively, 15 Italian, 15 Scandinavian, 15 Greek, 14 Servian, 11 Turkish, 10 Luxemburgian, 7 Dutch and Belgian respectively, 3 Spanish, and 2 Danish, 103 come from America, 52 from Asia, 2 from Australia, and 1 from Africa.

Dues payable to the Medical Chambers

The law empowering the medical chambers to impose certain dues on the medical men of each district does not commend itself to those members of the profession who are not engaged in practice but devote themselves exclusively to scientific pursuits It will be remembered[1] that some months ago the medical men holding appointments in the laboratories and other scientific departments of the University of Berlin petitioned their medical chamber to exempt them from this taxation, but their petition was unanimously rejected Another class of medical men who complain loudly of the taxation are those who, being qualified practitioners, have either taken up some other profession or else live on their income without engaging in practice The law makes no provision for their exemption either from taxation or from the jurisdiction of the courts of honour, so that it is within the limits of possibility that a man who holds a qualification to practise medicine b nevertheless follows some totally different occupation ma become answerable to the court of honour of his district f some act that he has committed Such a case, it is tru has not yet occurred in actual fact, but if it did th medical chambers might find themselves in the dilemm of having to adjudicate upon questions with whic they had no competent acquaintance A discussion too place recently in the Prussian Herrenhaus (House of Lord relative to the liability of holders of medical qualifications t pay dues to the medical chambers in the cases where suc qualifications were to all intents and purposes inoperati through their holders not practising It was introduced b Dr Freiherr von Lucius, the holder of a medical qualifica tion and formerly Minister of Agriculture, he proposed a alteration in the law relative to the medical chambe so that only medical men in actual practice shoul be required to pay dues, and that only incomes derive from medical practice and not from other sources shoul be liable to assessment. The Minister of Educatio whose department includes matters bearing on the medic profession, remarked on the inadvisability of making alter tions in a statute of such recent date, but said that th provincial authorities who have the supervision of the medic chambers had been requested to induce the chambers grant a reduction of 50 per cent on the dues payable b holders of qualifications who are not engaged in practic The periodical press, both medical and non medical, have this connexion directed attention to the fact that the la contains no provision by virtue of which the holder of medical qualification can succeed in divesting himself of th position and responsibilities of a member of the medical pr fession In the legal profession the case is otherwise, for lawyer is at liberty to make a declaration that he no long desires to remain on the register, and on the removal of h name from the register he ceases to come under the jurisdi tion of the legal chamber An alteration in this sense obviously required in the laws affecting the medical pr fession

June 30th

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[1] THE LANCET, May 24th, 1902, p 1505

[1] THE LANCET Jan 25th 1902, p 268

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

Spitting in the Street and Public Places Forbidden.

THE New York City Board of Health has amended its gulations so that spitting upon the side walks and upon e floors of public buildings, the halls of tenement houses otels and lodging houses theatres, halls, and other places r buildings in which there are public assemblages and upon e station platforms or stairs of elevated or steam railroads rry houses, or ferry boats, is now unlawful. This action as taken as the result of a communication from Dr erman H. Biggs, the medical officer who says that he elieves that the time has now arrived when the pro isions of this section should be extended so as to nclude side-walks halls of tenement houses stations, nd platforms of steam railroads and all other build gs in which there are public assemblages He asserts hat the grave feature of this pollution of public places of sembly and public conveyances is the inevitable transporta on of this always objectionable and frequently dangerous aterial on the footwear and on the clothing and particu rly the skirts of women into private houses where in the bsence of the most perfect system of ventilation and cleans ng it is a constant menace to the welfare of the occupants hose attempts to maintain salubrious conditions in their homes are rendered in an important particular futile through e vicious practices of others in public places.

Enforcing Payment for Medical Services to Patients in Hospitals

Dr George R. Fowler of Brooklyn who is attached to the rooklyn Seney and German hospitals in the capacity of hief visiting surgeon has brought suit against a number of ersons who have received professional services at his hands nd who have refused to pay on the ground that they are harity patients This suit is brought with the hope that it ay bring to a stop the alleged imposing upon physicians nd hospitals by persons who are able to pay for their treat ent. Dr Fowler says that these are test cases by which he opes to vindicate a principle that is abused in every hospital. or years certain persons have imposed upon physicians and ospitals by claiming that they are too poor to pay for angerous and skilful operations The practice became so eneral that he commenced an investigation and found that he suspicions were correct feeling that his professional ervices and skill were worth something he remitted bills to hose whom he found well able to pay and in some of these ases the life of the patient had been saved. He also felt hat the profession at large ought to put a stop to this system he imposition upon them by a class of people posing as oo poor to pay for benefits received, many of these proved o be far better off than those unfortunate people for whom he hospitals are maintained in their free departments. hese suits have been sustained by the courts

The Value of the Identification of Criminals.

The Bertillon system of identifying criminals as used in the tate prisons of New York is shown by Mr C. V Collins, uperintendent of State prisons in his last annual report. As n aid to its maturely framed system of prison administration nd criminal supervision the State *established in 1888,* and till maintains, a Bertillon *system of identification* of riminals which is the largest in America and is undoubtedly the most perfectly equipped one in the world. This bureau contains 43,000 cards, each representing a criminal who has been confined in one of the penal institutions in this State at some period since 1896. It also contains 1289 cards received from the penal institutions of other States during the year just passed Since September 1900 it has been the central bureau both for the penal institutions of the State and for those also of 17 other States and of Canada It is believed that the records of a majority of the persistent criminals of this State are now on file in this bureau, and as the cards from other States increase in number the scope of observation and detection will be gradually enlarged, and in the course of a few years the bureau will be in a position to furnish the records of nearly all of the professional criminals on this continent. The State is not, however, receiving the full benefit which it might from this bureau, because few of the police departments of our cities and none of the county sheriffs have the equipment necessary for measuring photographing and describing criminals arrested by them. The efficiency of the system is shown by the fact that by its use 2438 criminals have been identified in the five years that it has been in operation in the State of New York.

The American Congress on Tuberculosis

The third annual meeting of the American Congress of Tuberculosis and the Medico Legal Society was held on June 2nd 3rd, and 4th at the Hotel Majestic, New York City A large number of delegates were present from the United States, as well as representatives of Canada, Mexico, and Central and South America The Government of the United States was represented by officers of the army navy, and Marine Hospital Service. The presidential address was delivered by Dr Henry D Holton of Vermont. The first discussion was on 'Preventive Legislation and a motion was adopted declaring it to be the duty of every government municipality and individual citizen to adopt organised measures for lessening the spread of a disease which was causing directly or indirectly probably one-fifth of the total deaths in almost every country of the world. Dr L. L. Kinyoun opened the discussion on Bacteriology and Pathology and expressed the belief that bovine and human tuberculosis were interchangeable He said that notwithstanding the long years of bacteriological research no serum had been discovered which would neutralise the tubercle bacillus and the disinfection of the patient's surroundings remained the most important precaution. Dr H Edwin Lewis read a paper on the Importance of Individual Predisposition in the Development of Tuberculosis. He disagreed to some extent with the views expressed by Dr Kinyoun and pointed out that attendants in tuberculous hospitals rarely contracted the disease through infection. He was of the opinion that personal resistance to the bacillus was to be strengthened by better habits of living rather than by sanitary *precautions* Dr William S. Macgill of the Carnegie Laboratory asserted that the popular belief that bacterial virulence was the chief cause of tuberculosis was an error The present contradictory state of opinion he attributed to the unsatisfactory results of laboratory experiment, which had been directed toward the destruction of tubercle bacillus while the true cause of tuberculosis seemed to be a higher form of micro-organism The closing session of the meeting was the most instructive and interesting The subject discussed was the Veterinary Aspects of Tuberculosis. Dr Adami the well known Professor of Pathology at McGill University Montreal opened the discussion in a very eloquent speech the first part of which dealt with tuberculosis of cattle from a commercial standpoint. He said "Is the existence of tuberculosis among livestock a menace to that industry in this country? Undoubtedly it is and that not so much because here in America the herds are already extensively affected as because of its great tendency to spread. Nevertheless in the Eastern States its ravages are already serious enough With cattle as with man it may be laid down that the more the existence is indoors the less life is led in the open air the more susceptible are the individuals to this disease There have been numerous instances in the Eastern States in which every member of a dairy herd has been found to be a victim of tuberculosis. On the other hand the Western ranch herds which live almost entirely if not wholly, in the open *are with rare exceptions exempt. It may be asked why if bovine tuberculosis has been known for centuries* it is only of late that it has spread to such an alarming extent The answer would seem clearly to be that the spread is coincident with the greater development of the cattle industry and especially of the ease of transportation. In the old days the movement of cattle was as nothing compared to what it has become during the past 70 years it is the frequent interchange of beasts and frequent introduction of new and tainted animals into the herds that has wrought the damage, a subsidiary influence being undoubtedly the general attempt to improve the milk giving qualities by the introduction of highly bred and at the same time highly susceptible animals. It is to the commercial and monetary significance of this spread that I would specially draw attention. Affecting the livestock and industry it affects what is far and away the greatest industry of the country Only two-fifths of the population of the United States live in towns of 25,000 inhabitants or more than three-fifths gain their living from the soil. The invested capital in the live stock industry exceeds that of any other in this country What I wish you to consider is the enormous loss that would accrue to this country with its millions of cattle if only 1 per cent. of the animals slaughtered were the victims of advanced tuberculosis" The prospective loss is so great that this is immediately seen to be a national concern. Professor Adami thinks that the time to act is before the disease gets "out of hand", he is of the opinion that everything points to the fact that taken in time the eradication of tuberculosis from a herd or from a district need not be a costly matter either for the individual or for the community More particularly, he says, the employment of Bang's method of isolation of reacting animals affords us a means of rendering a herd wholly free from disease in the course of from three to five years Dr Adami's views expressed the general attitude of the congress

June 22nd

Obituary.

JOHN WICHENFORD WASHBOURN, C M G , M D , F R C P LOND , F R C S ENG ,

PHYSICIAN TO GUY'S HOSPITAL AND TO THE LONDON FEVER HOSPITAL.

DR. JOHN WICHENFORD WASHBOURN, C M G , who died at Tunbridge Wells on June 20th, was the younger son of the late William Washbourn of Gloucester and traced his descent through the Washbourns of Washborne and Wichenford, Worcestershire, to the Sir Roger Washbourn mentioned by the Heralds in their Visitation of Worcestershire in 1370 After a long and arduous winter's work, during which every spare moment was devoted to experimental research in preparation for the Croonian lectures of the Royal College of Physicians of London (which he was to have delivered this month), Dr Washbourn was seized with an attack of influenza which at first appeared to be no more serious than any of the many mild attacks from which he had suffered in recent years, and, in fact, at the end of a week, throughout which he had pursued his usual occupations, he expressed himself as almost well. At this stage, however, a sudden rigor warned him of the necessity for caution He at once took to bed and some 10 days later a collection of serous fluid was removed from the right pleural cavity—a proceeding which was twice repeated At one time he appeared to be gaining ground, but the improvement was transitory, and about ten weeks from the commencement of his illness it was decided to try the effect of change He was accordingly removed to Tunbridge Wells, but a week later the diagnosis of miliary tuberculosis was made, which disease proved fatal in another fortnight, just two days before his thirty-ninth birthday

Born at Gloucester in 1863, he was educated at King's College Gloucester, Guy's Hospital, the University of Vienna, and the University of Königsberg His student career at Guy's from his entry in 1880 was an exceptionally brilliant one, his enthusiasm for the profession he had adopted and his boundless capacity for work at once marking him as a student of the highest promise. At the Intermediate M B examination of the London University in 1883 he gained the gold medal and exhibition in chemistry, and at the Final M B examination in 1886 the University scholarship and medal in medicine and the gold medal in forensic medicine, together with honours in the B S He took the Membership of the Royal College of Surgeons of England in 1885 and the Fellowship in 1888 , the Membership of the Royal College of Physicians of London followed in 1889 and he was elected to the Fellowship in 1894 In 1888 he was appointed demonstrator of anatomy at Guy's Hospital, in 1889 assistant physician to the London Fever Hospital, in 1890 assistant physician to Guy's Hospital to the duties of which was added the charge of the electrical department, full physician to the London Fever Hospital in 1892, and joint lecturer in Physiology to Guy's Hospital in 1891. In 1890 he instituted and organised the bacteriological department of Guy's Hospital, to which he was appointed lecturer in 1898 He married, in 1893, *Nellie Florence, daughter* of the late Mr William Freeland Card, of Greenwich Hospital School , a year later, however, he sustained a heavy blow in the death of his wife, leaving him with an infant daughter In February, 1900, he proceeded to South Africa, and from that date to June, 1901, he was consulting physician to the Imperial Yeomanry Hospital, first at Deelfontein and afterwards at Pretoria. He was gazetted C M G in 1900, and consulting physician to His Majesty's forces in South Africa in 1901. Immediately after his *return from South Africa* he filled the presidential chair in the Section of Pathology and Bacteriology at the annual meeting of the British Medical Association, and his opening address, dealing in a masterly manner with the infective diseases prevalent in the South African army will be fresh in the memory of all who were present on that occasion

During the last five or six years Dr Washbourn was actively engaged in consulting work, and although the success which he had already attained augured well for the future, still he was perhaps more widely known by his brilliant work as a bacteriologist. In the early part of 1888 he worked under Professor von Baumgarten in the University of Königsberg, and in 1890 he commenced, in association with Professor Gruber of Vienna, those exact researches into the etiology and pathology of pneumonia which were carried on uninterruptedly until the commencement of his fatal illness and which have rendered his name familiar throughout the scientific world. His contributions to the life history of the pneumococcus, either alone or in conjunction with workers trained by himself and enlisted in the work, were many and important, the chief of which were an examination of the varieties of the diplococcus pneumoniæ and the evolution of an extremely ingenious method of accurately estimating their virulence , whilst as the result of his work in this direction he was enabled, after many unsuccessful attempts, to obtain from horses an anti-pneumococcic serum of such high potency that he was encouraged to employ it therapeutically in the treatment of cases of acute pneumonia. He recorded the results in the *British Medical Journal*, February, 1897, some months before Pané of Naples independently published details of an anti-pneumococcic serum prepared from donkeys and goats., Although the result of the therapeutic use of Washbourn's anti pneumococcic serum was not an unqualified success, it was so encouraging that we have no hesitation in saying that his death materially delays the advent of a potent remedial agent in pneumonic processes But his work was by no means confined to this one subject. On the introduction of anti diphtheritic serum he at once commenced an investigation into its clinical applications and the communication of his results to the Clinical Society of London in 1894 (in conjunction with Dr E W Goodall and Mr A. H. Card) drew from the presidential chair a warm commendation of their value and helpfulness, and there is no doubt did much to encourage the employment of the antitoxin in cases of diphtheria

In the field of preventive medicine Washbourn will be chiefly remembered on account of the part which he played in the elucidation of the causation of the Maidstone typhoid fever epidemic of 1897, when he was called in to advise the local authorities The result of his bacteriological examinations of the various sources of the local water supply and the inferences which he drew therefrom, proved beyond doubt that the pollution had occurred in the Tutsham in Field spring , and that the action taken by the local authorities upon his recommendation was fully justified was borne out by the result no less than by the verdict of the subsequent Local Government Board inquiry Washbourn was an ideal research worker, possessed of an infinite capacity for taking pains and a keenly critical appreciation of the relative value of his results, tempered with a healthy scepticism which refused to believe even the apparently obvious until the *accumulation of confirmatory proof* became so strong as to render that attitude of disbelief no longer tenable As a result his work has stood and will continue to stand , in no single instance has Washbourn been forced to contradict or to modify any of the statements or views that he had once put forward. As a teacher and lecturer he has left his mark upon each of the *departments of Guy's* Hospital and its medical school with which he has been successively connected The anatomical, physiological, and bacteriological departments of the school and the wards and electrical department of the hospital have all benefited by his powers of organisation and his keen insight into the requirements and the needs of the present-day medical student He was deservedly popular with his colleagues and equally so with the students, with whom his interest in their sports and amusements created another strong bond of fellowship As a man he was a staunch friend and a strong partisan, and *at the same time* a fair and considerate opponent. In the field of controversy as in social life, he commanded the respect and esteem of all his fellows, whilst in those with whom he was brought in contact in daily life his personal characteristics and utter neglect of self inspired an affectionate regard and love which makes each one look upon his death as causing a heavy personal bereavement. His opinion and advice were constantly being sought by all who knew him and it may be said truthfully that none went empty away: sound practical advice and kindly words of encouragement tiding many a man over some critical period. His death will be most keenly felt, not only amongst those who knew him best, but throughout the entire world of medicine and science. That so brilliant a career and one so full of the brightest promise should have been cut short at the early age of 39 years hardly seems in accordance with the eternal fitness of things, but those who are left behind to mourn that loss can have no higher ideal than the attempt to attain the high standard of personal and intellectual rectitude which he has set.

PROFESSOR ADOLF KUSSMAUL.

OUR Berlin correspondent writes:—Professor Adolf Kussmaul, who died not long ago at Heidelberg, was the oldest and one of the most celebrated clinical teachers of Germany. Although it is now some years since he retired from his official duties on the ground of his advanced age (he was more than 80 years old) he nevertheless continued to work up to the very close of his life through unwillingness to disappoint the numerous applicants for his advice. Professor Kussmaul's career presented some unusual features. His early life has been admirably described by himself in his interesting work, "Jugenderrinnerungen eines Alten Aerztes" ("Memoirs of an Old Physician"), a book valuable for the accounts which it gives of the university and medical life of that day. The son of a country practitioner whose family connexions were of the peasant class he early in life became acquainted with the hardships of country practice but was not thereby deterred from following in his father's steps. While a student at Heidelberg University he published a physiological prize essay, its subject being the Sensibility of the Retina. At that time the importance of pathological anatomy was beginning to be understood by the medical profession and on the completion of his curriculum Kussmaul attended the lectures of Professor von Rokitansky in Vienna and Professor Oppolzer in Prague. On his return home he became a surgeon in the Baden army and when he retired from the service in 1849 he settled as a country practitioner in the little village of Kandern in the Baden highlands. The work in this mountainous district was carried on under considerable difficulties for some years, until in 1854 he contracted spinal meningitis with total paralysis of the lower extremities, the cause of the attack probably being over-exertion. He fortunately recovered although his symptoms were for a time most critical, but he felt himself unequal to the fatigues of country practice. He was now 32 years of age and was, of course, qualified as a practitioner, but he made up his mind to resume medical study and matriculated as a student at Würzburg University with the view of increasing the knowledge of pathological anatomy which he had acquired in Vienna and Prague. Two of his teachers at Würzburg—namely, Professor Virchow and Professor Kölliker—are still alive. A year later he took the degree of M.D. at Würzburg University and in 1856 he returned to Heidelberg where he was recognised as a *privat docent*. In 1857 he was promoted to be extraordinary professor and in 1859 he was appointed ordinary professor at the University of Erlangen. In 1863 he left Erlangen for Freiburg and remained there until 1876, when he was invited to fill the chair of clinical medicine at Strassburg University in succession to Professor von Leyden. His practice as a consultant was very extensive in Freiburg and was increased in Strassburg. During this period he published the results of his scientific researches in a great many books and essays. In 1888 he resigned his appointment and retired to Heidelberg where he spent the remainder of his life and where last winter his eightieth birthday was celebrated with much enthusiasm by members of the university, his professional brethren, many of his patients, and the townspeople in general. The municipality of Heidelberg presented him with the freedom of the city, the Grand Duke of Baden granted him the title of Real Privy Councillor, and many other honours were conferred on him. The wide range of his knowledge enabled him to work in almost every branch of medicine. In general pathology he published essays on the influence of the circulation on the temperature of the ear in rabbits and on the origin of epileptoid convulsions in acute anæmia. Pathological anatomy was represented by his works on congenital anomalies of the uterus and on post-mortem rigidity. His principal works in clinical medicine were "On the Treatment of Dilatation of the Stomach by means of the Stomach-pump" and "On Paracentesis in Pleurisy." His essay "On the Psychology of Newly-born Children" and his well-known treatise "On Disorders of Speech" belong to neurology. Professor Kussmaul was of a kindly and amiable disposition which gained him many friends and has caused his death to be widely regretted.

THOMAS JAMES WOODHOUSE, M.D. LOND., F.R.C.S. ENG.

PUTNEY has recently lost through death a highly esteemed inhabitant in the person of Dr. Thomas James Woodhouse of Amboise, Rusholme-road, Putney. The deceased was well known in the parish and was greatly respected by all who came in contact with him, while to those who were closely associated with him he proved a valued and never-failing friend. He died on June 11th after a short illness extending over only a few days. He commenced his career as a student at St. Thomas's Hospital and in 1865 graduated M.D. of London, having in 1860 obtained the diploma of F.R.C.S. Eng. He bought a practice at Fulham where he lived at Ranelagh Lodge for several years. He was greatly interested in archæological subjects and assisted in the restoration of Fulham Church. In 1864 he wrote a book on the epitaphs within and without Fulham Church and also prepared a paper on the monuments and tombs there. This he read at a meeting of the British Archæological Society of which he was a member. Subsequently Dr. Woodhouse removed to Putney where he continued to live until the time of his death. He held the appointment of medical officer at the Royal Hospital for Incurables, Putney Heath, a position which he retained for 36 years. He retired from the post on Jan. 1st, 1902, when he was the recipient of an illustrated address bearing the following dedication: "Presented to Thomas James Woodhouse from the patients of the Royal Hospital for Incurables, Putney Heath, on his retiring from the institution after 36 years of faithful service." The inmates also presented Dr. Woodhouse with a gold watch as a mark of their appreciation of his talent and kindly disposition.

The first part of the burial office was sung at Holy Trinity Church, West Hill, Putney, on June 17th. The officiating clergy were the Rev. J. A. Webb and the Rev. C. H. Venning (of Gospel Oak). There was a large congregation and amongst those present were Mrs. Lenicke (matron of the hospital), the staff, and 17 patients in chairs. The chief mourners were Mr. Sidney Woodhouse, Mr. and Mrs. Vernon Woodhouse, and Mr. Haward Chaplain. The following gentlemen were present to represent the hospital: Colonel Holland, Mr. John Gay, the medical officer, Mr. Fox, Mr. Bellamy, and Mr. W. D. Newton. The body was then taken to the Putney Cemetery, Barnes Common, for interment, the prayers of committal being said by the Rev. C. H. Venning.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the congregations on June 12th and 17th the following were admitted to medical and surgical degrees:—

Doctor of Medicine.—C. K. Williamson, Trinity; W. B. Winton, Clare; and J. N. Gardiner, Trinity Hall.

Bachelor of Medicine and Bachelor of Surgery.—A. J. Smey, King's; H. V. Pryce, St. John's; H. R. Mayo, Caius; F. W. Hardy and G. H. L. Whale, Jesus; B. L. T. Barnett, St. John's; J. Barnicot, Pembroke; and H. H. Stiff, Caius.

Bachelor of Medicine.—J. L. H. Snell, Caius; H. C. Brown, Emmanuel; G. H. Sedgwick, Sidney Sussex; R. Gordon-Smith, Trinity; B. Spearman and R. Spearman, Caius; and F. L. Shipway, Christ's.

Bachelor of Surgery.—F. Sanger, St. John's; and G. T. Barham and F. G. Bowen, Caius.

Dr. E. Laming Evans, M.A., Trinity, has been awarded the

Raymond Horton-Smith prize for the best M D thesis of the year —Dr W H R Rivers, St. John's, has been reappointed University Lecturer in Physiological and Experimental Psychology —Dr D MacAlister, St John's, has been appointed Assessor to the Regius Professor of Physic

UNIVERSITY OF DUBLIN TRINITY COLLEGE —At examinations held at the School of Physic, Trinity term, the following candidates were successful —

Final Examination Section 4 —Michael J M Auliffe Henry Stokes Herbert Stone Douglas B Thomson, Thomas C A Sweetnam, Harold T Marrable Philip S Stewart Frederick W Bury, James F F Walsh Cecil J Wyatt Thomas King Edwards, George S Walton, and Thomas Ryan

FOREIGN UNIVERSITY INTELLIGENCE —*Basle* Dr Wilhelm His, jun , of Dresden, and formerly of Leipsic, has been offered the chair of Medicine His father, the well known professor of anatomy in Leipsic, was for some years on the staff of the Basle Medical Faculty —*Bordeaux* Dr Le Dantec has been appointed to the chair of Tropical Medicine.—*Gottingen* The Senate has decided to refuse the right of matriculation to female students —*Heidelberg* Dr F Marschall has been recognised as *privat docent* of Hygiene and Dr R. H Weber as *privat docent* of Physiology —*Leipsic* Dr Riecke has now been recognised as *privat docent* of Dermatology —*Odessa* Dr P Borisoff has been appointed Professor of Pharmacology , Dr V Masen, Professor of Midwifery and Gynæcology , Dr M Mikhailoff, Professor of Special Pathology and Therapeutics , and Dr Szapjeshko, Extraordinary Professor of Surgery —*Paris* Professor Fournier, the well known syphilologist, is about to retire as he is in his seventieth year His successor will be Hallopeau.—*Strasburg* Dr A. Stolz has been recognised as *privat docent* of Surgery

ANDERSON'S COLLEGE MEDICAL SCHOOL, GLASGOW —The summer session has just closed. It was curtailed by a few days owing to the general arrangements for the Coronation festivities which unhappily were postponed. The number of students matriculated was much the same as that of previous summer sessions and the work performed in the various departments of the school was highly satisfactory to teachers and students alike

THE HEALTH OF LEICESTER —Dr C K Millard, medical officer of health of the borough of Leicester, in his report for 1901, just issued, says that undoubtedly the most satisfactory feature of the year's statistics is the exceptionally low rate of mortality—viz , 15 71. This is the lowest on record for the borough with the exception of that for the year 1894 During 1901 the number of marriages solemnised was 1825, equal to a marriage-rate of 17 17 per 1000 The number of births registered during the year was 6169 This is 38 less than in the previous year and 50 less than the average of the previous five years , 3132 of the births were males and 3037 were females The birth rate was equal to 29 03 per 1000 of the population The following are the birth rates for the previous five years —1896, 32 0 , 1897, 31 63 , 1898, 30 56 , 1899, 30 61 , 1900, 29 75 , and 1901, 29 03 "It appears, therefore," says Dr Millard, "that owing to the continued decrease in the birth rate and in spite of the increasing population the actual number of children born annually has not only ceased to increase but is actually beginning to decrease. This has already been the case for some years in several of the other great towns—notably, in Derby and Huddersfield " The number of illegitimate births in the borough during 1901 was 210, equal to 3 4 per cent. of the total births The total number of deaths registered during the year was 3373, but only 3338 were of residents of Leicester—1701 males and 1637 females Of these, 1098 were of infants under one year of age, giving an infant death rate of 177 9 per 1000 births. The average for the previous 10 years is 195 4 The infantile mortality, adds Dr Millard, is rightly regarded as an important index of the sanitary condition of a locality Unfortunately, in Leicester the rate is unduly high owing to the heavy mortality caused by diarrhœa, and if the deaths registered as due to diarrhœa and enteritis be excluded the infant mortality for Leicester for last year would have been but 129 Under the heading of zymotic diseases Dr Millard's report contains the following in reference to the 'Leicester system" of dealing with small pox "'The Leicester experiment' has now been tried too long and been attended with too great success for it to be entirely ignored in considering the question of the necessity for compulsory vaccination. At the same time nothing that have seen so far has in any way affected my belief ha vaccination and revaccination, repeated when necessary will confer complete protection against small pox Indeed I regard this as not merely a matter of belief but as on capable of absolute scientific demonstration."

HOSPITAL SATURDAY FUND AT EXETER —At th meeting of the committee of the Exeter Hospital Saturda Fund held on June 24th it was reported that the tota amount collected last year amounted to £711. It wa decided to distribute £633 amongst the different medica charities of Exeter Sept 27th is to be observed a Hospital Saturday this year

THE LATE MR A WADE —Mr Arthur Wad died at his residence, Melbourne, Boscastle, Cornwall, o June 27th, in his eighty second year He received hi medical education at University College Hospital, London taking the diplomas of M R C S Eng in 1843 and L S A. i 1871 The deceased had been for many years in practice a Boscastle, where he was formerly medical officer of health district medical officer, and public vaccinator, but recently h had retired from active work. Mr Wade was a justice o the peace for the county of Cornwall. He was of a genia and kindly manner and was very popular in Boscastle and the surrounding district.

THE AMENITIES OF NATIONS —England's lates ally in the Far East has in many ways convinced th continents of the world that she is rapidly levelling up t the highest standards of national progress and well being, and an instance of the enlightenment of our Japanes allies is afforded us by a well-designed card we hav received from Messrs Z P Maruya and Co of Tokyo Japan, offering their congratulations on the coronation o His Majesty the King and their sincere wishes for the continued prosperity of the British Empire Although the unforeseen happened, none the less the friendly spirit is manifested and is worthy of record We thank our Japanes friends and reciprocate their greetings

SMALL-POX IN CAMBRIDGE —During the recent epidemic of small pox in Cambridge a patient suffering from the hæmorrhagic form of the disease was admitted into th Infectious Diseases Hospital as a case of scarlet fever D E Lloyd Jones of Cambridge thereupon wrote or communicated statements to the public press which reflected serious upon Dr B Anningson, the medical officer of health, an "the medical attendant at the sanatorium " Dr Anningso having proved to Dr Jones that his statements were unfounded, Dr Jones wrote the following letter to the *Cambridge Daily News* of June 23rd The apology, if somewha belated, is at least full

To the Editor the *Cambridge Daily News*

SIR —With regard to the letter that I wrote to your paper o March 7th, 11th, 14th and 21st, I wish to state that the medical office for the borough has since given me ample and satisfactory explanatio upon the matters therein criticised

I should now like to express publicly my regret at having hastily written on inadequate information in the way I did and I am glad t say that it was not in any way whatsoever my intention to throw discredit upon the action and conduct of Dr Anningson

Yours etc
E LLOYD JONES

VACCINATION EXPENDITURE —At the meeting o the Bideford Board of Guardians held on June 24th a discussion took place with regard to the vaccination expenditure. Some of the guardians expressed astonishment that a numbe of persons in good positions and living within a quarter of a mile of the public vaccinator's house should have sent fo him to revaccinate themselves and their servants at their own residences, and they inquired whether voters would not on this account be debarred from voting at the next election Mr Preston Thomas, Local Government Board inspector, thereupon explained that vaccination was not Poor law relief, that it did not entail any disabilities, and that anyone was entitled to demand vaccination at the public expense The public vaccinator, however, was not entitled to go to a house to revaccinate people there unless they had previously sent for him —At the meeting of the Axminster (Devon) Board of Guardians held on June 19th it was reported that the Admiralty had refused to pay for the revaccination of the wives and children of the coastguard at Axmouth.—At the meeting of the Torrington (Devon) Board of Guardians held on June 14th the clerk in answer to inquiries stated that the publication of the names on the vaccination register would probably lead to difficulties and added that any reporter publishing the names might be made answerable for doing so. Eventually the guardians resolved that the consideration of the vaccination register should take place in committee.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ELECTION OF MEMBERS OF COUNCIL.

THE fourteenth election of Fellows to fill the vacancies in the Council of the College under the new regulations was held at the College, Lincoln s Inn Fields on Thursday July 3rd between 1 30 and 4 30 P M

The result of the voting was as follows —

	Votes	Plumpers
MR H MARSH	415	7
MR. J H MORGAN	393	30
MR. H H. CLUTTON	311	31
MR. C W MANSELL MOULLIN	293	54
MR JORDAN LLOYD	241	9
MR J BLAND-SUTTON	228	14
SIR WILLIAM H BENNETT	205	4
MR. CLINTON T DENT	85	0

Mr. Marsh is therefore, re-elected Mr Morgan Mr Clutton and Mr Mansell Moullin are elected members of the Council

743 Fellows voted 19 personally and 724 through the post 6 proxies arrived too late.

Parliamentary Intelligence

NOTES ON CURRENT TOPICS

Plumbers' Registration Bill.

THIS Bill after having passed through the House of Lords, has been dropped. In the House of Commons it never got beyond the stage of introduction

Proposed Registration of Motor Cars

A Bill has been introduced in the House of Commons by Mr Scott Montagu for the registration of motor cars and for the amendment of the law as to the speed at which these vehicles may run

London Water Bill.

Members of the House of Commons have now before them the report of the Joint Committee on the London Water Bill and in view of the consideration of the measure in committee of the whole House they have prepared a long list of amendments. There is every prospect of the stage being a protracted one.

The Sale of Butterine

Mr Hanbury has undertaken to make several alterations in his Bill with respect to the sale of butterine Generally speaking what the Bill does is to apply to this article the provisions of the Sale of Food and Drugs Acts relating to margarine. It defines butterine as butter to which any substance has been added whereby the amount of water in the butter is increased and to this definition Mr Hanbury proposes to add these words: and any water in excess of the proportion prescribed by the regulations in force for the time being under Section 4 of the Sale of Food and Drugs Act 1899 which shall be found in any butter or butterine sold or exposed or offered for sale shall be deemed to be due to the addition of such substance unless the vendor shall prove that it is due to the ordinary process of butter making" Mr Hanbury also proposes to exclude Irish salt firkin butter from the scope of the legislation

HOUSE OF COMMONS

MONDAY JUNE 23RD

Public Health Arrangements in Hong-Kong

Mr WEIR asked the Secretary of State for the Colonies if he would state whether the provisions contained in Sections 73 to 80 of the Public Health Ordinance, No 13 of 1901 relative to overcrowding in the city of Hong Kong were enforced, and if so, would he say how many persons had been deputed by the Hong Kong Government to enforce this Public Health Ordinance —Mr CHAMBERLAIN replied The answer to the first part of the question is in the affirmative. In answer to the second part I can only say that the total number of the sanitary staff of the colony is about 140.

Famine in India.

Mr LEAMY asked the Secretary of State for India whether in order to make provision against the prolongation of the present famine in India which began in July 1899 he would consider the advisability of inviting Parliament to make an inquiry into the condition of the people affected by the famine and to ascertain whether more effective means could be employed to deal with it and also to ascertain whether it was possible to take better preventive measures against future famine; and whether he had any official information showing what the supply of food in India had been during the present famine —Lord GEORGE HAMILTON replied: The relief given in India to mitigate the distress to which the honourable gentleman refers has during the last two years, partaken very much of the character of Poor law relief such as prevails in this country; and the numbers in India in receipt of such relief in proportion to the population are much less than those at the present moment in Great Britain receiving similar help The most effective means of dealing with drought in India which is the origin of the distress have been exhaustively inquired into and reported on by the recent Famine Commission, and Railway Commissions are dealing separately with the preventive measures which their respective branches of inquiry suggest I do not propose to order further inquiries During the recent famine the supply of food has proved sufficient.

Medical Officers in the Scottish Crofting Counties

On the motion of Mr WEIR there was ordered a return showing the number of medical officers dismissed by parish councils in each crofting county during each of the seven years 1895-1901 the name of the parish council and the cases in which a cause of dismissal was assigned

WEDNESDAY JUNE 25TH

Hospital Accommodation for Belfast

Mr T W RUSSELL asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that in dealing with special hospitals for small-pox patients the Local Government Board insisted upon the buildings being at least a quarter of a mile from any dwelling house that being the striking distance of the contagion upon which the English authorities acted; and whether he was aware that at Purdysburn county Down where the Corporation of the City of Belfast proposed to erect a temporary small pox hospital, there were inhabited houses, a dairy and a national school within the radius as prescribed in England; whether the sanction of the Local Government Board was required or had been given for the erection of this building; and was he aware that the City of Belfast, although a seaport, was without any small pox or isolation hospital.—Mr WYNDHAM replied: The requirement pointed out in the first paragraph is insisted upon by the English Local Government Board only in the case of small pox hospitals provided out of loans sanctioned by it The sanction of the Irish Department is not required unless in the event of an application for a loan If such an application be made the Board will consider the question in all its bearings The board of guardians maintain an isolation hospital in Belfast in which small pox cases are treated

FRIDAY JUNE 27TH

Grocers Licences

During the consideration of the report stage of the Licensing Bill there was much discussion and an important decision on the proposal to place grocers licences under the control of the local justices like public-house licences In the present state of things grocers licences are issued by the Excise authorities. It was decided that existing licence-holders shall not be required to apply to the justices for a licence but that the justices may refuse renewal in a case where they are satisfied that the licensee has sold surreptitiously under such licence, or has assisted in selling or misrepresenting the nature of the goods sold or has in any other way in the opinion of the magistrates been guilty of misconduct in the conduct of such business.

TUESDAY JULY 1ST

The Ventilation of the House of Commons

Mr WYLIE asked the First Commissioner of Works what steps if any had been taken to improve the ventilation and other sanitary arrangements of the House during the last two months.—Mr AKERS DOUGLAS replied that the Select Committee recently appointed to report on the ventilation of the House was carefully considering the question but had not yet finished its investigations. Most of the improvements in the committee rooms &c. for which provision was made in this year s vote had been carried out but the completion of the work had not been practicable while the business of the House had been going on

ROYAL COMMISSION ON ARSENICAL POISONING

THIS Commission held another meeting on Friday June 20th Lord KELVIN presiding

Mr ARTHUR R. LING Fellow of the Institute of Chemistry and Member of the Society of Public Analysts, gave evidence in association with Mr B E. R NEWLANDS Past Vice-President of the Institute of Chemistry He said that in the course of a very large experience with malting fuel they had never met with a sample free from arsenic. To determine arsenic in fuel they had taken advantage of the fact discovered by one of them (Mr Newlands) that when fuel was mixed with a base such a lime or soda and burnt any arsenic it contained was retained with the ash. Their method consisted in burning two portions of the fuel one portion alone and another mixed with an excess of lime or any other convenient base and determining the arsenic in a solution in hydrochloric acid of each of the residues thus obtained by the Marsh Berzelius test. The amount of arsenic found in the residue from the plain fuel represented the fixed arsenic, whilst that found in the residue of the fuel and base was the total arsenic The difference between these two amounts gave the volatile arsenic. This method had, they believed, come into general use and it had been recommended by the Joint Committee of the Society of Chemical Industry and the Society of Public Analysts Welsh anthracite coal was so variable in its composition that it was almost impossible to of anyone who wishes to go out to South Africa for his health, suggesting someone suffering from early phthisis pulmonalis My friends have a vacancy for a gentleman who will have board lodging and laundry free in return for two hours daily tuition of their son a youth aged 17 years in general English knowledge They are loyal Dutch farmers who have suffered severely through the war and are consequently unable to offer any further remuneration than free quarters, &c., in a very comfortable home with fairly liberal table Not knowing of anyone myself to suit their requirements it occurred to me that amongst your readers there might be one who has a patient who would only be too glad to avail himself of such an opportunity If so would he communicate with me when I should be glad to supply any further details I inclose my card

I am Sirs, yours faithfully,

July 1st 1902. M.B

THE LAW FUND

Dr. R Paramore sends us for publication the following letter from the Dowager Lady Jenner widow of the late distinguished President of the Royal College of Physicians of London —

> I enclose a cheque for £5 5s as a contribution to the fund which is being raised to defray Dr Law's costs in the action brought against him by a patient whom he had treated with the greatest attention and kindness I feel sure that my husband if he were living would have willingly subscribed to the fund and would have felt the greatest sympathy for Dr Law

Dr Glover at the meeting held for the purpose of helping Dr Law, referred to the kindness of Sir William Jenner in taking up a case similar to that of Dr Law where a medical man was badly treated He held meetings at his own house and by his influence evoked such practical sympathy that even a larger sum of money was obtained than that required for actual costs The following additional subscriptions have been received by Dr Paramore, 2, Gordon-square, W C Cheques and postal orders should be made payable to the Law Fund" and crossed London and County Bank Holborn —

	£	s	d
The Dowager Lady Jenner widow of the late Sir William Jenner, Bart	5	5	0
Dr W Cyril Haswell	0	3	0
H J H	1	0	0
Mr Francis Richard Gibbs	0	3	0
Mr Charles Gaskell Higginson	2	2	0
Mr Charles Ramsden Salisbury	0	5	0
Mr Charles F Rilot	0	10	6
Mr R. G Gornall and Mr J P J Gornall	1	1	0
Dr Charles Poulett Harris	0	5	0
Dr Geo Granville Bantock	2	2	0
Dr W Armston Vice L D S	0	10	6
Dr Edward Law	2	2	0
Mr Thomas Jackson J P	0	4	0
Dr John Woodman	1	1	0
Dr Wm Muir Crawford Watson ..	1	1	0
Mr John Hargreave Wraith J P	1	1	0
Mr Thomas Wolverson	0	10	6
Mr G Holbrey Hunter	0	10	0
Mr Miles Astman Wood	0	10	0
Dr Robert Edward Burnet Yelf	0	5	0
Dr John Watson	0	10	0
Mr Francis Decimus Woodhouse ..	0	10	0
Dr Jabez Davenport Windle	0	10	6
Mr Fredk Abell Humphry	1	1	0
Dr James Usher Huxley	2	2	0
Dr Edward W Diver	0	5	0
Bear ye one another's burdens	0	10	0
Mr Joseph Darrington Willis	0	10	6
Dr Alfred Tuthill	0	5	0
Mr H Darwin Hey	0	10	6
Mr George Garrard	0	10	6
Dr Morgan Richards	0	10	6
Dr John Price Williams	0	10	6
Mr Horatio P Symonds	0	10	0
Mr Edmund King Houchin	0	10	6
Dr Arthur Edward Wilson	0	10	6
Dr John Marknell Todd	1	1	0
Dr James Henry Hunter	0	5	0
Dr Auburn Wilkinson	0	5	0
Mr Edmund Henry Pettifer ..	0	10	0
Dr John Henry Wood	0	10	0
A small but sincere token of sympathy from N O J	0	5	0
Mr Joseph Henry Waddington	0	5	0
Mr Eustace Maclean Swanwick	0	5	0
Mr Francis W Joynes	0	5	0
Sigma	1	1	0
Mr Henry George Read	0	10	6
Mr Howard Marsh	2	2	0
Dr James Hurd Keeling	1	1	0
Mr John Joseph Waddelow	1	1	0
Mr B Dutton Taplin	0	10	6
Dr George Arthur Wright	1	1	0
A small but sincere token of sympathy from W C T	0	5	0
Mr M Richard Gooding	0	2	6
Mr John E Kenyon	0	3	0
Dr John Robert Keith	0	10	0
Mr Thomas Peter Grosart Wells	0	5	0
Dr Alfred Kershaw	1	1	0
Mr Thomas Hatfield Walker	0	10	6
Mr Henry Williams, J P	5	0	0
Mr Alfred Herbert Tubby	1	1	0
Dr William Duncan	0	5	0
Dr William Kemp (for self and father)	1	1	0
Dr John Wallace Weir	1	1	0
J C T	0	3	0
Dr W Waters Stamthorpe	0	10	6
Dr George Christopher Taylor	1	1	0
Mr George Wallis	1	1	0
R M H	0	5	0
Mr William Langran	0	10	0
Dr Robert Oswald Moon	5	0	0
Mr Edward Colby Sharpin	1	1	0
Mr Edward Herbert Squire	0	5	0
Mr James Taylor	1	1	0
Dr Henry Banks Spencer	0	5	0
Mr Thomas Lambe	2	2	0
Mr William Henry Paine	0	10	6
Mr John Humphry	1	0	0
Mr Frederick Samuel Lambert	0	10	0
Dr James Lawrence	0	5	0
Dr John Poole Kitson	0	5	0
Mr William Wallis	0	5	0
Mr Edwin Simpson	0	5	0
Dr Henry Wilson	0	5	0
A Stockport Sympathiser	0	5	0
Dr Robert Cecil Leonard	0	5	0
Mr Herbert Thompson	0	10	6

THREAD WORMS AND APPENDICITIS

To the Editors of The Lancet

Sirs —About a year ago my daughter, aged seven years had vermiform appendix removed in the United States On slitting open the appendix 16 thread worms were found alive in the interior Can any of your readers inform me if these worms would be likely to have caused the appendicitis also, are there many similar cases on record?

I am, Sirs yours faithfully,

July 1st, 1902. Harlesden

THE "Y" FUND

Surgeon General H S Muir begs thankfully to acknowledge additional donations towards the above Fund from Mr G Easte Mrs F Surgeon General W McNamara, C B , Colonel and M Carr Calthrop, I M S , Lieutenant-Colonel C H Beatson, M S Civilian Surgeons (attached to the Royal Army Medical Corps in South Africa) J G Bell, D Munro, F G Sharpe, T H D Hale and J Woodhouse , and the following officers of the Royal A Medical Corps: Lieutenant Colonels G Brazier-Creagh, T W N J Maconachie A T Sloggett, C M G , J Duncan, and A Hart Majors H O Trevor S Butterworth, S Hickson, H C G F Gubbin B Westcott C M G , H T Baylor, F D Elderton T W C H Hamilton, C M G , R C Thacker, and M O Captains A R Morgan K B Barnett, H W K Read, H P Johnson and E E Powell , Lieutenants G H Goddard, J I W Morris, W C Croly , R F Ellery , H F Shea, D L Harding, R B Black G H Usmar and L M Purser , the Medical Officers of General Walter Kitchener's force (through Lieutenant-Colonel Porter) and the Principal Medical Officer and Officers Orange River Colony The fund now amounts to £368 It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*) Should any reader of The Lancet desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon General Muir, 26, Kensington gardens terrace, Hyde Park, London, W

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Ind —We have referred our correspondent's question to the Scotch Education Department the secretary to which has replied "The questions involved bear upon the interpretation of the Education Acts in regard to which my lords have no power to give any authoritative decision Such questions must if necessary be decided by a court of law Even with this restriction my lords have only intervened and can only intervene in the matter so far as it has been or may be found to affect the administration of the Education Acts in particular cases They can offer no opinion whatever regarding it as bearing upon claims made by medical officers, as this is entirely outside their province In a similar matter coming under the London School Board the procedure is as follows The duty of a school board is to see that the children attend school If a child is absent the board may demand that the child's parent should show cause for his or her absence If the parent cannot do this by means of a medical or other certificate the board can summon the parent before a magistrate. But a school board has no power to demand a medical certificate for the absence of a child from school The London School Board states on the forms of medical certificates which it supplies (although it has no power to demand such certificates) that it will not be liable for any expense connected with such certificates We do not remember that the point has hitherto been decided by a court of law

Sigma —We do not know any book but one dealing exclusively with the subject although chapters on the subject are found in many especially American, works The book in question is a small pamphlet written by Mr Maurice C Hime, M.A , LL.D , and published by Messrs J & A Churchill

X Y Z —As our correspondent found relief from strychnine under the same conditions some years ago we think that he might very well try it again—combining the use of it with nitro-glycerine if necessary

Communications not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received —*Daily Express (Dublin) Torquay Directory Yorkshire Mercury, Local Government Chronicle, Sanitary Record Derbyshire Courier Surrey Advertiser, Local Government Journal Carpenter and Builder, Rotherham Express, Liverpool Daily Post, Journal of Tropical Medicine Westminster Gazette, Knowledge, Broad Arrow Torquay Times, Midland Express, Army and Navy Gazette Weekly Free Press (Aberdeen), Bristol Mercury, Madras Journal Reading Mercury, Mining Journal, Herefordshire Mercury Daily Telegraph Le Progrès Médical, Scientific American, Literary Digest, Gazzetta degli Ospedali e delle Cliniche, Deutsche Medicinische Wochenschrift, New York Medical Journal, Journal of the American Medical Association*, &c.

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 3rd, 1902.

	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade	Min Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
e 27	30 14	S E	..	129	84	68	65	70	Fine
28	30·10	S E.	..	129	87	66	64	71	Fine
29	29 95	S E.	...	124	86	62	71	60	Fine
30	29 98	S	0·01	127	85	61	62	69	Fine
y 1	29 87	W	0·11	119	74	60	68	69	Overcast
2	30 18	N	0·46	103	64	61	51	56	Cloudy
3	30 27	S W	..	107	66	62	55	58	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS

NDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

ESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

EDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

HURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

RIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

ATURDAY (12th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic 0 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the entral London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

EDNESDAY (9th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

HURSDAY (10th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Mr. Jessett, Dr. Hodgson, Dr. Purcell, and others. Papers:—Mr. B. Jessett and Dr. H. Hodgson.

RIDAY (11th).—BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—4 P.M. Cases and Specimens will be shown and Papers read by Mr. L. Brown, Dr. W. Milligan, Dr. Abercrombie, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. T. Colcott Fox: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Mr. Beddard: Methods and Significance of Examination of the Blood.

TUESDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. S. Taylor: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Dr. Russell: The Examination of the Stomach and its Contents.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M.: Dr. J. Taylor: Anomalous Forms of Tabes Dorsalis.

WEDNESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Berry: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Mr. McAdam Eccles: Surgical Anatomy.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M.: Dr. Acland: Subphrenic Abscess and Pneumothorax.

THURSDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Mr. Keetley: Acute Intestinal Obstruction.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Dr. Poynton: Simple and Malignant Endocarditis in Children.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. M. Davidson: X Ray Demonstration. (Post Graduate Course.)

FRIDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. T. Collins: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Mr. Baldwin: Treatment of Injuries.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, are given in this number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s.*; by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

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Five Clinical Lectures

ON

THE CAUSATION AND PREVENTION OF PHTHISIS.[1]

By BYROM BRAMWELL, M D, F R.C P, F R.S EDIN,
PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY &c

LECTURE II [2]

GENTLEMEN —If we take the preliminary facts which I brought before you in my last lecture as the premisses we must conclude (1) that phthisis is an infectious and communicable disease dangerous to the public health (the same statement, of course, applies to all tuberculous affections in which the tubercle bacillus or its spores are given off from the bodies of affected persons, either in the sputum, in the fæcal discharge, in the urine, in the discharges from diseased bones, joints, &c.[3]), and (2) that phthisis and all other forms of tuberculous disease are preventable affections.

Now whether an individual who has been exposed to infection will contract a contagious or infectious disease or not depends upon two main factors—viz. (1) the intensity of the poison, and (2) the resisting power or susceptibility *of the individual.*

The intensity of the poison depends upon (*a*) the dose, whether large or small, and in this connexion it is important to remember that the number of tubercle bacilli which the sputum of phthisis contains varies in different cases of phthisis and at different stages of the same case (*b*) the source of infection and the channel through which the poison is introduced into the system (whether in the form of dried sputum inhaled and introduced into the respiratory or gastro-intestinal tracts, in the form of tuberculous milk introduced into the gastro-intestinal tract, or by inoculation &c.), and (*c*) the virulence of the poison, germ poisons varying in their intensity from time to time—i e. under different circumstances.

The resisting power of the individual depends upon (*a*) his inherent or constitutional peculiarities, his vital resistance" as it has been termed, some persons being more susceptible to certain poisons than others, (*b*) his condition of health at the time when the virus is introduced into his system and especially in the case of phthisis, (*c*) the condition of the tissues and organs with which the tubercle bacillus or its spores are first brought into contact. In other words, the resisting power of the tissues varies in different families and in different individuals, and the resisting power of the individual may be temporarily modified (lowered or increased) in accordance with his condition of health and in the case of some of the contagious and infectious diseases—and probably this applies with special force in the case of phthisis—in accordance with the condition of the tissues with which the virus happens to come in contact when it is first introduced into the system.

But although phthisis—limiting the argument to the more important form of tuberculous disease so far as the risk of infection and contagion *from* one human being to another human being is concerned—must, under certain circumstances be regarded as an infectious and communicable affection and although every human being is probably under certain circumstances (provided, for example, that a large dose of the poison or a dose of very virulent tubercle bacilli is introduced into the system or provided that the resisting power of the organism as a whole, or of the individual tissues with which the tubercle bacillus first comes into contact, in particular is for some reason or another lowered or diminished) liable to be affected with tubercle, phthisis differs very materially from most of the other contagious and infectious diseases in this most important particular that it is only very slightly infectious and communicable. In other words, the risk which a perfectly healthy person, whose sanitary surroundings are satisfactory, runs of contracting phthisis or other forms of tuberculous disease from being in contact with a person affected with phthisis appears to be very slight. This is shown by the fact that a healthy wife seems comparatively rarely to contract the disease from a phthisical husband whom she nurses all through his illness, and *vice versâ.* After the discovery of the tubercle bacillus by Koch the British Medical Association issued (on Jan 6th, 1883) a circular to all of its members with the object of trying to determine the opinion of the profession with regard to the communicability of phthisis. That circular was as follows —

> Have you observed any case or cases in which pulmonary phthisis appeared to be communicated from one person to another?
>
> Please answer Yes" or No"
>
> If more than one case observed say how many
>
> In the event of your having observed any case or cases the committee will be further obliged if you will give any brief particulars you may think worthy of record. In doing so the following points should be noted:—
>
> 1. The date when the observation was made.
> 2. The relationship, if any between the individuals concerned.
> 3. The presence of family predisposition to the disease. It should be particularly noted whether the disease had occurred in the parents, grandparents, and other relatives or only in the brothers or sisters of the person to whom the disease was communicated.

In response to this circular 1078 replies were received.

> A great number of these returns (673) were simple negatives containing only the word No meaning that no case had been observed by the member making the return but without any expression of opinion These returns admitting of no further analysis, have been set aside. The remaining answers contained observations of some kind and these have been classified as follows:—Class 1 affirmative observers 281; Class 2, doubtful observers, 39; and Class 3 negative observers 105. Out *of the 1078 members of the Association who have returned answers* to the questions issued on this subject at least 281 believe they have seen cases of phthisis which have originated in communication from one person to another about 39 more have seen cases which have made them doubtful whether phthisis may not be so communicated; while 105 offered facts and arguments which seemed to them to negative such a view 158 of the affirmative returns refer exclusively to cases observed between husband and wife. Communication between husband and wife is mentioned together with other cases, in 34 of the remaining returns So that 192 observers report cases of supposed communication of phthisis occurring between husband and wife
>
> Of the cases in which it is distinctly specified which partner conveyed it to the other in 119 it is stated that the disease was transmitted *from* husband *to* wife; in 69 *from* wife *to* husband. It is distinctly stated in 130 of these cases that there existed *no family predisposition* to phthisis in the partner to whom it was supposed to be conveyed

In summarising these returns the Collective Investigation Committee of the British Medical Association states —

> One fact these returns seem to establish beyond any question and that is, that if phthisis is a communicable disease it is so only under circumstances and conditions of extremely close personal intimacy such as persons sharing the same bed or the same room or shut up together in close ill ventilated apartments.[4]

In his great work on ‘The Diseases of the Respiratory Organs the late Dr Wilson Fox summarises his conclusions as to the frequency with which phthisis is contracted by a husband from a wife and *vice versâ* in the following statement —

> I have already attempted to show that the large majority of the cases of husband and wife which form the greater proportion of all the returns (63 per cent. Coll. Inv., 87 per cent. Clay) are either not more in number than can be explained by the natural prevalence of phthisis apart from contagion or may be due in both partners to their exposure to the same cause [5]

Although I am personally disposed to think that the percentage of cases in which a wife contracts phthisis from a phthisical husband and *vice versâ* is probably considerably greater than the results of the Collective Investigation Committee of the British Medical Association show and certainly very much greater than Dr Wilson Fox allows, we may take it that a healthy wife more especially when her sanitary surroundings are good, comparatively rarely contracts phthisis from a tuberculous husband and *vice versâ.* Now the number of wives unaffected with phthisis who nurse their husbands who are affected with phthisis all through the course of the disease is very great and the number of persons unaffected with phthisis who live in the closest contact with their wives who are affected with phthisis is also very great So far as I see there is only one conclusion to be drawn from these facts—the conclusion which has just been stated—viz, that although every case of phthisis is due to the introduction into the body of the tubercle bacillus the disease is only slightly infectious in the case of perfectly healthy persons and that the risk which a perfectly healthy person whose sanitary surroundings are quite satisfactory runs of contracting phthisis from being in contact with a patient affected with phthisis is very much less than one might *a priori* suppose.

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[1] Lectures I., II and III were delivered in abstract at the Edinburgh Royal Infirmary in March, 1899; Lectures IV and V were delivered in the form of an address to the Fifeshire Medical Association at Kirkcaldy on May 5th, 1899

[2] Lecture I was published in THE LANCET of July 5th, 1902, p 6

[3] In some tuberculous affections (as, for example in tuberculous meningitis and in *some cases of acute tuberculosis*) in which there is no expectoration, no diarrhœa, no affection of the genito-urinary tract, and no discharge from diseased bones and joints, the tubercle bacillus is not given off from the bodies of the affected persons. Such forms and cases of tuberculous disease are not, therefore, so long as there is no discharge of tubercle bacilli or their spores from the bodies of the patients, infectious and communicable though they may at any period of their course, become so

[4] Report of the Collective Investigation Committee of the British Medical Association, July 1883

[5] Diseases of the Lungs, p. 603.

Further, this opinion seems to be supported by the fact that although it is probable from the extreme prevalence of phthisis in this country, more especially in our towns, that almost every practitioner of medicine must over and over again have inhaled the tubercle bacillus or its spores, yet comparatively few practitioners of medicine contract phthisis. The fact to which Sir Hugh Beevor draws attention, that the sparse populations of country districts die from phthisis in as large proportion as the population of towns provided only that the factor of overcrowding is eliminated shows how widely diffused the poison (the tubercle bacillus and its spores) must be. In other words, the susceptibility of the individual who is exposed to infection is a most important factor in determining whether he will become infected or not From a practical point of view—viz., whether the individual will actually become affected with phthisis or not —the mere fact of exposure to infection (i e, the introduction of the bacillus into the body), though essential for the production of the disease, seems to be of less importance than susceptibility of the individual who is exposed to infection Or, as Sir Hugh Beevor puts it "When death returns and local agencies inducing susceptibility are considered together they confirm the common opinion—avoiding susceptibility one avoids infection "[6] Personally I am disposed to think that, speaking generally, a *perfectly healthy* person who inhales the tubercle bacillus runs very little risk of contracting phthisis, and in holding this opinion I am quite in accord with many of the very highest authorities on the subject. Thus Dr Wilson Fox[7] states "There are few writers who have not admitted the possibility of some contagion but I venture to think that the evidence as it stands shows that, even if this possibility has an authentic foundation, the extent and degree to which contagion ordinarily extends is singularly small." Dr J K. Fowler[8] states "Now it may be at once admitted that, having regard to the wide prevalence of the disease, the number of cases in which it has been proved to have been directly transmitted from one human being to another is infinitesimal. The possibility is generally admitted, the frequency of its occurrence is a much disputed question" Dr J Niven[9] states "Tuberculosis is a disease not readily or easily acquired, and the onset of phthisis marks either exposure to intense infection or else some profound weakness" And again "It is universally admitted that although tuberculosis is an infectious disease it is generally, more than any other infectious disease, dependent on assisting causes for its propagation." In short, it would appear that for the production of primary phthisis in the human individual not only is the introduction of the poison into the body—usually the lung or some part of the respiratory tract—necessary, but that, in most cases at all events, the lung or some part of the respiratory tract must be in an abnormal or diseased condition or the resisting power of the individual lessened (either as the result of inherited or acquired weakness), in other words, a suitable nidus must (usually) be present (generally in some part of the respiratory apparatus) to allow the tubercle bacillus or its spores, which have (usually) been inhaled either to take root and develop or to be conveyed to the glandular structures in the neighbourhood.

I have long considered it probable that in many cases in which tuberculous disease is developed in the human subject the tubercle bacilli or their spores which happen to lodge upon an abraded or unhealthy (or perhaps even a healthy) surface, do not produce local disease at the point where they fall but are either (*a*) absorbed and conveyed by the lymphatic vessels to the adjacent lymphatic glands where they lodge and subsequently develop, or (*b*) are carried by the blood vessels or lymphatic glands to more distant tissues and organs—i e, without producing any local (tuberculous) disease in the lymphatic glands in immediate connexion with the surface on which they lodge It is extremely difficult to explain in any other way the development of tuberculous disease in the bones, joints, membranes of the brain, &c, in those cases in which careful post-mortem examination fails to detect any other tuberculous lesions or caseous foci in the body—cases in which, in other words, the tuberculous disease in the bones, joints, membranes of the brain, cerebellum, or other tissues appears to be *primary* Absorption from the tonsil and throat, or from the intestinal and respiratory mucous surfaces, is in all probability an important source of tuberculous disease of the cervical, mesenteric, and bronchial glands, without, be it observed, any local tuberculous disease in the tonsil, intestine, lungs, or bronchi But I doubt whether tubercle bacilli which lodge on an absolutely healthy tonsil or an absolutely healthy intestinal, bronchial, or respiratory mucous membrane have any great tendency to produce local tuberculous disease in the part with which they come in contact—granting, of course, that the resisting power of the tissues is normal Further, it is perhaps doubtful—though on this point one must necessarily speak with hesitation—whether tubercle bacilli are absorbed from the healthy mucous surface of the tonsil, intestine, or bronchi, though it is possible, of course, that such may be the case If, however, the tubercle bacilli are, in consequence of an abraded or unhealthy condition of the mucous surface, absorbed and carried to the lymphatic glands in the neighbourhood, it is, I think, highly probable that they will produce (though I do not think that they will necessarily do so in all cases) local tuberculous disease in the lymphatic gland, even in the absence of local disease of the lymphatic structures, more especially perhaps, in persons of a scrofulous or tuberculous tendency—i e, in persons in whom, either as the result of inheritance or other cause, the "vital resistance" is below the normal, or who are unduly susceptible to the irritation of the tubercle bacillus This point, however, is difficult to prove, for it must be remembered that the mere fact that there is absorption from an abraded or unhealthy mucous surface implies that irritating particles other than the tubercle bacilli are conveyed (as well as the tubercle bacilli) to the lymphatic gland, and consequently that, as a result of the absorption of such irritating particles, the lymphatic gland in which the tubercle bacilli lodge may be irritated and inflamed and may in consequence of such irritation be transformed into a suitable nidus for the development and growth of the tubercle bacillus. Provided that the nasal, pharyngeal, and respiratory mucous membranes (tonsils, larynx, trachea, bronchi, and especially minute bronchi and terminal air cells &c) are in an absolutely healthy condition there seems to be little risk (at least, this is my opinion) of the production of phthisis from inhalation of the tubercle bacillus or its spores Under such circumstances the seed falls on barren ground and does not take root and germinate and develop

This supposition—which is of the greatest practical importance—is, I think, very strongly supported by the fact that it is only in a certain proportion of cases of phthisis that the larynx and intestine become affected. In almost all cases of phthisis multitudes of tubercle bacilli pass over and lodge on the laryngeal mucous membrane in the course of 24 hours and in most cases of phthisis the disease continues for many months or even years. Now if the mere lodgment of the tubercle bacilli on the mucous membrane were sufficient to produce phthisis—in persons, be it observed, who are susceptible to tuberculosis as is proved by the fact that they are actually affected with the disease—the larynx ought to become affected in every case of phthisis For the same reason in almost every case of phthisis the intestine ought to become affected with tubercle, for it can hardly be doubted that in almost every case of phthisis some of the sputum is swallowed, and consequently that in almost every case of phthisis multitudes of tubercle bacilli must come in contact with the intestinal mucous membrane. But as a matter of fact it is only in a certain proportion of cases of phthisis that the intestinal tract becomes affected with tubercle.

These facts, then, would seem to show that the mere introduction into the respiratory apparatus or gastro-intestinal tract of the tubercle bacillus is not usually of itself sufficient to produce phthisis or tuberculous ulceration of the intestine, in other words, that tubercle bacilli which lodge on a perfectly healthy mucous membrane do not usually grow and develop and produce tubercle. In short, it would appear that the mere introduction of the seed (the tubercle bacillus or its spores) is usually not of itself sufficient to produce phthisis, but that a second factor a suitable condition of the soil—a suitable nidus—for the growth and development of the seed is generally required for the production of phthisis. It is necessary therefore, to consider in the next place the conditions which produce or which favour the production of this suitable nidus

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[6] THE LANCET April 15th 1899 p 1013

[7] Diseases of the Lungs and Pleura p 664

Diseases of the Lungs p 306.

[9] Manchester Medical Chronicle vol vii. 1897 pp 2 and 10

The influence of heredity —Of late years there has undoubtedly been a tendency to under estimate the importance of hereditary influence as a predisposing cause of phthisis. Before the discovery of the tubercle bacillus hereditary influence was thought to be the essential the most important cause, the direct cause of the disease. After the discovery of the tubercle bacillus and the recognition of the fact that tuberculous disease is always due to the introduction into the body of the tubercle bacillus and is, practically speaking never otherwise developed, the part which heredity plays in the causation of phthisis was rightly thought to be much less important, and was indeed by some entirely ignored.

That there is in many families a hereditary tendency to phthisis and other forms of tuberculous disease cannot, I think, be denied The fact that insurance offices load persons whose parents or near relatives have died from phthisis shows the importance which they and their medical officers, as the result of their experience, attach to heredity as a cause of phthisis At the same time it must be remembered that in many cases in which phthisis or other forms of tuberculous disease appear to be inherited it is not necessary to assume any hereditary predisposition in order to explain the occurrence of several cases of the disease amongst members of the same family The children of a phthisical parent may, for example, be infected by the sputum of the diseased parent , the house in which the family live may be the source of infection (i e., both the parent and the child may be infected from a common source) the circumstances and surroundings of the family quite apart from any inherited tendency may predispose to the production of the disease. Still allowing for these sources of fallacy it must, I think, be admitted that hereditary predisposition in many instances plays an important part in the production of phthisis. It cannot, I think, be gainsaid that in some families, quite apart from all other predisposing causes, there is a greater tendency to be affected with phthisis than in other families. I take it for granted that the weight of medical opinion is strongly in favour of this view

But although phthisis is apt to run in families and to break out again and again in succeeding generations it must be remembered that the disease is not, except in very rare instances, directly passed down from parent to child—phthisis is not directly inherited. Exactly the same statement applies to bovine tuberculosis. It has been shown that calves born of tuberculous cows are only in very exceptional instances affected with tubercle at the time of birth. Thus of 54 427 calves slaughtered in Leipsic during the year 1895 only 107 or 0 18 per cent. were tuberculous while of 9303 cows 4048, or 43·51 per cent. were tuberculous.[10] It is very rare for a child, say of a phthisical mother to be born with tubercle or to manifest tubercle soon after birth. At birth the children of tuberculous parents are usually quite healthy Any tuberculous affection which they subsequently manifest (tuberculous meningitis in infancy or early childhood scrofulous glands in the abdomen or neck in later childhood phthisis in youth and adult life, to give examples) is in the vast majority of cases the result of the introduction of the tubercle bacillus from without and is not the result of the direct passage of the tubercle bacillus or its spores from the parents or ancestors. Baumgarten indeed has advanced the view that the tubercle bacillus or its spores may remain latent in the tissues for long periods of time. He has suggested that phthisis manifested in adult life may in this way be the result of direct transmission from a phthisical parent But, so far as I know this opinion is entirely theoretical and is not based upon any definite or well authenticated facts. Further it seems directly controverted by the fact that if calves born of tuberculous cows are fed on non tuberculous milk and are kept in good sanitary conditions as regards ventilation &c., they do not become tuberculous Persons who come of tuberculous families and who themselves manifest active tubercle (in other words, persons who are popularly said to inherit tubercle) do not inherit tubercle but merely a *tendency to tubercle* They inherit a certain condition of tissues (of constitution as it is popularly termed) which in many cases seems to be a certain condition of chest conformation or perhaps a certain vulnerability of tissue, as it may be termed, which predisposes them to be more readily affected by the tubercle bacillus than other persons who come of a healthy stock—i.e who do not inherit a tendency to tubercle

The exact manner in which heredity predisposes to the production of tubercle has not been definitely determined. Two explanations may be given viz —

1. That in persons who inherit a tendency to phthisis the natural resisting power of the tissues (the vital resistance) is so feeble that the tubercle bacilli or spores when introduced into the respiratory tract are able to take root and to develop—while there is, as I have already pointed out, good reason to suppose that it is not usually able to do or not likely to do in the case of ordinarily healthy persons—i.e. persons who do not inherit a tendency to phthisis. This view supposes that the mere implantation, so to speak, of the tubercle bacillus on the unabraded and healthy surface of the respiratory apparatus of a person who inherits a tendency to phthisis and tuberculous disease is sufficient to produce phthisis in other words, in persons who inherit a strong tendency to phthisis and other forms of tuberculous disease the respiratory mucous membrane, even when unabraded and healthy is, in consequence of its low resisting power a suitable nidus for the development and growth of the tubercle bacillus But though this view may at first sight appear to be plausible, and though it is certainly difficult to disprove, it seems to be contradicted by the facts (*a*) That it is only in a relatively small proportion of cases of phthisis that the larynx and the intestine become affected. In other words, even in persons who are suffering from phthisis—i.e. in persons in whom the capability to be affected with tubercle is demonstrated by the fact that they are actually suffering from the disease—the constant passage of innumerable tubercle bacilli over the laryngeal and intestinal mucous membranes—parts, be it remembered which are a frequent and favourite seat of tubercle—does not produce local tuberculous lesions. Now if mere vulnerability of tissue—if mere diminished resisting power of the otherwise healthy tissues with which the tubercle bacillus is brought into contact—is the manner in which heredity predisposes to phthisis, the larynx and intestine as has been already pointed out, ought in all cases of phthisis, or at all events in a very large proportion of cases to become tuberculous—i.e., infected with local tubercle. (*b*) That many persons who judging from their family history inherit a strong tendency to phthisis and tuberculous disease never themselves actively manifest any tuberculous affection It is not uncommon for example, to find several members of a family successively dying from phthisis and several others exposed to exactly the same conditions, escaping It may of course be said that in the case of the members who escaped the tubercle bacillus was never introduced into the system. But this explanation is in my opinion a most unlikely one Consequently it seems to me that something more than mere hereditary predisposition is *usually* required in order that the tubercle bacillus after it has been introduced into the system, may take root and develop.

2. A second view which in my opinion is more probable, supposes that a person who inherits a tendency to phthisis inherits either (*a*) a peculiarity of chest conformation or some peculiarity of the breathing apparatus (which probably consists of defective respiratory capacity entailing insufficient air change and a tendency to stagnation both of air and of secretions in the terminal air cells and minute bronchi) or (*b*) a peculiar vulnerability of the lung (respiratory) tissue both of which (*a* and *b*) predispose to the production of an unhealthy diseased or catarrhal condition of the terminal air cells, the minute bronchi, and it may be in the laryngeal or bronchial mucous membrane, and that these unhealthy conditions of the respiratory tract form a suitable nidus for the development of the tubercle bacillus

If this view be correct it follows that all conditions which predispose to the production in the lung of those alterations which form a suitable nidus for the development of the tubercle bacillus must be regarded as predisposing causes of phthisis but without the introduction of the tubercle bacillus such conditions are not of themselves capable of producing phthisis. And since, if this view is correct, an hereditary tendency to phthisis chiefly consists in an hereditary tendency to favour the production of those conditions of the respiratory tract (lung, &c.) which form a suitable nidus for the lodgment, development, and growth of the tubercle bacillus, persons who inherit a tendency to phthisis should take special care to guard themselves against bronchial colds, the inhalation of dust particles, against everything, in short, which is liable to produce an unhealthy or catarrhal condition of the minute bronchi and air cells, for in them such abnormal conditions of the respiratory tract are not only (because of their inherited peculiarities, chest conformation, &c) more easily established, but if produced are (in consequence of the fact that their vital resistance against tubercle is feeble) more dangerous (more likely to be followed by the production of phthisis) than in persons who do not inherit a tendency to phthisis

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[10] Report of Royal Commission, 1898 p 345.

It must, however, be admitted that this explanation is not altogether satisfactory, for it must be allowed that the mere presence of an unhealthy condition of the respiratory tract (a catarrhal condition of the air cells or minute bronchi) does not necessarily of itself (*per se*) always afford a suitable nidus for the development and growth of the tubercle bacillus Children, as has already been pointed out, are comparatively rarely affected with primary phthisis, but catarrhal conditions in the lung and minute bronchi are very common in children. Hence, in order to explain the rarity of primary phthisis in the child as compared with its frequency in the adult, it must be granted that, in addition to a catarrhal condition of the minute bronchi or air cells of the lung, a peculiar susceptibility of the lung tissue to be affected by the tubercle bacillus (in other words, a diminished vital resistance, which is much more frequently present in the lung of the adult than of the child) is necessary

But, further, it is, I think, not unreasonable to suppose—though this is by no means admitted by many authorities—that in those persons who inherit a strong tendency to phthisis the tubercle bacillus, after it has been introduced into the respiratory passages and after it has (in consequence of the presence of a suitable nidus to the production of which the hereditary tendency to the disease predisposes) taken root and begun to develop, does luxuriate and grow more actively and energetically than it does in the lung tissues of persons who do not inherit a tendency to phthisis. In other words, it is reasonable, I think, to suppose that in persons who inherit a tendency to phthisis, the vital resistance of the tissues against tubercle both of the lung tissues and of the tissues of the body as a whole, is less active and potent than in persons who do not inherit such a tendency

We may say, then, that for the production of phthisis (I am speaking of *primary* tuberculous disease of the lungs) three factors are *usually* necessary, viz 1. The introduction (either directly into some part of the respiratory passages or indirectly into the lung tissues through, for example, the gastro-intestinal tract) of the tubercle bacillus or its spores. This is essential. 2. The presence in the respiratory tract of a suitable nidus for the development and growth of the tubercle bacillus or its spores. It is probable, I think, that this is usually necessary, unless the dose of the poison be very large. 3. Defective vital resistance, in other words inability of the tissues, more especially of the respiratory tissues with which the tubercle bacillus and its spores first come in contact, to resist the development of the tubercle bacillus or its spores, after they have been implanted in the suitable nidus (usually an abraded, unhealthy, or catarrhal condition of some part of the respiratory tract) The resisting power of the tissues against the invasion of the tubercle bacillus—the vital resistance—varies, as we have seen in different individuals (being probably greater, for example, in persons who do not than in others who do inherit a *strong* tendency to phthisis) and in the same individual at different times, in accordance with age, condition of health, &c.

Now if these propositions are well founded the main points to which attention must be directed in order to prevent the development of phthisis in the individual are as follows —1 To prevent the introduction of the tubercle bacillus or its spores into the body and, in the case of phthisis especially, into the respiratory tract. 2 To prevent the production or development in the respiratory tract of the local conditions which form a suitable nidus for the development of the tubercle bacillus (unhealthy condition, abraded surface, retention of secretions &c.) 3. To raise the resisting power of the tissues as a whole, and of the respiratory tissues in particular, so that they may be able to destroy and to evacuate the tubercle bacillus after it has been introduced and lodged in the suitable nidus (an abraded or unhealthy part of the respiratory tract)

ON THE

ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA

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In an article on Differentiation in Diabetes, published in The Lancet in 1900,[1] I referred to the classification of diabetes into the "alimentary" and "composite" types In the "alimentary" type the error consists purely and simply of the mal assimilation of the food carbohydrate, and, as a consequence, the elimination of dextrose in the urine. In this elimination of sugar we have the full extent of what is wrong in the urine In the "composite" type, on the other hand, an additional faulty condition of urine exists Besides the presence of dextrose there is also a group of products met with derived from a retrograde tissue metamorphosis. The term "grave" has been applied to this form of diabetes, but, as I pointed out in the article to which I have referred, this term, from the sinister idea which it conveys, is not free from objection. In the term "composite," however, we have no such sinister idea conveyed and it at the same time faithfully represents the condition existing, for we have to deal not only with the issue of mal-assimilation of food carbohydrate but likewise with a conjoined occurrence of an abnormal tissue metabolism

In alimentary diabetes the fault consists of the carbohydrate of our food not being properly assimilated and thence being permitted to reach the general circulation as sugar which subsequently runs off as waste material with the urine carrying with it unutilised energy The ill-effects arising from this condition fall under two heads. There is in the first place the effect due to the loss of food material in an unused state, and in the next there is the injury inflicted by the pernicious action of the sugar in abnormal transit through the system Such sugar virtually acts as a toxic agent and in proportion to the extent to which it exists, of which the amount escaping with the urine is a measure, so, looked at generally, is the extent of harm produced. Purely from this abnormal presence of sugar in the system a great many definite ills take origin They stand distinctly attributable to the effect of the sugar, and are escaped from, or relieved, by the adoption of the appropriate treatment for keeping the system free from abnormality in relation to the presence of sugar Besides the production of such specific troubles as boils and carbuncles, gangrene of the toes, perforating ulcer, phthisis, neuritis, kidney degeneration, cataract, and some others, the toxic influence of the sugar tells obnoxiously upon nutrition and saps the general power, and to be able, as can be done in the "alimentary" form of diabetes, to check the passage of sugar through the system and to avert these results deserves to be regarded as a matter of no small importance.

Building up and breaking-down operations are constantly going on in living matter and it is to a defect on the side of the former that "alimentary" diabetes is due. Constructive metabolism is at fault and the carbohydrate of food, instead of being placed in a proper position by protoplasmic agency for proceeding to utilisation, remains in the form of free sugar which, reaching the general circulation and thence the kidney, flows off with the urine in the same manner as anything else of a diffusible nature. Modern views differ from those entertained a short time back regarding the mode of utilisation of carbohydrate matter Instead of, as was formerly thought, being disposed of by oxidation in a non-living state it is now considered that it is as a constituent of living matter that it undergoes oxidation. The seat of the chemistry of life is within living protoplasm and the non living principles become incorporated into living matter preparatory to utilisation. Food material is in the first instance broken up into simple principles and these by the agency of the living matter belonging to the alimentary canal with which they come in contact become appropriated and built up into living protoplasm which yields the source from which the tissues derive their nutrient material Entering thus in the form of proteid into the system our food carbohydrate is protected through the largeness of the molecule within which it is contained from escaping into the urine during its transit through the kidney as happens when sugar in a free form is allowed to reach the general circulation

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[1] The Lancet, June 16th (p 1706), 23rd (p 1787), and 30th (p 1863), 1900

This view of the action of protoplasm in appropriating carbohydrate by synthesising it into proteid was the outcome of the recognition in the course of my investigations that carbohydrate was susceptible of being cleaved off from proteid by chemical means. The subject was fully entered into in my *Physiology of the Carbohydrates*, published in 1894 We were previously faced with the difficulty of seeing how sugar reached its seat of utilisation in the tissues without its transit through the circulation being revealed by passage into the urine. With carbohydrate incorporated into proteid and conveyed in this form the difficulty immediately disappears.

I have entered into these particulars regarding 'alimentary" diabetes and the metabolism of carbohydrate as a preparatory step to the consideration of the subject to be specially dealt with *Faulty metabolism is at the foundation* of the whole matter In alimentary diabetes the fault lies with the upward line of metabolism or that which is concerned in placing food carbohydrate in a right position for passing to utilisation. In the composite" form of diabetes wrongness of descending metabolism occurs in addition to the wrongness of the other and the wrongness of descent is attended with the associated production of sugar and of the acetone series of products. With such a state of things existing a formidable condition is presented inasmuch as waste is occurring in all directions. There is the loss of sugar from unassimilated carbohydrate and there is also the loss of sugar and of the above-named associated products derived from the wrong tissue breaking down. All are carrying with them in their exit from the body unutilised energy

I have said that in the abnormal destructive metabolism or tissue disintegration occurring in diabetes there is a liberation of sugar on the one hand and of the acetone series of products on the other The two processes ordinarily occur concurrently but they nevertheless must be regarded as distinct. It has long been noticed that the elimination of nitrogen runs with that of sugar and that they bear a definite relation to each other In the starving animal rendered diabetic by ablation of the pancreas or by the agency of phloridzin, after time has been allowed for all the free carbohydrate of the body to disappear the eliminated sugar is derived solely from tissue disintegration. In this tissue disintegration the nitrogen of the proteid is also set free and appears in the urine as ammonia or as urea. As proteid contains a definite amount of nitrogen the quantity of nitrogen eliminated gives a measure of the proteid destruction occurring

Starting upon these premises the relation which the eliminated sugar bears to the eliminated nitrogen supplies the means of calculating the amount of sugar issuing from the disintegrated proteid. Close attention has been given to the matter and a large amount of work performed by different experimentalists with a fairly accordant result, from which it is estimated that as much as nearly 60 per cent. of the disintegrated proteid may come off as sugar That such an amount of sugar can be derived from the *proteid molecule* constitutes a point possessing a most significant meaning It gives support to the view that has been referred to bearing on the passage of food carbohydrate by the synthesising action of protoplasm, into proteid and at the same time suggests that this mode of application of carbohydrate is carried out upon a scale that gives it a position of great importance. Looked at from a further point of view the extensive liberation of sugar from proteid that is susceptible of being induced gives us an idea of the vast store of locked up carbohydrate that exists in the system in a suitable state for application, under normal conditions of metabolism, to the production of energy

The other result of the abnormal katabolism or downward metabolism that may occur in connexion with diabetes is the generation of the acetone series of products consisting of β-oxybutyric acid, diacetic or aceto-acetic acid, and acetone These products form a chain of principles representing successive steps of degradation by oxidation. Beginning with β-oxybutyric acid, the formula for which is $CH_3.CH(OH).CH_2.COOH$, oxidation of the CH(OH) group into CO gives diacetic acid with the formula $CH_3.CO.CH_2.COOH$ which is changed into acetone, $CH_3.CO.CH_3$, by substituting CH_3 for the two end groups $CH_2.COOH$. In these bodies, as with the carbohydrates, we have non nitrogenous principles to deal with but nothing of the nature of alliance between them exists Their kindred connexion is with the fatty series. With the exception of acetone of which a slight amount may be present they are foreign to normal urine. The abnormality therefore, with regard to these bodies is in the presence of the oxybutyric and diacetic acids It has been shown that they represent successive stages of degradation by oxidation and their order of appearance in the urine is from the lowest to the highest form. As mentioned acetone may be discoverable when no deviation from the normal state is apparent. If diacetic acid is present acetone is also so but not necessarily oxybutyric acid. When oxybutyric acid however is present the presence of the other two may be looked for as a consecutive event These principles may be made to appear in the urine of healthy subjects as a result of their ingestion in sufficient quantity and the same order it is stated has been observed to occur For instance after the ingestion of diacetic acid acetone may *be found and after the ingestion of oxybutyric acid diacetic* acid and acetone and even oxybutyric acid itself if the quantity taken has exceeded the limits of the capacity of the system to dispose of it.

For the recognition of acetone in urine Legal's nitroprusside test is the most suitable for clinical purposes. Into a few cubic centimetres of urine a small fragment of sodium nitroprusside is dropped and a little caustic soda is added. A cherry red colour is produced which soon fades. If now an excess of acetic acid be added a carmine-red becomes *developed should acetone be present.*

Diacetic acid is recognised by the port-wine colour which it gives with a solution of ferric chloride On adding ferric chloride solution (B P) to the urine a white precipitate of ferric phosphate is first thrown down This may be removed by filtration and the filtrate then further treated with more ferric chloride. For expedition however it is usual to go on adding ferric chloride till the precipitate of ferric phosphate is dissolved when the diacetic acid reaction is perceptible if any diacetic acid is present. It is necessary to bear in mind that somewhat similar colour reactions are given by the urine of persons who are taking antipyrin or salicylic acid or the products from which salicylic acid may be derived in the system. The salicylic reaction has a pronounced violet tone which is scarcely liable to be mistaken by the practised eye for the reaction of diacetic acid There is also a purple tone about the colour resulting from the effects of antipyrin. If doubt should exist appeal may be made to the acetone test which will give the conjoint reaction where diacetic acid is present and no reaction where the colour reaction with the ferric chloride is not due to diacetic acid

If no reaction is given with the ferric chloride test oxybutyric acid need not be looked for As an indicator of the presence of oxybutyric acid the polarimeter is employed and its result is compared with the result given by cupric oxide reduction. Oxybutyric acid possessing levo-rotatory power neutralises the dextro-rotatory effect of the dextrose and throws out, in proportion to the amount present the concord between the figures derived from the two methods of estimation. In the absence of oxybutyric acid the accord between the polarimetric and cupric oxide reduction estimations is often very close and should never deviate to any significant extent. It is true, as shown by the examination of urines giving no ferric chloride reaction and therefore assumedly not containing oxybutyric acid, that a certain amount of difference attributable to the incidental presence of some other levo-rotatory body may be found, but it is not likely to reach a point that can be considered to be worth attention. Levulosuria and pentosuria are conditions so rarely come across that they are not here taken into account. Hence for clinical purposes the difference between cupric oxide reducing power and optical activity may be read off not only as an indicator of the presence but also as giving a representation of the amount of oxybutyric acid present. This may be expressed either in terms of dextrose by simply subtracting the lesser dextrose value obtained by the optical method from the greater obtained from the reduction method or in terms of actual oxybutyric acid which has an optical activity of 24 1° as against that of dextrose 52 5, by multiplying the above difference by 2·2.[2]

In connexion with the very large quantity of oxybutyric acid that has been stated by some authorities to have been found by the above-described method of estimation, Magnus Levy[3] in an elaborate dissertation on oxybutyric acid and its relation to diabetic coma, has raised the question of the validity of the process He brings forward work conducted upon other lines and states that the quantity of oxybutyric acid that can be extracted by ether from the acidified urine comes out much less than that deducible from the difference between optical activity and cupric oxide reducing power, but agrees fairly with the amount given by calculation founded on determining the saturating capacity of the bases and noting the deficiency in the mineral acids present to effect saturation, the deficiency being reckoned as due to oxybutyric acid Many elements of consideration, with risk of error, are here involved and the results must be looked upon as blended with uncertainty He points out that the levo-rotatory effect of the urine is increased by an excess of the lead acetate used in the preparation for examination This is easily shown by observation to occur, even to a considerable extent, when much lead acetate is present and unless guarded against may give rise to considerable error Possibly some of the earlier results recorded may have been vitiated in this way and too high figures given but the fallacy may be escaped from with proper procedure as regards the amount of lead acetate used, and frequently the urine is sufficiently devoid of colour for filtration alone to suffice, in which case there can be nothing to interfere with correctness of result.

Should it be thought desirable the dextrose may be fermented off so as to leave the oxybutyric acid with its levo rotatory power freed from any neutralising influence when a simple polarimetric reading suffices to give the information required. The process, however, is lengthy and tedious and, I cannot help thinking, involves the risk of a certain amount of loss of the oxybutyric acid present I am of opinion that with recourse to the cupric oxide reduction and optical activity method we need not go further and that information is supplied by it upon which reliance may be placed

We come now to the question of harm inflicted by this chain of principles None of them, as shown by experiment, is capable *per se* of exerting any pronounced or immediate toxic effect and to none of them can diabetic coma be considered directly attributable Acetone being volatile has a channel of escape by the lungs in addition to that afforded by the kidney As is well known in the bad form of diabetes it is strongly perceptible in the breath

(To be continued)

THE SUBCUTANEOUS INJECTION OF CINNAMATE OF SODIUM A NEW DEPARTURE IN THERAPEUTICS

BY LOVELL DRAGE, M D OXON

With a Note on the Preparation of Cinnamate of Sodium Solutions suitable for Hypodermic Injections

BY GILBERT T MORGAN, D SC LOND, F I.C

AFTER many years' wandering in search of an explanation of the intravascular clotting which is observed in the human body in connexion with a variety of conditions I have come to the conclusion that a partial explanation only can be found on strictly chemical and physical grounds. There has always appeared at the moment when a complete "explanation" has seemed possible a factor of unknown quantity The same difficulty appears in all phenomena when a vital process is involved. We are, indeed, very far off an accurate conception of the meaning of the term *life* and one is forced to the conclusion that when a process is connected intimately with living cells there is a limit to human comprehension.

Speculation leading to a working hypothesis seems at the present moment the only means within our reach of arriving at solutions of many of the phenomena, if not all, which are connected with disease Having arrived at a working hypothesis as to the causes of the intravascular clotting which occurs during the lying in period of women I have been led into a speculation as to what is the constituent of the blood which is the cause of the *impasse* at which I had arrived What is the constituent which shows pre-eminently the phenomena associated with living cells? Surely, it is the white blood cell.

Accepting as I do the conclusions to which Dr J G Adami arrived in his article on Inflammation in Dr Clifford Allbutt's "System of Medicine," it is no matter of surprise that I have been assiduously looking out for weary years for a gleam of light which would help me to understand the reason why certain drugs have an influence upon such diseases as cancer and tuberculosis A recent article in the *Journal of Pathology* on the leucocytic changes following injections of cinnamate of sodium has given me a clue. Inflammation, in the words of Dr Adami, is the series of changes constituting the local manifestation of the attempt at repair of actual or referred injury to a part—or, briefly, as the local attempt at repair of actual or referred injury

The injection into veins of cinnamate of sodium has now been shown by Dr H Batty Shaw—as it had been previously by Richter and Spiro—to produce a general leucocytosis, not by depriving the blood of a certain amount of liquid, but by stimulating the simpler lymphocytes to transformation into polymorphonuclear cells and intermediate forms The oil of cinnamon was one of the drugs the action of which I was previously not in a position to understand, and I naturally inclined to a trial of the cinnamate for the same conditions of disease as those for which I had previously exhibited the oil. A drug capable of producing leucocytosis, such as the cinnamate of sodium, appeared to me to be the very one which would be likely to be of avail in the repair of tissue damaged by inflammatory, tuberculous or cancerous processes, because it is the leucocyte of one kind or another which is at once the agent of destruction and repair

It is the purpose of this paper to place before my professional brethren (having briefly indicated the foundation of my belief in the efficacy of my method of treatment) the result of my observations of the action of the cinnamate of sodium in various conditions of disease For purposes of administration I use a 10 per cent solution of cinnamate of sodium in glycerine. This was prepared for me by Dr Morgan of the Royal College of Science, South Kensington, who has very kindly promised to write a note dealing with the chemistry of the subject.

CASE 1 —The first case which I selected for trial was that of a man, over 60 years of age, who was much emaciated and who was apparently dying from tuberculosis of the lungs. His weight was only seven stones and 10 pounds at the time of the commencement of treatment, he had lost two pounds at the end of the next fortnight After this he ceased to lose weight. The expectoration was excessive in amount, but was reduced after one injection of 15 minims of the solution into the skin close to the edge of the scapula, and is now, a month later, very small in amount

CASE 2 —The next case treated was that of a man, over 60 years of age, who was going downhill very rapidly He is, I believe, suffering from cancer of the pancreas, at all events he has had the symptoms usually noted when this organ is so affected At the time of the first injection into the abdominal walls vomiting was incessant and he suffered great pain He was very much emaciated. He has had two injections of 30 minims each twice a week Vomiting has been completely controlled, the pain is very much alleviated, and the delirium, which was beginning to be troublesome, is now, after three weeks' treatment, absent.

CASE 3 —The next case was that of a man about 30 years of age, suffering from chronic inflammatory mischief connected with the middle ear This man came under my care some months ago with a history of inflammatory trouble connected with both ears, following upon influenza. He had been treated by throat and ear specialists The tympanum on one side was perforated and he used this ear alone with the aid of a trumpet. He was completely deaf on the other side and suffered acute pain, having reduced the pain with leeches I persuaded him to consult Mr Cumberbatch who gave a very gloomy report of the condition of the ear and suggested continuous blistering and the use of a spray for the nose The patient did not improve and I persuaded him

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[2] Magnus Levy Archiv für experimentelle Pathologie und Pharmacologie, Band xl 1901

[3] Ibid, Band xlii 1899

to allow me to inject 30 minims of the cinnamate solution behind the mastoid. In a fortnight's time he returned for a second injection in high spirits, the improvement in hearing was very marked and I now look forward to a complete cure.

I have now under treatment one early case of laryngitis, almost certainly tuberculous in which the evening temperature was at once lowered after an injection of 30 minims and there was a diminution in the amount of expectoration

I am quite aware that these preliminary and unfinished cases do not furnish absolute evidence as to ultimate success, but the results have been so extremely striking to me that I have felt it my duty to give my professional brethren the opportunity of extending observations upon the value of the drug There are many points connected with the use of the drug which require time and the efforts of a large number of observers. I have not injected more than 30 minims of the 10 per cent. solution, but it is probable that a much larger dose can be used safely I have not at present done so because the dose with which I have worked gives good results and causes no unpleasant symptoms to the patient. It is probable that there are many other chemical substances which may be used to produce similar effects I feel some degree of assurance that the lines upon which such diseases as cancer and tuberculosis can be treated successfully are those based upon the principle of administering drugs which by their action on the white blood cells will assist repair in the cells damaged. At any rate I am confident that I am calling the attention of the medical profession to a valuable therapeutical method

NOTE BY DR. GILBERT T MORGAN

The therapeutic application of sodium cinnamate described in the preceding communication was rendered practicable by the discovery that this salt dissolves in glycerine to form a clear solution which can be easily manipulated in the hypodermic syringe. This observation was the outcome of my own experiments on the solubility of the substance in various media, an investigation which was undertaken at Dr Lovell Drage's suggestion

This preparation is more reliable than the emulsions already employed in physiological research, inasmuch as these mixtures alter in composition by subsidence in a comparatively short space of time whereas the glycerine solution remains unchanged for an indefinite period The glycerine solution is prepared by heating dry powdered sodium cinnamate with the pure solvent at a temperature of 180° C. (about 360° F) and in this way from 10 to 11 per cent. solutions are readily obtained It is important that the salt should be finely divided in order that the dissolution may proceed as quickly as possible because prolonged digestion of the solvent at the temperature indicated leads to the formation of acrolein (acraldehyde) a substance having very irritating properties More concentrated glycerine solutions may be produced but these exist at the ordinary temperature in a state of supersaturation and the salt gradually crystallises out, the separation being accelerated by agitation. The high temperature required for the preparation has the useful effect of ensuring the sterilisation of the solution.

Further experiments showed that sodium cinnamate is almost insoluble in chloroform acetone ether absolute alcohol and other low boiling point organic solvents Boiling water dissolves a large amount of the salt (about 25 per cent.) but the greater portion of the substance crystallises out on cooling a sediment is slowly formed in 10 or 12 per cent. solutions, the supernatant liquid being distinctly alkaline to litmus paper

Ethyl acetate ethyl benzoate and ethyl cinnamate dissolve appreciable quantities of the salt but the solutions are too dilute for practical purposes Hot oleic acid takes up a large amount of the cinnamate, but the greater part of the salt separates out again on cooling to form with the solvent a viscid emulsion.

It is, indeed a fortunate circumstance that glycerine is the most suitable solvent for the cinnamate, because this liquid has other properties which combine to make it a particularly useful medium for the subcutaneous introduction of the drug firstly *it is very inert* and *secondly it is* miscible with water or aqueous solutions A gradual addition of water to the glycerine solution would take place in the tissues into which the liquid is injected, bringing the salt into intimate contact with the parts affected.

The further study of other preparations of cinnamic acid and its derivatives is in progress

THE HETOL TREATMENT OF TUBERCULOSIS

BY DR. O AMREIN

IN 1888 Professor Landerer of Stuttgart proposed a new treatment of tuberculosis and 10 years afterwards he published in a large volume[1] his technical and physiological observations and the results which he obtained Landerer holds the opinion that the tuberculous affections have little tendency to heal owing to the want of blood vessels which is very unfavourable to the process of cicatrisation. Therefore he tries to provoke an artificial hyperæmia" in the neighbourhood of the tubercle nodules by injecting cinnamylic acid[2] into the circulatory system and he observes an inflammation and accumulation of leucocytes round the tuberculous foci (state of leucocytosis). The next stage is emigration of multinuclear leucocytes into the alveolar septa and organisation of blood vessels (state of organisation). In the next place new vessels and fibrous tissue grow through the tubercle nodules (state of vascularisation) and finally this new fibrous tissue becomes solid and the result is a cicatrice (state of cicatrisation and retraction) He thinks that this healing process is similar to the natural one, only quicker and more solid. Instead of the cinnamylic acid Landerer afterwards used the cinnamylic soda salt and called it hetol.' Further publications (Krämer) show that the principal action of the hetol treatment is the leucocytosis (therefore everything causing a leucocytosis would be a help in combating tuberculous diseases) This method of Landerer has been tried by a great many physicians and notwithstanding great opposition at the time of its introduction it has become a very well known one in Germany and Switzerland. But up to the present time much discussion favourable and unfavourable has occurred. *As against the good results published by Landerer* himself and other authors (Heusser Krämer &c) is to be set the fact that other physicians did not find the expected effect. I mention here especially the publication by Dr H Staub (at the sanatorium Wald Zürich) in No 12, 1901 of the *Correspondenzblatt für Schweizerärzte* and the discussion between him and Dr Heusser of Davos in the same medical paper

As the observed results of many cases can alone enable medical men to decide as to the efficacy of the treatment I here bring forward my results obtained by hetol treatment in the period 1899-1901. I learned the method (intravenous injections) at the Sanatorium Wald in 1899 and I have used it in the manner described by Dr Staub In the first place, I may say that I have never observed any harmful influence either on the local state of the lungs or on the general state of health of the patient. There was never any inflammation at the place of injection. In one case however (Case 13) every injection caused pruritus cutaneus on the chest after from three to four hours lasting about half an hour, accompanied by fever I always began with one milligramme (0·001 gramme) I injected the hetol every third day and increased the dose after two injections of a similar dose by one milligramme until 10 milligrammes had been reached then by two and a half milligrammes until from 20 to 25 milligrammes (maximal doses) had been reached using a solution of 1 per cent. up to 10 milligrammes and a solution of 5 per cent. from 10 milligrammes to from 20 to 25 milligrammes. A stasis of blood in the veins of the arm was caused by an elastic ligature and after disinfection by spiritus saponatus and sublimate the injection was made into the vena mediana cubiti. The temperature was taken at 7 A.M. 9 A.M and at 12 noon and at 2.30 P.M. 4 P.M 6 P.M and 9 P.M in the mouth (10 minutes) and the above mentioned dose was increased only after the temperature did not exceed 37·3° C During menstruation the injections were not stopped on female patients

The accompanying table, constructed after the example of Dr Staub gives all the observed effects of the treatment, and also all details—the state of the disease and its complications the number of days of general treatment the number and dose of the special injections the temperature,

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[1] Die Behandlung der Tuberculose mit Zimmtsäure

[2] A constituent part of "Peruvian balsam" which was recommended for the treatment of tuberculosis a long time ago

TABLE SETTING FORTH ALL THE OBSERVED EFFECTS OF THE HETOL TREATMENT OF TUBERCULOSIS IN 13 CASES

Case	Sex	Years of age	Duration of illness	State of the disease *	Complications	Days of general treatment	Number of injections	Maximum dose in milligrammes	Fever		Bacilli		Difference of weight in kilogrammes	Local effect	Success	Further information
									Before the injection	After cure	Before the injection	After cure				
1	M	24	2 years	I	Otitis media chronica.	147	24	25	–	–	–	–	+2	Improved	Positive	The patient has been working at his business for two years
2	M	21	1 year	I	—	142	28	25	–	–	–	–	+1 2	"	"	Has been working for one and a half years
3	F	22	2 years	III	—	141	30	20	–	+	+	+	–1	Worse.	Negative	—
4	M	22	9 months	II	—	141	46	25	–	–	+	+	+4 5	Improved	Positive	—
5	F	21	6	II	Tuberculous laryngitis	159	30	20	+	+	+	+	–5	Worse	Negative	—
6	M	17	6 "	II	—	123	43	25	–	–	–	–	–4 5	"	"	—
7	M	21	3 "	II	—	120	36	25	–	–	–	–	–1	Stationary	"	Died in 1901
8	M	36	7 years	II	—	60	32	25	+	–	+	+	+2	"	"	—
9	F	28	2 "	II	—	84	26	20	+	–	+	+	+2	"	"	—
10	M	33	7 "	II	—	326	47	25	–	–	+	+	+0 5	"	"	—
11	M	26	6 months	I	Acute gonorrhœa	146	30	25	–	–	+	–	+1 5	Improved	Positive	Has been working for a year
12	M	26	7 years	II	—	383	22	25	–	–	+	+	–1	Stationary	Negative	—
13	M	30	2	II	Caries of the ninth right rib	141	2	1	After each injection fever and pruritus cutaneus							

* I follow the very well known system of States I, II, and III by Turban

before and after the "cure," the bacilli before and after the "cure," the weight gain or loss, the local success, &c.

It will be seen that real positive success was obtained in four cases out of the 13 (Cases 1, 2, 4, and 11), but as all patients have been undergoing a cure the whole time in the high altitudes (nine of them at Davos Claendal and the others at Arosa) it is quite impossible to say whether these results are caused by the injections or not, and whether they could not have been obtained by the climatological and dietetic treatment alone I must say that they are not at all different from some cases of mine of similar character in which the patients were not injected.

Of great interest are Cases 3 and 5 Both of these patients were young women, rather stationary cases, who had been at Davos already for one and a half years and nine months respectively without improving Certainly if after the injection cure they had shown an improvement it must have been caused by these injections. But neither showed any quicker or greater improvement.

One patient (Case 9) lost the fever (at the beginning 38 2° C) after some weeks, but was lying in bed all that time In this case the lessening of the fever seemed to me to be brought about more quickly than I observe generally One patient (Case 3) got fever during the injection cure, but after an acute and bad bronchitis, and did not lose it again With regard to the eight patients with bacilli in the sputum at the beginning one lost them after some weeks and the others kept them. No patients with "closed tuberculosis" showed bacilli during the injection cure. The patient in Case 13 got a temperature of 38 9 C after the injection of one milligramme, and after an interval of a week again after the same dose, with much expectoration and pruritus cutaneus on the chest (above mentioned), so that the injections were not continued It was a bad case with cavities and caries of the ninth right rib (this was successfully operated on later) Cases 10, 12, 13, and 4 always showed an increased expectoration on the day after the injections I have never observed any hæmorrhage [3]

The only positive success that I could remark, therefore, was the lessening of the fever in Case 9 Certainly this one case cannot tell us if we must say "*Post hoc ergo propter hoc*," but as I mentioned the lessening of the high temperature occurred more quickly than usual (I may observe that Dr Lips of the Sanatorium Wehrawald wrote to me in a letter dated Oct 4th, 1901, about a patient whom he was sending to Arosa, that by the hetol treatment the temperature, from being irregular and high, became constant and normal.)

Besides that my table shows about the same results as the above mentioned paper by Dr Staub no harmful influence was apparent, and, on the other hand, I never could see any positively good effect which I could not explain myself by the climatological (altitude) and hygienic and dietetic treatment.

Arosa Switzerland

AN EXPLANATION OF THE CAUSE OF INEQUALITY OF PUPILS IN CASES OF THORACIC ANEURYSM

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THE RECEIVED EXPLANATION OF ANISOCORIA IN THORACIC ANEURYSM IS UNSATISFACTORY

HITHERTO the accepted explanation of the inequality of the pupils which so frequently occurs in cases of aneurysm of the thoracic aorta has supposed that there is some interference with the normal activity of the sympathetic nerve But for long it has been noticed that there might be inequality of the pupils, although there was no evidence of implication of that portion of the nerve trunk containing dilator fibres for the pupil. It was therefore supposed that some influence was exerted through the nerve filaments of the sympathetic which supplied the sac wall of the aneurysm. On examining cases of thoracic aneurysm in which the phenomenon was present it became obvious that the received explanation was unsatisfactory, both on anatomical and physiological grounds. The original theory seemed to be definitely disproved by such a case as that of Case 4 (*infra*) in which though the pupils were unequal the aneurysms sprang from the first part of the arch of the aorta, and did *not come into relationship with that part of the sympathetic* trunk which contained the fibres that supply the iris The modification of the theory which supposes influences to be transmitted through the sympathetic filaments which supply the sac wall accepts the premiss that such filaments exist. In the majority of cases of aneurysm that are of considerable size the sac wall consists, to a very large extent, not of the original arterial coats but of the surrounding structures compressed or eroded. In such cases a very great part of the sac wall must be without any *special sympathetic* nervous supply, it follows therefore that the premiss upon which this theory is based may possibly be unsound.

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[3] About the leucocytosis which should be a very great one after the injections (Landerer) I made some experiments in 1900 at Davos Claendal On two patients (Case 8 in the table and a physician whom I treated with hetol and who was already in a state of relative healing (not mentioned in the table) I found the greatest leucocytosis four hours after the injections (using the apparatus by Thoma Zeiss) and greater when a meal was taken between the injection and the blood analysis, but never exceeding more than 11 000 leucocytes in one cubic millimetre. Experiments on myself showed nearly the same great leucocytosis after a big meal I never saw an increasing of the leucocytes to the double number or more as Landerer is said to have seen

The objections on physiological grounds to this nervous theory are even more weighty As far back as 1858 Ogle noticed that though in most cases in which the pupils were unequal the left was the smaller yet this was not the invariable rule. He put forward the view that sometimes stimulation and sometimes paralysis of the sympathetic was the mechanism by which this observation could be explained In some cases it is true, it is possible to conceive that such conditions may be present, but in most so much hypothesis incapable of proof is necessary that the explanation ceases to afford satisfaction. At the best the theory involves the proposition that though the mechanism *in two cases* is similar yet the effect of its operation may be one of two results diametrically opposed.

The objection however that is most fatal to this theory is based upon the fact that though inequality of the pupils is quite common in thoracic aneurysm yet other signs of interference with the sympathetic system are of extreme rarity Claude Bernard in 1852 investigated experimentally the action of the sympathetic not only with regard to its influence over the iris but also with regard to its other functions. Since then many cases have been recorded in which the trunk of the sympathetic has been affected by external influences and in these cases not only are there pupillary changes but also vaso-motor and other phenomena. Thus in a case which was admitted *to the London Hospital* in 1901 under the care of Mr P Furnivall the implication of the left sympathetic in a new growth was associated not only with diminution in the size of the left pupil but also with a complete loss of power to dilate on shading and a partial loss on the *instillation* of cocaine in addition there were some enophthalmos and pseudoptosis on the left side with anidrosis as tested by pilocarpine on the left side of the face and neck. In those cases in which inequality of pupils occurred in association with aneurysm of the thoracic aorta no instance was found in which there was any interference whatever with the normal pupillary reflexes, nor was there any case in which there was enophthalmos exophthalmos, pseudoptosis or retraction of the lids, nor any in which there was recognisable abnormality of the vaso-motor or sweat gland systems. Sir William T Gairdner in Allbutt's 'System of Medicine" in an article upon aneurysm is apparently so convinced that inequality of the pupils associated with thoracic aneurysm is in all cases due to implication of the sympathetic that he writes *There need be little* hesitation in affirming that the Argyll Robertson pupil will be found as characteristic of the cases depending on thoracic or aneurysmal tumours as it is of the other forms of spinal myosis." If the inequality of the pupils were *due in all cases to* implication of the sympathetic Sir W T Gairdner's statement would be correct in a long series of cases however no example has been found in which the Argyll Robertson pupil was present or any of the other phenomena usually associated with interference with the *sympathetic*. It is also a matter of common knowledge that myosis of nervous origin is usually extremely well marked, whereas the inequality of the pupils associated with thoracic aneurysm is seldom great and often only demonstrable when the pupils are moderately dilated in a dim light.

In view of these difficulties it seemed necessary to seek some other possible cause for the inequality of the pupils and the possibility of vascular conditions affecting their size was submitted to investigation.

VASCULAR CONDITIONS MAY INFLUENCE THE SIZE OF THE PUPILS.

It is well known that in acute inflammation of the iris the pupil is small, this is in all probability due to vascular turgescence, though conceivably it might be the result of nervous influence. In cases, too in which the general blood pressure is markedly increased—for instance, in chronic interstitial nephritis—*it is extremely common to find small* pupils. On the other hand, most states in which the blood pressure is low are characterised by large pupils examples are to be found in cases of typhoid fever or chlorosis Syncope also which as Dr Leonard Hill has shown is associated with a determination of the blood into the portal area, is characterised by enlargement of the pupils. These examples are sufficient to suggest that probably the size of the pupils is not always entirely controlled by nervous influences. Vascular conditions may also partly if not wholly explain the large pupil of chronic glaucoma or the contracted pupil found associated with lowering of the tension of the aqueous humour in cases of punctured wound of the cornea.

In considering the effect of vascular conditions upon the size of the pupils it at once occurs that mere vascular turgescence is insufficient to produce myosis, if this were the case the pupils should be minute in all cases of venous engorgement—for instance, in heart failure. Often, however in such cases, though the veins of the head and neck are distended the pupils are large. It does not seem to be true that the mere filling of the iris with blood will lead to narrowing of the pupil. On the other hand, there is some definite relationship between the arterial blood pressure and the size of the pupil. This relationship is probably to be explained by the anatomical peculiarities of the vessels of the iris, as Waller originally showed they are spiral or zigzag so that during contraction or dilatation their lumen is not changed in calibre. *It is a well known physical fact* that the raising of the pressure in a fluid contained in a flexible spiral tube tends to cause elongation and straightening of the tube.[1] From this it follows that a rise of blood pressure in the spiral vessels of the iris would tend to lengthen them and to lead to narrowing of the pupil, and *vice versâ* a fall of blood pressure to shortening of the vessels and enlargement of the pupil In the same way perhaps, may be explained in part the alteration in the size of the pupil associated with changes of tension in the aqueous humour as in glaucoma or punctured wounds of the cornea.

If then alterations in the general arterial blood pressure can lead to changes in the size of the pupils inequalities in *the local blood pressure may be expected to lead to* inequalities in the size of the pupils Local inequalities of blood pressure are of common occurrence in cases of aneurysm, inequality of the radial pulses is frequently noted and inequality of the carotid or temporal pulse perhaps only less frequently because less often sought. Such differences in the volume of the pulse are not infrequently the result of conditions obtaining which facilitate or retard the flow of blood from the aorta into one or other of the great vessels and the inequality may also exist in the vessels of the iris if the presence of atheromatous degeneration in the circle of Willis prevents rapid equalisation of blood pressure in that region. It seemed, therefore that the anisocoria met with in some cases of thoracic aneurysm might be sufficiently explained by unilateral alterations in blood pressure. It has been our endeavour to submit this view in the first place to the test of clinical experience and secondly to find experimental proof of its validity

EVIDENCE BASED UPON CLINICAL OBSERVATION

If in a case of thoracic aneurysm the pupils and the radial pulses are unequal it is commonly found that the radial pulse is greater on the side on which the pupil is smaller Thus, taking *from* the records of the London Hospital 26 consecutive cases of inequality of the pupils associated with thoracic aneurysm occurring during the last four years in which definite notes were made concerning the relative size of the radial pulses and of the pupils it was found that in 11 *cases the radial pulse was larger on the side on which the* pupil was smaller, in eight the radial pulses were stated to have been equal, and in seven the larger pulse and the larger pupil were stated to have been on the same side. The observation, as a rule, was made by the clinical clerk to the case. It does not necessarily follow that because there is inequality of the radial pulses there must necessarily be a similar inequality in the ophthalmic arteries. It seemed that there would be less risk of fallacy if the relative size of the temporal arteries was recorded and compared with the size of the pupils, since the observations have been thus recorded it has been found to be extremely common for the smaller pupil to correspond to the larger temporal pulse In fact, up to the present time no negative example has occurred in our experience.

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[1] This fact is illustrated in the familiar instruments Bourdon's steam-pressure gauge and Fick's spring kymograph

The following cases may be taken as examples —

CASE 1. *A case of aneurysm of the second and third parts of the arch of the aorta in which the right pupil was greater than the left and the left radial pulse greater than the right*—A male patient was admitted into the London Hospital in 1900 under the care of Dr Percy Kidd with signs of an aneurysm of the transverse arch of the aorta pressing upon and obstructing the left bronchus and also causing paralysis of the left recurrent laryngeal nerve The right pupil was then larger than the left, the left radial pulse was readily felt but the right was scarcely palpable. Both pupils reacted to light and with accommodation Unfortunately, no note was recorded as to the comparative size of the temporal pulses He was readmitted in 1902, under the care of Dr H Head, with similar signs and shortly afterwards died At the post-mortem examination a large aneurysm was found involving the transverse arch and the upper half of the descending thoracic aorta, this had pressed upon the œsophagus and the left bronchus and had eroded the third, fourth, and the fifth dorsal vertebræ, the orifice of the innominate artery had obviously been pressed upon and obstructed

CASE 2. *A case of aneurysm of the transverse arch of the aorta in which the left pupil was greater than the right and the right temporal and radial pulses greater than those on the left side*—A male patient was admitted to the London Hospital under the care of Dr A. E Sansom with the signs of aneurysm of the transverse arch of the aorta. The left pupil was greater than the right and the right radial pulse was greater than the left, on the left side the temporal pulse was scarcely palpable whereas on the right side it was easily felt. The pupil reactions were normal Death resulted from rupture into a bronchus and at the necropsy the aneurysm was found to be of the transverse arch of the aorta, eroding the bodies of the third, fourth, and fifth dorsal vertebræ and compressing the apex of the left lung This case is also of interest in that though the aneurysm was in relation to the trunk of the sympathetic on the left side, yet the left pupil was greater than the right and there was no evidence of sympathetic paralysis

CASE 3. *A case of aneurysm of the first part of the arch of the aorta in which the right pupil was greater than the left and the left radial pulse greater than the right*—A male patient was admitted to the London Hospital in 1901 under the care of Dr A. E. Sansom with a pulsating fluctuating swelling in the second and third right intercostal spaces which was diagnosed as an aneurysm of the first part of the arch of the aorta. There was no laryngeal paralysis. The right pupil was greater than the left and the left radial pulse was greater than that on the right Both pupils reacted to light and with accommodation

CASE 4 *A case of aneurysm of the arch of the aorta in which the right pupil was greater than the left and both temporal and radial pulses on the left side greater than those upon the right*—A male patient was admitted to the London Hospital in 1901 under the care of Dr Stephen Mackenzie with the signs of an aneurysm of the first part of the arch of the aorta and of pulmonary tuberculosis at the right apex. The right pupil was sometimes equal to, and sometimes larger than, the left, the temporal and radial pulses on the left side were greater than those on the right. Both pupils reacted to light and with accommodation At the necropsy there was found to be extensive pulmonary tuberculosis at the apex of the right lung and two aneurysms sprang from the first part of the arch of the aorta, one passing into the right lung and the other passing back into the posterior mediastinum Neither of these aneurysms came into relation with the trunk of the sympathetic nor were there any signs of interference with its function.

It is unnecessary to multiply examples, these cases will suffice as instances of enlargement of the pupil upon that side upon which there is presumptive evidence in favour of some obstruction of the blood flow and absence of any evidence of interference with the sympathetic

In the next place clinical evidence was sought to show the effect of obstruction of the carotid vessels in the neck These cases serve to confirm the accuracy of the other observations

CASE 5 *A case of aneurysm of the innominate artery in which the right pupil was greater than the left and the left temporal and radial pulses greater than the right*—A female patient was admitted to the London Hospital in 1902 under the care of Dr A. E Sansom There was a pulsating swelling at the root of the neck on the right side, the temporal and radial pulses on the right were smaller than those on the left, and the right pupil was greater than the left

CASE 6 *A case in which the right common carotid was tied for aneurysm in the innominate artery*—A patient was admitted to the London Hospital in 1901 under the care of Mr Waren Tay with an aneurysm at the root of the neck in the right side The pupils were then equal. Distal ligature of the common carotid was performed by Mr T H. Openshaw After the operation the right temporal pulse could not be felt and the right pupil was larger than the left, and so remained

CASE 7 *A case in which the left common carotid was tied for primary hæmorrhage*—A boy, aged 12 years, was admitted to the London Hospital in 1902 under the care of Mr C W Mansell Moullin suffering from a wound of the left common carotid artery which had been inflicted by some broken glass The artery was ligatured but the hæmorrhage had been so great that the patient died two hours later After the ligature the left pupil was found to be greater than the right and so remained until death

Summary of the Cases

Case	Diagnosis	Larger pupil	Larger pulse.
1	Aneurysm second and third parts of aortic arch	Right	Left (radial)
2.	Aneurysm of transverse arch	Left	Right (radial and temporal)
3	Aneurysm of first part of arch	Right	Left (radial)
4	Aneurysm of first part of arch	Right	Left (radial and temporal)
5	Aneurysm of innominate artery	Right	Left (radial and temporal)
6	Ligature of right common carotid artery	Right	Left (temporal)
7	Ligature of left common carotid artery	Left	Right (temporal)

EVIDENCE BASED UPON EXPERIMENTS

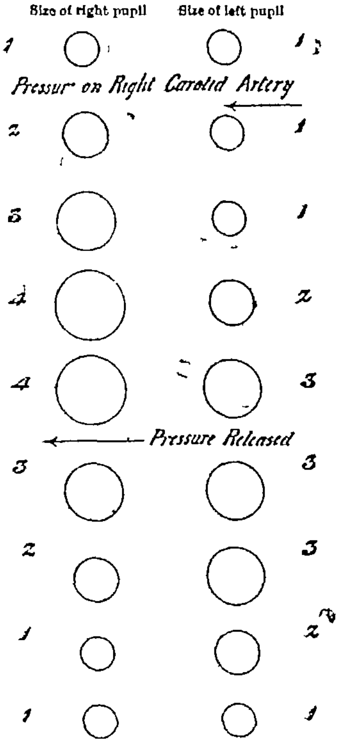
In order to test the accuracy of the clinical evidence experiments were made on animals Rabbits were chosen for the purpose of the observations and the results obtained were briefly as follows

EXPERIMENT 1.—If a rabbit be anæsthetised and its carotid artery be exposed and separated from its sheath compression of the artery sufficient to abolish circulation through it may produce an alteration of the pupil The effect, if any, is an enlargement of both pupils. This is by no means constant, but is best seen with pupils moderately contracted at the outset. The change produced is slight. Whether it is absolutely synchronous in both pupils could not be definitely determined owing to the impossibility of watching both the eyes of a rabbit at the same time It is, however, not markedly asynchronous

EXPERIMENT 2—If the animal be now killed and water forcibly injected into one carotid artery the pupil on that side diminishes in size. The amount of diminution which can thus be caused is considerable in degree, but not extreme, and is more marked in an originally dilated pupil than in one which was already contracted This is in accordance with our clinical experience in comparable cases The alteration is entirely independent of intra-ocular tension occurring equally well after crucial incision of the cornea and removal of the lens in the dead animal The effect of such injections is entirely unilateral. It follows that unilateral alterations of intra vascular pressure can cause considerable variations in the size of the pupil. And we were led to attribute the fact that closure of one carotid artery does not produce in rabbits a marked or even definite inequality of pupil to the influence of two factors: first, that the communication between the vessels at the base of the brain appears to be extremely free, so that a unilateral fall of pressure is almost instantly felt equally on the two sides and both the pupils undergo a slight enlargement; and secondly that in the lower animals the vertebral arteries play relatively a much greater part in the arterial supply than is the case in man. Thus even in dogs as shown by Dr. Leonard Hill the vertebral arteries alone can perfectly maintain the cerebral circulation.

It therefore seemed advisable to try the same experiment in a suitable animal after one or both vertebral arteries had been ligatured. This procedure was however made unnecessary by the discovery that we could invariably produce the desired result upon ourselves by the unilateral compression of the artery. And the same facts have been observed on others.

EXPERIMENT 3.—If digital pressure be applied to one carotid artery sufficient to abolish or considerably reduce the temporal pulsation on that side the following events present themselves (see Figure). The pupil on the same side gradually enlarges and it remains enlarged so long as pressure is maintained. A little later an enlargement of the opposite pupil follows. This pupil eventually reaches the size of that upon the side of pressure in certain individuals but does not usually do so. Ordinarily a condition is obtained in which both pupils are larger than before, and that upon the side of pressure definitely larger than the other. On now releasing pressure both the pupils gradually regain their normal size, that on the side of pressure lessening distinctly earlier than its fellow. In this experiment we attribute the enlargement of the pupil on the same side to the immediate fall of pressure in the ocular vessels which results from the compression of the carotid artery. The subsequent enlargement on the opposite side is due to the general fall of pressure in the circle of Willis which results from the same cause. In the majority of individuals, as we believe, the communication at the base of the brain is not sufficiently free to equalise this pressure after the closure of one carotid artery in the neck, and inequality of pupils is the consequence. In cases of aneurysm this is likely to be even more marked in consequence of the atheroma usually associated with them; this would considerably affect compensatory flow through the communicating arteries, rendering them rigid and less easily dilatable. Where ultimate equality of the dilated pupils shows itself in this experiment it is probably due to an unusual freedom of communication through these communicating vessels in the individual concerned. The phenomena in question are not due to pressure on the sympathetic in the experiment, for other evidences of its paralysis are conspicuously absent and both the pupils share in the effect. Nor are they due to a cervical reflex for the enlargement is asynchronous and asymmetrical and similar pressure may be made upon the neck allowing the carotid artery to slip aside without producing any such result. That they are vascular in origin is further shown by the fact that on release of pressure the return diminution of the pupils occurs by a series of small waves or oscillations synchronous with the pulse in the carotid. The left carotid artery will usually be found the easier for the purposes of demonstrating these results, but they are readily obtained with either. In cases of aneurysm with unequal pupils we find that pressure on the carotid artery on the side of the small pupil results in its enlargement. That this effect is purely vascular is again suggested by the fact that one such patient volunteered the statement that he temporarily lost the vision of the eye concerned while the compression lasted. Both on clinical and on experimental grounds then it seems reasonable to suppose that inequality of the pupils may be the result of local inequalities of blood pressure and seeing that in many cases of thoracic aneurysm such conditions obtain while evidence of implication of the nervous system is entirely absent, it is justifiable to conclude that anisocoria when present is due not to nervous but to vascular conditions.



Diagrammatic view of effect of pressure on the carotid artery upon the pupils. The figures 1, 2, 3, 4 indicate varying sizes. At the commencement both pupils are the same size. Pressure being made on the right carotid artery the right pupil dilates, the left pupil remaining the normal size. As the pressure is kept up the left pupil gradually dilates until it becomes nearly as large as the right. On the pressure being relaxed the right pupil soon contracts. The left contracts also but much more gradually.

GENERAL SUMMARY.

A.—The explanation which ascribes the anisocoria at times occurring in cases of thoracic aneurysm to interference with the sympathetic is unsatisfactory. 1. On anatomical grounds (*a*) because in the majority of cases there is no evidence of implication of that portion of the sympathetic nerve trunk containing pupil dilator fibres; and (*b*) because it is not established that sympathetic filaments supply the sac wall of an aneurysm. 2. On physiological grounds (*a*) because the explanation supposes that the same conditions may produce sometimes irritation and sometimes paralysis of the nerve; (*b*) because cases are rare in which there is any evidence apart from the pupillary change that the sympathetic is involved; and (*c*) because the pupillary changes are not those met with in cases where the sympathetic is involved.

B.—1. Alterations in vascular conditions may be associated with alterations in the size of the pupils: (*a*) High arterial tension is associated with small pupils; and (*b*) low arterial tension is associated with large pupils. 2. The physical explanation of this phenomenon is probably to be found in the spiral structure of the vessels of the iris.

C.—Local inequalities of blood pressure may therefore be associated with inequalities of the pupils: (*a*) Clinical evidence. 1. Enlargement of pupils is frequently associated with diminution of the temporal and radial pulses on the same side of the body. 2. Obstruction of the carotid artery on one side of the neck is associated with enlargement of the pupil upon the same side. (*b*) Experimental evidence. 1. Obstruction of the carotid in rabbits is associated with enlargement of the pupils on both sides owing to the freedom of circulation at the base of the brain. 2. Injection of water into a carotid artery of a dead rabbit causes narrowing of the pupil upon the same side. 3. Digital compression of the carotid artery in the human subject is associated with enlargement of the pupil upon the same side.

CONCLUSION

Inequality of pupils associated with thoracic aneurysm is usually due to inequality of blood pressure in the ophthalmic arteries resulting from the abnormal vascular conditions

Our best thanks are due to Dr Mackenzie, Dr Sansom, Dr Kidd, and Dr Head, and to Mr Waren Tay, Mr Mansell Moullin, and Mr Furnivall for permission to record the cases quoted. The experimental work was done in the Gordon Laboratory at Guy's Hospital.

HISTORICAL BIBLIOGRAPHY

1727 Pourfour de Petit (Memoires de l Academie Royale des Sciences 1727, p 1 and Histoire de l Academie Royale des Sciences 1727 p 7) claimed that the sympathetic (intercostal nerve) took origin from the spinal cord and controlled the size of the pupil He described the effect of division of the nerve in animals

1839 Reid (Edinburgh Medical and Surgical Journal, vol xlix p 132, January 1838, and vol lii p 38 August 30th, 1839) repeated and confirmed Petit's experiments and showed that division of the nerve led to contraction of the pupil upon the same side.

1846 Serafino Biffi (Omodei Annali di Medicina, third series, vol xxii pp 630 to 641, vol cxviii the Catalogue of the Library of the Royal College of Surgeons of England) demonstrated the effect of stimulating the peripheral and of the divided sympathetic

1847 Hyrtl (Handbuch der Topographische Anatomie, p 202) claims that vascular conditions cannot affect the size of the pupils for the following reasons: 1 Because the vessels of the head may be engorged and yet the pupil be large N.B The possibility of the size of the pupil varying inversely as the arterial tension has been discussed in the present paper and an attempt has been made to show that venous engorgement, being frequently associated with a fall of the arterial tension may lead to enlargement of the pupils 2. Because after death by decapitation the pupils may be small even though the blood has drained from the vessels N B Hyrtl forgot that the cervical sympathetic must have been divided with the rest of the neck and that myosis of nervous origin would therefore be a probable consequence Langley and Anderson (*vide infra*) accept Hyrtl's statement without further investigation. It is a well known fact that if an animal be bled to death in a simpler way than by decapitation the pupils become large

1853 Walshe (Diseases of the Lungs Heart and Aorta, p 769) described inequality of the pupils in association with thoracic aneurysm but did not suggest an explanation

1854 Brown Séquard (Comptes Rendus de l'Academie des Sciences, 1854 tome xxxviii, p 72) extended and completed Claude Bernard's researches

1855 Gairdner (Edinburgh Medical Journal, August, 1855 p 153) described a case of thoracic aneurysm which at the necropsy was found to have involved the inferior cervical ganglion of the sympathetic in which during life the pupil on the same side had been the smaller of the two and which did not dilate on shading nor completely on the instillation of atropin No mention is made of unilateral changes of temperature sweating, enophthalmos or ptosis but the case seems to have been one of some sympathetic paralysis due to the growth of a thoracic aneurysm

1856 Waller (Comptes Rendus de l Académie des Sciences 1856 tome xliii, p 659) described the spiral or zigzag structure of the vessels of the iris as seen by the microscope in albino rabbits and showed that whether straight when the pupil was small or coiled when the pupil was large their calibre did not vary

1858 Ogle (Transactions of the Royal Medical and Chirurgical Society, 1858 vol xli, p 397) wrote on the influence of the sympathetic on the eye and its appendages This paper is the *locus classicus* for the clinical aspect of the question Ogle collected 27 cases in which there was some abnormality of the pupils in association with aneurysms either thoracic or cervical or with malignant growths in the thorax or neck, or with inflammatory processes in the neck or with injuries of the cervical cord In some of these there can be no doubt but that there was sympathetic paralysis or interference with the cilio-spinal centre In others the evidence is not so clear and Ogle is forced into the explanation that at times there may be an irritation of the sympathetic acting at times directly on the trunk and at times on the sympathetic filaments supplied to the sac wall of an aneurysm It is noteworthy that in the cases where this explanation is necessary there is no record of any sign, beyond inequality of the pupils of implication of the sympathetic Since the publication of Ogle's paper all text-books both English and foreign seem to have accepted his theory as sufficient to explain the anisocoria associated with thoracic aneurysm

1875 Grünhagen and Samkowy (Archiv für die Gesammte Physiologie, x p 165) thought that dilatation of the pupil was caused by action of the sympathetic which acted either (1) by decreasing the quantity of blood in the iris so that it shrinks (2) by contraction of the longitudinal coats of the radially-disposed arteries or (3) by inhibition of the sphincter iridis

1892. Langley and Anderson (Journal of Physiology 1892, vol xiii p 554) in a long and important paper discuss the mechanism of the movements of the iris and conclude that in addition to the sphincter iridis there is a radially-disposed contractile substance not necessarily muscle though for convenience it is called the dilator muscle With regard to some of the points discussed in the present paper they hold that the myosis which results from tapping the anterior chamber may be due to the fact that owing to the reduction of tension the ciliary region of the iris is allowed to come forward We have suggested that it may be partly due to the reduction of the external pressure round a set of spiral vessels in which there is a positive internal pressure Langley and Anderson accepted Hyrtl's views and thought that variations in blood-pressure could not normally affect the size of the pupil They found that by injecting blood and warm saline fluid into the carotid no alteration of the pupil could be obtained in a living animal if however the injection was made in a dead animal and with a carmine injection mass myosis resulted These experiments agree with our own observations which we have attempted to explain as due in the first case to the free anastomosis of the circle and in the second case to an obstruction in that anastomotic ring Langley and Anderson, on the other hand consider that the phenomenon is best explained on the supposition that it is due to stimulation of the sphincter iridis In addition they confirm Waller's account of the structure of the vessels of the iris and give figures showing how during dilatation of the pupil under atropin or stimulation of the sympathetic the vessels become zigzag and retain their normal calibre

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PRELIMINARY NOTE ON THE CHEMICAL AND THERAPEUTIC PROPERTIES OF LACHNANTHES TINCTORIA

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LAST December, at the request of Dr P W Latham of Cambridge, we undertook to investigate the chemical and therapeutic properties of the herb lachnanthes Our investigations were considerably delayed at the outset by the facts that it was impossible to obtain either in England or in America more than a few pounds of the plant for nearly three months and that we experienced great difficulty in obtaining really virulent cultures of tubercle bacilli At the present moment we are hampered by the fact that so small a quantity as 10 pounds of the plant has practically exhausted the available supply in England. Comments have been made on this delay and we think it well to issue a statement of the results which we have so far obtained.

The lachnanthes used by us was first submitted for examination to Mr E M Holmes, the curator of the museum of the Pharmaceutical Society of Great Britain, who kindly undertook this duty for us and who certified that the specimens were genuine. The plant was then forwarded to Messrs John Bell and Co of Oxford street in order that an extract might be prepared, and we are glad of this opportunity of expressing our indebtedness to them for the trouble they took in the matter and for the amount of time they gratuitously gave us The lachnanthes was thoroughly exhausted with 70 per cent alcohol and the alcohol was then completely distilled off the solution *in vacuo* and without the aid of heat. The solution obtained in this manner was employed in our experiments

REPORT BY MR. GARDNER.

The extract made by Messrs Bell and Co from seven and a half pounds of lachnanthes herb contained 2 88 per cent. of solids The whole extract, free from alcohol, was precipitated with lead acetate, the precipitate was then washed and decomposed by sulphuretted hydrogen The aqueous filtrate yielded on evaporation a syrup which was soluble in alcohol and also in acetone. The solution in acetone was deep red and on spontaneous evaporation yielded no crystalline matter but dried to a deep-red brittle shellac-like solid. The lead sulphide precipitate was dried and extracted with ether This ethereal extract deposited a small amount of a red solid, whilst the residue on treatment with acetone yielded a further small amount of a yellow deliquescent substance The mother liquor on spontaneous evaporation left a red syrup which constituted the bulk of the extract

After extraction with ether the lead sulphide precipitate was extracted with 94 per cent alcohol, and this extract yielded on spontaneous evaporation two or three grammes of a red crystalline solid, whilst the mother liquid dried to a red tarry matter, soluble in acetone, but which as yet has shown no signs of crystallisation This constituted the bulk of the extract.

The filtrate from the lead acetate precipitate was now precipitated with lead subacetate. The precipitate thus obtained was decomposed by sulphuretted hydrogen as before and filtered The aqueous filtrate contained the bulk of the resinous matter set free, it was evaporated and the residue exhausted with alcohol. A small portion was, however, insoluble in alcohol and was re-crystallised from water The alcoholic extract was evaporated and extracted with water when a small amount remained undissolved. The bulk dissolved and on evaporation yielded a brittle, yellow deliquescent, amorphous solid which was however soluble in water and insoluble in chloroform. It contained no nitrogen did not reduce Fehling's solution and was unsaturated. There were about from four to five grammes of this

The lead sulphide precipitate was extracted with ether and alcohol. These extracts yielded small deposits of crystalline matter but for the most part dried to a red viscous substance.

The filtrate from the lead subacetate was treated with sulphuretted hydrogen the lead sulphide filtered off and the filtrate evaporated to a dark syrup which was not sweet. This syrup was treated with animal charcoal and the aqueous extract was evaporated. A syrup was obtained which on standing for some weeks deposited crystals. These were filtered on the pump and recrystallised from dilute alcohol. The mother liquor on evaporation left a syrup.

As soon as a sufficient supply of the necessary material can be obtained the nature of these various bodies will be ascertained, as far as it is possible to do so

Report by Dr. Spitta and Dr. Arthur Latham

In these experiments the aqueous solution made by Messrs Bell and Co was used The extract was not wholly dissolved, consequently the suspended matter was thoroughly shaken up before the injections were made. Guinea pigs were the animals employed.

The difficulty experienced at the outset of the investigations in obtaining really virulent cultures of tubercle bacilli was overcome by employing the caseous glands—pounded up in sterile normal saline—of guinea pigs which had been inoculated with fresh tuberculous sputum These emulsions which microscopically were very rich in tubercle bacilli were employed in each series of experiments.

Series I.

The following Experiments were made to ascertain the Lethal Dose of Lachnanthes.

Guinea-pig	Inoculation	Result.	
No 1	1 cubic centimetre of the aqueous solution	Intra-peritoneal injections	No effect
2	2 cubic centimetres	"	
3	3		"
4	4	"	"
5	5	Death in 48 hours	
6	6	24	
7	8	12	

Symptoms—There was paralysis of the hind limbs, then of both the anterior and posterior extremities, with twitching of the muscles and spasmodic movements of the limbs. The animals were unable to stand and they fell on their sides. The muscles of the jaw were affected and there was twitching

Post-mortem examination.—There was no hæmorrhage in the spinal cord. The gall bladder was full. The peritoneum contained granules of pigment and the omentum was deeply pigmented. The phagocytes contained granules of pigment. (N B.—This pigment represents the insoluble material deposited at the bottom of the bottle containing the extract.)

Series II.

Control Animals Inoculated with Tuberculous Material

Guinea pig	Weight in grammes.	Inoculation.	Result.
No 1	200	Inoculated subcutaneously at the knee with 0·5 cubic centimetre of emulsion in normal sterile saline of caseous glands of a guinea pig dead from typical tuberculosis.	Death in six weeks from typical tuberculosis
2	276	The same	Death in seven weeks and two days from typical tuberculosis.
		Animals Inoculated with Tuberculous Material and Lachnanthes.	
No 3	261	The same plus three cubic centimetres of the solution of lachnanthes injected subcutaneously at the knee on the opposite side.	Death in five weeks and two days Typical tuberculosis.
4	268	The same	Death in six weeks and one day Typical tuberculosis
5	251	0·5 cubic centimetre of emulsion of bacillus tuberculosis as above. One cubic centimetre of the solution of lachnanthes was injected twice a week subcutaneously till death.	Death in 10 days Nothing was found post mortem save enlargement of the inguinal glands and deep lumbar gland on the side inoculated with tubercle bacilli
6	250	The same.	Death in four weeks and four days. Typical tuberculosis.

Series III

Control Animals Inoculated with Tuberculous Material on May 23rd 1902

Guinea pig	Inoculation	Result
No. 1	Inoculated with 0·5 cubic centimetre of emulsion of the glands from guinea pig No 1 in Series II in normal saline.	Death in five weeks and two days from typical tuberculosis
2	The same.	Death in four weeks and three days from typical tuberculosis
	Animals Inoculated with Tuberculous Material and Lachnanthes	
No 3	The same plus three cubic centimetres of solution of lachnanthes injected subcutaneously on the opposite site at the knee.	Death in five weeks and two days from typical tuberculosis
4	The same.	This animal was lost at the Jenner Institute.
5	0·5 cubic centimetre of emulsion of bacillus tuberculosis as above One cubic centimetre of solution of lachnanthes was injected subcutaneously twice a week	Death in 19 days. Post mortem the inguinal and deep lumbar glands were enlarged on the inoculated side The spleen was enlarged and studded with nodules. Tubercle bacilli were found The retro-hepatic gland was enlarged Neither liver nor lung was infected The glands on the opposite side were not enlarged
6	The same.	Death in 25 days. Post mortem there was enlargement of the inguinal and the deep lumbar glands on the inoculated side. The spleen was enlarged and studded with nodules Tubercle bacilli were found. The liver was infected; a few small scattered nodules were present The retro-hepatic gland was enlarged and hard No lung infection was seen There was no glandular enlargement on the uninoculated side

Conclusions—It would appear from the above that lachnanthes consists largely of a resinous substance or substances and some body which is precipitated by lead subacetate and is soluble in water Further so small a dose as five cubic centimetres of an aqueous solution of the material obtained by alcoholic extraction of the plant is sufficiently powerful to kill guinea pigs, whilst doses varying from one cubic centimetre to three cubic centimetres of the same solution do not exert any inhibitory action upon the progress of tuberculosis but rather seem to hasten it. Further experiments are being made and will eventually be published.

Medical Men and Cricket—A cricket match was played at Exeter on July 2nd between Doctors" and the Exeter Home Team" which resulted in an easy win for the medical men, who scored 204 runs against their opponents 47

LEUCOCYTOSIS IN APPENDICITIS

By C J NEPEAN LONGRIDGE, M D, CH B VICT, M R C S ENG, L R C P LOND,
SENIOR HOUSE PHYSICIAN TO ST GEORGE'S HOSPITAL.

HÆMATOLOGICAL examination as an aid to diagnosis and a guide to the suitable season for operation in cases of abdominal inflammation is beginning to be held in some repute in this country The method need not be described, it may, however, be mentioned that the counts recorded in the accompanying table were taken with a Thoma Zeiss hæmocytometer, and the differential counts were made by means of films stained with Jenner's fluid The results point to much the same conclusions as have been arrived at by Cabot, da Costa, Joy and Wright, and other investigators

It is not claimed that the leucocyte count will give an absolute and infallible indication of the presence or absence of pus Such an indication is not of the *most* vital importance since pus *per se* does not kill But the question as to whether a morbid process is of increasing virulence or not hardly needs to have its importance pointed out. It is considered that in the leucocyte count we have a means to answer this important question, for a progressive increase

TABLE SHOWING THE RESULTS OF HÆMATOLOGICAL EXAMINATIONS IN CASES OF APPENDICITIS

No	Date	Age	Sex	Corpuscles Red.	Corpuscles White	Polymorphonuclear cells	Lymphocytes	Hyaline	Eosinophile	Remarks
1	March 17th	38	M	5 050 000	62,500	85 4/	5·6/	8 6/	0 6/	Gangrenous appendicitis
	April 16th	—	—	3,916 000	15 150	—	—	—	—	——
	„ 25th	—	—	4 662,000	12,500	62 0	29 6	6·0	2 4	——
2	March 31st	31	F	3 165,000	16 760	57 0	31 3	10 7	1 0	Chronic catarrh, with slight ulceration
3	April 4th	34	M	3,600 000	11,000	69 0	23 65	5 15	2 2	Chronic catarrhal
4	„ 4th	31	M	3 110 000	26 000	83·0	9·8	6 0	0 2	Stercolith and foul abscess
	„ 20th	—	—	4 033,000	23 750	—	—	—	—	Still discharging fæcal fistula formed
	May 3rd	—	—	4 084 000	10 950	—	—	—	—	Healed
5	April 5th	21	F	4 050,000	9 375	60 8	25 2	11·2	2 8	Pain subsided no operation
6	„ 18th	23	M	3 928,000	6,250	54 8	34·0	8 0	3 2	——
	May 1st	—	—	—	13,990	—	—	—	—	The temperature rose to 100° F on April 30th Operation: much inflammatory matting, no pus
	„ 10th	—	—	4,960 000	10,170	—	—	—	—	Healed
	„ 18th	—	—	4,496 000	7 310	—	—	—	—	——
7	March 15th	30	M	5,060 000	6 200	—	—	—	—	Pain subsided Colic
8	April 20th	51	M	5 344 000	11,250	77 0	17·4	4 8	0 8	——
	„ 22nd	—	—	—	11 480	—	—	—	—	——
	„ 24th	—	—	—	11,060	—	—	—	—	Extensive ulceration of the appendix
9	„ 21st	13	M	4,883 200	14 500	69·0	17 0	12 0	2 0	——
	„ 28th	—	—	4 550 000	17,100	—	—	—	—	——
	May 2nd	—	—	4,478,000	10 000	—	—	—	—	Tuberculosis of the appendix and involvement of the mesenteric glands
	„ 10th	—	—	4 332 000	7,800	—	—	—	—	——
10	April 22nd	16	F	3 800 000	9,375	60 2	31 8	7 0	1 0	No inflammation Soft stercolith
11	„ 22nd	21	F	3 300 000	25,750	75·6	19·0	5·0	0 4	——
	„ 23rd	—	—	—	31 000	—	—	—	—	Appendix normal Pyosalpinx
	„ 27th	—	—	3 384 000	21 150	84 0	10·0	5 4	0 6	——
	May 8th	—	—	3 760 000	17 170	—	—	—	—	Discharging
	„ 18th	—	—	4 000,000	14 620	—	—	—	—	——
	June 5th	—	—	4 230 000	8 905	52 2	33·4	10·8	3 6	Healed
12	April 24th	23	F	4 112 000	6 500	—	—	—	—	——
	May 1st	—	—	—	7 850	—	—	—	—	Pain subsided no operation
13	„ 6th	21	F	3 664,000	7,150	—	—	—	—	Very slight catarrh
14	April 24th	28	F	4,366 000	25,000	85 0	8 0	6 0	1 0	——
	„ 25th	—	—	4,264,000	27 300	—	—	—	—	Appendix long and gangrenous
	May 1st	—	—	—	29 250	—	—	—	—	——
	„ 8th	—	—	4 032 000	14 300	—	—	—	—	On May 3rd the wound broke open discharge of pu
	„ 18th	—	—	5 000 000	6 360	—	—	—	—	Healed
15	„ 7th	31	F	4 320 000	35 900	89 2	5·6	4 8	0 4	Extensive foul abscess in connexion with the appendix.
	„ 11th	—	—	4 410 000	25 260	—	—	—	—	——
	„ 18th	—	—	3,552 000	19,710	—	—	—	—	Discharging
	30th	—	—	—	8 537	—	—	—	—	——
	June 11th	—	—	3 950 000	10 170	56 4	33 5	8 0	1 0	Healed
16	„ 16th	28	M	5 100 000	9 540	57 8	29 0	9 2	4·0	Soft stercolith No ulceration.
17	May 9th	30	F	4,934 000	36 570	85·0	6 6	7 6	0 8	Appendix and cæcum ulcerated with patches of gangrene
	„ 13th	—	—	5 010 000	17 890	—	—	—	—	——
	„ 21st	—	—	4 976 000	11 450	—	—	—	—	Healed
18	„ 19th	32	M	5 016,000	32,334	85·2	7·8	6 6	0 4	Localised abscess round the appendix
	„ 22nd	—	—	4 833 000	15 206	—	—	—	—	——
	28th	—	—	5 000 000	12,723	—	—	—	—	——
	June 6th	—	—	4 000 000	11,130	—	—	—	—	Healed
19	May 17th	9	M	4 432,000	18 440	60·0	30 2	8 0	1 8	General peritonitis Appendix acutely inflamed
	18th	—	—	—	19 030	91 0	3 8	5 8	0·4	Death
20	June 2nd	11	M	5 330 000	29,521	82 6	10 0	7·0	0·4	Appendix perforated Large abscess Death

in the number of leucocytes may be taken as evidence that the inflammatory lesion is developing in severity and may be reaching the stage of pus formation.

Perhaps of even more importance than the quantitative count is the qualitative count of the leucocytes, since it is found that in almost every case the polymorphonuclear cells are increased out of proportion to the other elements, and this fact alone, apart from any great increase in the absolute number of leucocytes, is of the greatest significance

There may be no leucocytosis in cases of appendicitis under the following conditions (1) the mild catarrhal variety, (2) fulminating appendicitis where the resistance of the patient is too feeble to react to the toxæmia, and (3) where an abscess is of some standing and is thoroughly walled off.

A CASE OF EXCISION OF CHRONIC GASTRIC ULCER

BY THOMAS H. KELLOCK, F R C S. ENG

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN GREAT ORMOND-STREET W C.

THE following case seems worth recording showing as it does how much in a suitable case surgery has to offer to a patient suffering from chronic gastric ulcer which whilst not actually endangering life from hæmorrhage may be sufficient from the symptoms it causes to make the patient s life one of very considerable misery and suffering

In October 1901, I was asked by Dr C. T Aveling of Stamford Hill to see a patient under his care who gave the following history She was 36 years of age, she had been married for 12 years but had had no children With the exception of measles when quite young she had had no illness until the present one which began when she was 17 years old, since when she had always suffered from what she described as "chronic dyspepsia" with severe pain in the epigastrium and back *after taking food.* She had always had to be very careful in her diet and to take very small quantities of food at a time, otherwise the pain was rendered very acute. Certain forms of food she had had to avoid altogether as she knew from experience that they would bring on an attack of pain Up to the age of 24 years she was fairly plump but from that time onwards she had lost flesh considerably Since 1898 the symptoms had become worse and she had been constantly laid up the attacks of pain became more frequent, accompanied by vomiting and this independently of the ingestion of food. So suddenly did these attacks occur that frequently she had been sick in the street and had avoided going out for that reason On one occasion, whilst engaged in active housework, she vomited suddenly and thought that there were a few streaks of blood in the matter which she brought up apart from this doubtful occasion there had been no hæmatemesis at any time. The bowels had generally been constipated the catamenia regular.

The patient first came under Dr Aveling s care in 1898, the symptoms then indicating gastritis. Under treatment by medicine and dieting she improved for a time, but in July 1901, she was again under treatment gastric ulcer being suspected she then had tenderness over one particular spot at the epigastrium. The usual treatment brought about no improvement although she dieted herself most carefully With rest in bed and a nearly dry diet she improved a little but relapsed directly she got about again. The patient was a small, anæmic, very thin woman weighing 5 stones 11 pounds Her face was thin and drawn and she complained of a feeling of great weakness. The abdominal walls were thin and retracted. A little tenderness was found on deep palpation over the region of the stomach but there was no evidence of other visceral disease. She and her friends were anxious that an attempt should be made to relieve the condition by operation as although treatment by medicine and dieting had somewhat relieved the attacks of pain, her general condition was becoming worse.

On Oct. 16th, at the Clapton Nursing Home, after suitable preparation in the way of dieting the abdomen was opened through the upper part of the left rectus muscle The anterior wall of the stomach when exposed appeared to be quite healthy but what almost immediately attracted notice was a V shaped opening in the lesser omentum and directly behind this a single round hard band which was attached by one end to the hepatic part of the lesser omentum and by the other to a hard depressed spot in the posterior wall of the stomach near the cardiac end of the lesser curvature This was ligatured and divided, the upper end retracting considerably on section. On examining the stomach no sign of disease except the hard spot just mentioned could be detected by inspection or palpation and it was found possible to draw this part forwards through the opening in the lesser omentum This having been done three temporary sutures were passed through the serous and muscular coats to hold the stomach forwards, and after packing all round with sterilised gauze, the indurated part was excised by two curved incisions made one on either side of it through what appeared to be soft, healthy stomach wall. The stomach was found to be quite empty nothing escaping when it was opened. A little bleeding from the cut edges was arrested by pressure forceps and the opening was closed by three layers of silk sutures—the first in the mucous membrane only the second in the muscular coats and a third in Lembert s fashion in the serous coat, turning in a fair margin on either side and ex*tending a little way beyond either end of the incision* After cleansing the exposed part of the stomach it was returned and the wound in the parietes completely closed. The patient was rather collapsed and retched a good deal just as the operation was concluded 10 ounces of hot saline solution were injected into the rectum and the collapse soon passed off. On examining the part of the stomach wall removed it was found to comprise the whole of a circular ulcer about half an inch in diameter surrounded by a hard turned in edge. The floor of the ulcer was hard and scar like, the tissue composing it appearing to be continuous with what was left attached of the adhesion. The induration around the ulcer spread a very short distance the cut edges being soft and apparently quite healthy

The subsequent history of the case was satisfactorily uneventful Rectal feeding exclusively was employed for seven days after which it was gradually discontinued and food by the mouth was substituted. The abdominal wound gave no trouble it was healed and the stitches were removed on the eleventh day The patient complained on a few occasions of a sharp pain in the left side on attempting to move, but at the end of three weeks she was getting up walking a little and taking a fair amount of solid food without pain or discomfort In April 1902 (five months after the operation) the report of her condition was

Weight, 7 stones 13 pounds [i.e. she had gained 2 stones 2 pounds] has had no medicine for two months, can walk five miles at a stretch has no pain, can eat any ordinary food and is better than she has been for years.

A few points in the case seem worthy of remark. It is unlikely that many would be found lending themselves so readily to radical treatment and on commencing the operation I hardly hoped to find a state of things so easily dealt with. The explanation of the opening in the lesser omentum and the dense band of adhesion behind it was probably that at some time the ulcer had actually or almost, perforated all the coats of the stomach and become adherent to the lesser omentum and that the movements of the stomach had drawn that part of the omentum to which it had become attached away from the rest of that structure and so had formed the cord like process found at the operation. It is possible that the tension in this tight band had been the cause of the pain and vomiting which were set up on any movements of the stomach and when this was found the question naturally arose in my mind whether it would be sufficient to ligature and to divide it and then simply to invert the wall of the stomach round the indurated part in the hope that the ulcer would subsequently heal, and so to avoid the more serious part of the operation—the opening of the stomach itself The absence, however of any evidence of affection of any other part of the stomach and the limitation of the induration to the immediate neighbourhood of the ulcer as shown by palpation seemed sufficient justification for the more radical course which was adopted

I am indebted to Dr Aveling for the notes of the case before operation and the report of the condition of the patient in April, 1902. To his care after the operation and to the assiduous attention received in the nursing home the patient owes much of the satisfactory issue.

Queen Anne-street W

THE TREATMENT OF EARLY MENTAL CASES

BY F S TOOGOOD, M.D LOND ,
MEDICAL SUPERINTENDENT TO THE LEWISHAM INFIRMARY

THE articles by Dr Nathan Raw[1] and by Dr J W Springthorpe[2] and the able leading article in THE LANCET of June 28th, p 1842, must be my excuse, if any be needed, for again writing on this subject. Those responsible for the care of mental cases know that a very large proportion of their patients recover their mental balance within a few days under suitable treatment I do not propose to write a lengthy disquisition upon the causes of temporary insanity In the main my experience tallies with that of Dr Raw and Dr Springthorpe I have notes of several cases in which the mental aberration cleared up entirely with the removal of abdominal tumours, and many others in which restoration to bodily health coincided with the restitution of the mental equilibrium, but in my experience alcoholic excess is responsible for the great bulk of the cases of temporary insanity The ordinary cases of delirium tremens are too well known to need any comment, but there are other cases which give none of the signs of delirium tremens and yet are certainly due to alcohol. The most common class is that of a dementia varying in its degree. The patient has very little memory either for remote or for recent events He can do very little for himself , he forgets how to dress himself , he takes his clothes off and attempts to put them on again 50 times a day Unless carefully watched he passes his excretions under him, or, perhaps, urinates against the wall of the ward He does not ask for food or drink, but when supplied feeds himself in a primitive and dirty manner When asked to give an account of his doings for the day he usually details rambles into the geography of which the names of taverns conspicuously enter Usually these cases clear up within a month or six weeks There is also a class of cases which is distinctly maniacal, and another the members of which are typically melancholic

Occasionally one meets with a case in which disturbances of the special senses are met with and which are recognised as phantasies by the patient. I remember the case of a seaman who was admitted to the mental wards of St. George in the East Infirmary and whose trouble was the apparition of a female walking a few paces ahead of him and who would suddenly jump over the nearest block of warehouses. The patient was quite aware of the unreality of this apparition, but it was very life like in its appearance and persisted for weeks Disturbances of audition, taste, and smell are, of course, much more common

It was to avoid sending such cases away to asylums that I requested the justices of the peace and my board of guardians to permit me to treat all cases of insanity in the wards of the infirmary and I cannot sufficiently thank Mr Brownlow Poulter, J P , and Mr William Brown, J P and chairman of the Lewisham board of guardians, for the interest which they have taken in the experiment and for their persistent endorsement of my request for an efficient mental block.

Taking advantage of Section 21, sub section 1, of the Lunacy Act, 1890, which gives power to detain a lunatic in the wards of a workhouse for 14 days, we as a matter of routine never sent a case to an asylum until that period had elapsed. The results have been remarkable—only one third of the total number have been sent to asylums For three years these cases were treated in ordinary small wards , there were no padded rooms and mechanical restraint was very rarely necessary I do not agree with Dr Raw when he says that cases of delirium tremens cannot be certified as legally insane I have always certified them as being of unsound mind, and I have experienced no difficulty in treating them in an ordinary hospital ward We have now a separate building specially built for the treatment of mental cases, and although there are padded rooms I very rarely find it necessary to use them.

Surely, what has been done in a Poor-law infirmary can be done in a general hospital. There is an ample field amongst the non pauper classes who very properly object to a Poor-law infirmary but who would have no objection to enter the wards of a hospital. Such a course would be very beneficial to the student who, as a rule, knows nothing whatever of lunacy and has probably never seen a certificate. To the patient and his friends the advantage will be enormous two-thirds of the patients will be cured, and no stain of lunacy will rest upon the patient or his family. Those of us who work amongst the lower classes know that a person who has once been an inmate of a lunatic asylum has a very poor chance of obtaining settled employment where he is known, whilst the marrying prospects of the girls of the family are materially reduced The "stigma" of lunacy is a very real one and must be taken into consideration. The mental wards of a hospital would, of course, have to be licensed or registered and would be subject to the inspection of the Visitors in Lunacy

To the proposed reception houses of the London County Council I have the greatest objection By whatever title it may please the council to call them to the general public they will be lunatic asylums and we have no guarantee that they will be available for clinical instruction or that the medical staff will be sufficiently relieved of routine duty to enable its members to give efficient instruction The disadvantage to the student in being compelled to travel to the reception house instead of having the cases under the roof of his own medical school is too obvious to need discussion. The enormous cost might perhaps interest the ratepayer and the distance from home would be a real hardship to the patient's friends

So far as the pauper class in London is concerned the question has been met by the Poor-law authorities, mental wards having been established in all the metropolitan infirmaries , it is now for the general hospitals to deal with the cases arising in the class for which they cater

Lewisham, S E

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed et Caus. Morb* , lib iv , Proœmium.

KING'S COLLEGE HOSPITAL

A CASE OF FATAL PERFORATION OF THE ŒSOPHAGUS IN A YOUNG GIRL.

(Under the care of Dr NESTOR TIRARD)

PERFORATION of the œsophagus not due to trauma or to ulceration from a malignant growth is of extreme rarity. Occasionally it results from severe vomiting, but then some predisposing cause is generally present. In the following case a possible explanation is that a bronchial gland had suppurated and burst both into the œsophagus and into the right bronchus For the notes of this case we are indebted to Dr Murray Leslie

A girl, aged 19 years, was on Nov 12th, 1901, admitted into King's College Hospital, under the care of Dr Tirard, complaining of a constant hacking cough with purulent expectoration One sister had died from tuberculosis, while the patient herself had been subject to attacks of quinsy and had had her tonsils excised She had also had some slight bronchitic attacks with a tendency to asthma as well as a slight attack of rheumatism in childhood Her present illness commenced six weeks before admission with headache and nausea but no actual sickness. A few days later she developed a cough accompanied by sickness but no expectoration The sickness had no definite relation to meals but seemed to follow the fits of coughing The patient complained at the same time of "a nasty taste in her mouth." There was no dysphagia. The cough with sickness lasted for about three weeks, but during that time there was very little expectoration. Three weeks from the onset of the first symptoms the cough began to be accompanied by a yellow and offensive expectoration. She was accordingly treated by Dr Alexander Davidson with creasote and benzoin inhalations but no improvement occurred. The cough persisted and the expectoration continued of the same offensive character She was therefore sent to the hospital for admission.

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[1] THE LANCET, June 14th, 1902, p 1681
[2] THE LANCET, June 14th, 1902, p 1684

The patient was found to be a well-developed healthy looking girl but had a somewhat anxious and distressed aspect. There was a constant hacking cough causing great pain, especially referred to the lower part of the sternum. The cough was accompanied by the expectoration of a large quantity of yellow purulent, offensive sputum. There was no pain on deep inspiration but a catching sensation was experienced over the lower portion of the sternum. There were no definite physical signs in the chest except a few rhonchi in the right mammary region No dulness could be detected though frequent examinations were made for the purpose of detecting some localised empyema or abscess cavity The breathing was rapid—30 per minute—and thoracic in type The urine had a specific gravity of 1030 and contained a small quantity of albumin, there was a large deposit of brick red urates, there was no sugar or blood.

The constant hacking cough continued unabated and greatly interfered with the patient s rest at night she slept very badly and sometimes hardly at all. The temperature on the day of admission was 101 6° F , it rose two days later to 103 6° but dropped next day to 102 8° On the following morning four days after admission, a few rhonchi were heard over the right base, and those in the right mammary region were more abundant. Still no dulness could be detected, but there appeared some diminution of breath sounds above the angle of the right scapula. The expectoration was still abundant and was now of a brownish colour, very offensive and containing a large quantity of pus streaked with blood. On Nov 17th five days after admission, the right side of the chest was explored below the angle of the scapula but no fluid was found. The patient continued *in statu quo* for the next few days, and as the symptoms did not improve and her general condition seemed to get worse on Nov 21st the right chest was again explored, this time in front, in the mammary region A little blood stained fluid was obtained but not sufficient to indicate the presence of pleural effusion. She still complained of pain in the lower part of the sternum on coughing her cough became even more troublesome and she had very little sleep at night. The expectoration continued abundant, of a yellowish brown colour, with a good deal of whitish froth and having the same offensive character There were still some diminished breath sounds close to the angle of the scapula and impairment of the percussion note at the extreme right base, the rhonchi had now almost completely disappeared. There was continuous pyrexia, varying between 100° and 101 2° and gradually rising until Nov 25th, when the temperature reached 103° On the 26th the right base was again explored in the ninth space below the angle of the scapula, but again with a negative result. On the 28th the patient did not appear to be nearly so well the pulse was rapid though the temperature had slightly fallen and was now 101° She had relapsed into a weak asthenic condition the cough continued to be extremely troublesome with accompanying pain in the right chest, most marked above the right costal margin There was still abundant, thick, yellowish frothy offensive expectoration and there was also a distinct *halitus ex ore* while the patient herself still complained of a nasty taste in the mouth." The sleep continued to be much disturbed by the continuous coughing Moist râles were now distinctly audible at the right base, indicating a pneumonic condition. She got steadily worse and it was considered advisable to transfer her to the surgical side of the hospital where an operation was accordingly performed by Mr A. B. Barrow with a view of discovering a localised empyema or abscess cavity but without success, a drainage tube was introduced into the wound. The patient gradually sank and died on Nov 30th at 1 A M.

Necropsy —At the post-mortem examination an opening of the size of a No. 8 catheter was found in the anterior wall of the œsophagus. The opening was quite round, with smooth edges, and was situated at the level of the bifurcation of the trachea and led into an abscess cavity in the mediastinum. This cavity was of about the size of a hen s egg and lay behind the end of the trachea and the two bronchi. Its walls were ragged and grey and it exuded a gangrenous odour, in the cavity there lay a large greyish white mass of varying consistency soft in some places and harder in others. It appeared to form a kind of cone composed partly of necrotic tissue and partly of old fibrin. In the right bronchus, about one inch from the bifurcation, there was an aperture which led into the gangrenous cavity above described. The edges of this opening gave way on being touched, so that its exact size could not be estimated. The right bronchus and its branches were acutely inflamed and were filled with pus and the lower lobe of the right lung was solid and showed abundant large yellowish red areas which would soon have suppurated, there was, in fact, a condition of insufflation pneumonia. The right pleura was covered with lymph and a drainage tube was found there. There was no effusion in the pleural cavity serous or purulent, nor yet between the lobes of the right lung On the inner side of the upper lobe of the right lung however—that is next to the mediastinum and above the right bronchus—there was found a localised collection of serum and lymph. The trachea and the bronchial tubes of the left lung were inflamed but the lung itself was not pneumonic. There was some adhesion on the mediastinal side of the pleura but there was no evidence of recent pleurisy There was no foreign body found in the gangrenous cavity and the cause of the œsophageal perforation remained undiscovered

MEXBOROUGH COTTAGE HOSPITAL

A CASE OF COMPOUND COMPLICATED COMMINUTED FRACTURE OF THE PELVIS WIRING RECOVERY

(Under the care of Mr J J HUEY and Dr B CROSSFIELD STEVENS.)

THE most frequent cause of fracture of the pelvis is a buffer accident, when a man is caught between the buffers of two railway trucks and the injury described below appears to have been inflicted somewhat similarly In cases of fractured pelvis in which there is already a wound leading down to the fracture wiring is distinctly indicated. Mr W H. Battle[1] has published a similar though less severe case in which wiring was successfully performed.

On April 10th of this year a boy aged 14 years was admitted into the Mexborough Cottage Hospital suffering from a severe injury to the left side of the pelvis. He was examined and was placed under the care of Mr Huey who asked Dr Stevens to see the patient with him It was stated that the boy was carrying lamps in a coalpit and was walking on the level just behind some tubs" filled with coal which were being drawn by horses. Other tubs" were coming down an incline behind him. The driver of the latter thinking that the wedges were in position, unhitched the horses with the result that two of the loaded tubs, becoming detached rushed down the incline caught the boy and knocked him on to the tubs in front. These moving on he fell to the ground and remembered nothing more

When Dr Stevens saw the patient on admission there was not a great amount of shock or collapse but a good deal of pain and tenderness were present over the groin, the hip and the flank. There was an incised wound three inches long in the left groin just missing the external iliac artery but laying open the inguinal canal The anterior third of the iliac crest was felt to be loose and another sharp piece of bone was threatening the skin, a blister having formed at the point of tension. On further examination with one finger in the wound the whole of the left side of the pelvis seemed to be altered and some serous fluid escaped. The sartorius muscle was torn across but the pelvic viscera were intact. It was decided to explore further under an anæsthetic.

Under chloroform the incision was extended up to a point where the anterior superior spine would normally have been It was then found that the fracture involved the true pelvis. The hip-joint was disorganised and the pubic ramus was quite loose The head of the femur was *in situ* From deep down in the pelvis a loose square-shaped piece of bone was hooked up by the finger and brought into contact with another piece of the ilium and was wired with stout copper wire to another similarly shaped piece of loose bone. Another sharp triangular piece of bone was removed. The piece of bone in the true pelvis was dangerously near wounding the bladder and the iliac vessels until it was brought up and fixed in the ilium The sartorius muscle was repaired with catgut and a fresh origin was made for it by uniting it to the insertions of the abdominal wall muscles on to the iliac crest. The psoas muscle was not damaged. The wound was thoroughly irrigated with biniodide lotion the inguinal canal was made secure, and the skin was sewn up with a continuous catgut suture. A gauze drain was left in for 24 hours.

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[1] Transactions of the Clinical Society of London vol. xxvii., p. 229

The boy stood the operation well and the gauze was taken out on the next day The temperature kept rather high for the next 12 days, this being due mostly to a broncho pneumonia The inguinal part of the incision healed but the upper part suppurated superficially chiefly from exuberant granulations all through May and then a spicule of bone came away

Remarks by Dr STEVENS —The wound is now healed and a poroplastic pelvis and thigh splint is being worn There is good flexion of the joint and the patient can now walk a little way with all his weight on the pelvis. It is yet early to say whether he will be able to work again but the prospects are good. I should certainly recommend the expediency of wiring the fragments of a badly fractured pelvis It is remarkable that with such a smash the pelvic viscera were uninjured I am indebted to Mr Huey for allowing me to publish this case

Medical Societies.

OPHTHALMOLOGICAL SOCIETY

The Bowman Lecture

THE following is an abstract of the Bowman Lecture delivered before the Ophthalmological Society on June 13th by Professor ERNST FUCHS of Vienna. The lecture was illustrated by numerous drawings

Bowman's name, said Professor Fuchs, would be for ever connected with the development of anatomy physiology, and ophthalmology, and as far as the eye was concerned Bowman's membrane and Bowman's tubes would perpetuate for all time his name in the memory of the student of medicine. In discussing keratitis the lecturer declared his intention of confining himself to the consideration of recent disease, showing what anatomical changes corresponded with visible signs, such as opacity, loss of brilliancy, &c. The transparency of the cornea allowed a closer comparison between clinical and microscopical appearances in this than in any other structure, especially with the aid of a lens or corneal microscope Diffuse opacity would be found to correspond with an infinite number of minute grey points representing swollen corneal corpuscles, aggregated lymph cells beside them, or accumulations of corneal corpuscles in lymph spaces. The surface from being smooth and brilliant became dull and stippled at the slightest disturbance of underlying tissues corresponding with a change in the epithelial layer In the normal structure the nutrition of the epithelial layer was provided for by osmosis from the corneal tissue through Bowman's membrane, and the regeneration of cells by division of the basement and middle layers In health this was slow, as evidenced by the scarcity of dividing nuclei On account of the exposed position of the corneal epithelium its pliant, delicate nature, and its loose attachment to subjacent structures, abrasions were common, and rapid and extensive exfoliation took place in inflammation Its vitality was further lowered by the low temperature resulting from surface evaporation and its dependence for nutrition on non vascular tissues. Its sensibility was its chief defence and the integrity of the epithelium was the chief defensive agent against the intrusion of microbes The close and persistent growth of these surface cells tended to level all irregularities, producing a thicker layer where there was loss of substance and a thinner one over any protrusion This was illustrated by drawings, as was also the rapid development of these cells preventing direct union of the tissues after a cataract extraction of four days' standing, having already penetrated the wound as far as Descemet's membrane. A drawing was shown illustrating a still further development in which the superficial corneal epithelium had penetrated to and lined the entire anterior chamber, covering both the iris and back of the cornea, this drawing was from a cataract extraction of several years' standing This condition practically represented cyst of the anterior chamber, the tension was raised Four such cases had come under the lecturer's observation and he suggested that this might be the explanation of increased tension after cataract extraction where there was no other cause of glaucoma There also occurred small epithelial cysts in the root of the iris continuous with the surface epithelium and representing the blind end of its invagination These would in time develop into iris cysts and were, except in distribution, analogous to the chamber cyst just mentioned Cysts of the iris occurring after penetrating wounds were always due to this kind of intrusion of the external epithelium Another instance of this intruding tendency was furnished by cases of old leucoma, in such cicatricial tissue there often occurred calcareous deposits which consolidated into calcareous plates. These, at first intimately connected with the contiguous tissue, presently separated from it by shrinkage and lay in it like a foreign body A drawing showed the surface epithelium penetrating to this space, surrounding the plate, and effecting its separation Another drawing showed the process nearly complete, the epithelium on the outer aspect having necrosed, while on the deep surface it separated the mass from the living connective tissue, thus at the same time protecting the eye from external agencies by a continuous epithelial layer The vital energy of this epithelium was greater at the periphery in proximity to the nutrient vessels When uniformly affected it was speedily thrown off in the centre but grew exuberantly at the margin, as in kerato-malacia and neuro paralytic keratitis, and most strikingly in marginal ulcers where the epithelium was seen to push quickly towards the bottom of the ulcer peripherally, whereas the central margin remained bare and infiltrated On this account many ulcers tended to progress 'towards the centre but not towards the margin as in fascicular keratitis Disturbance showed itself by dulness (unevenness) or haziness (opacity) of the epithelium, where the epithelium was raised in places the small vesicles appeared black if the subjacent cornea was clear The opacity was due to abnormal fluid either between or within the cells It commonly occurred between the cells in glaucoma (œdema of epithelial layer), separating first the basement and then the superficial cells, and might form vesicles A figure from Greeff showed this and swelling of cells from imbibition of fluid. The cells might burst and leave depressions while the swollen ones projected, thus producing an uneven surface The stippled appearance in glaucoma, irido-cyclitis, and interstitial keratitis was thus accounted for The entire layer might be affected, producing a homogeneous mass which separated. Absorption occurred quickly, even within 30 minutes, under eserine The superficial cells separated and fell off In neuro paralytic keratitis the desquamation was specially rapid, being due largely to exsiccation, but it occurred from nerve changes in man where this was prevented The change occurred principally in the centre while there was proliferation at the margin, the cornea being left uneven with a stippled appearance Only the basement layer might be left and the cells altered in shape, being long, short, or oblique, or the loss might be total, as in conjunctivitis and inflammation of other mucous membranes (desquamative catarrh) This condition endangered the cornea by facilitating the entrance of micro-organisms and conjunctival disease was often followed by corneal disorder Change in the epithelium was the cause of such disorders of vision as coloured halos round lights, as in glaucoma and cocaine instillation, especially where this had been long continued or the eye had been left exposed The epithelium became opaque and dull and desquamated The lecturer never entrusted patients with cocaine particularly when suffering from keratitis Thinning of the epithelial layer occurred from pressure of the lid, the surface remaining smooth, as it did in atrophy from insufficient nutrition, the number and size of the cells being diminished Where calcareous deposits occurred in corneal cicatrices bacteria might invade the cornea, causing necrosis This was the explanation of the rapidly destructive ulcers in old leucomas (atheromatous ulcer, sequestering cicatricial keratitis) resulting in perforation and panophthalmitis This might also occur from within, as in corneal degeneration Local areas of the kind resulted from irritation or might develop after cataract extraction, producing inflammatory areas with lymph cells which might ulcerate or disappear Exsiccation if super ficial produced opacity if deep xerotic keratitis To sum up the causes of these superficial changes, they might be due to conjunctival disease causing damage by secretion —e.g gonorrhœal ophthalmia deeper tissues as in glaucoma, irido-cyclitis, panophthalmitis, through alterations in pressure circulation, and quality of lymph, or degenerative changes in the cornea which varied much with the stage and malignancy of the pathological process. The dotted appearance in keratitis as seen with a lens differed from the haziness due to changes in the media or deposit of fibrin at the back of the cornea which always appeared uniform, this appearance in the cornea being only produced by the imbibition of fluid Striated keratitis was due to swelling (after cataract extraction) producing folds at the posterior surface of the cornea. Swollen tissue on the surface might be clear and free from ulceration though necrotic The bluish swelling in newly born children and in glaucoma were probably due to imbibition. The slow changes in old men (after 60 years of age) senile sclerosis, which produced ultimate blindness, were due to abnormal liquid in the cornea which impeded the lymph flow It was probably due to a change in the general nutrition or to increased permeation of the aqueous humour into the cornea. A change in the epithelium was superadded and the slow affection of both eyes suggested some general agent. A uniform infiltration of the cornea with lymph cells produced a uniform opacity An injurious agent in the aqueous humour as in commencing panophthalmitis or irido-cyclitis, caused increased circulation at the margin two currents of lymph cells emanating from the vessels of the limbus and the anterior ciliary vessels which resulted in an annular thickening The entire cornea might be affected from a wound or ulcer the change clearing up concentrating or becoming marginal In the latter case a ring shaped thickening due to infiltration 1 5 millimetres in width and about this distance from the limbus occurred and was a rare consequence of ulcer or panophthalmitis.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY

Copper Test for Sugar in Urine —Nerve Regeneration.— Jejunal Fistula —Exhibition of Cases and Specimens

A MEETING of this society was held on July 2nd Sir THOMAS R. FRASER, the President, being in the chair

Dr T S. CLOUSTON in the name of the members present, congratulated the President on the honour of knighthood which had been conferred on him by the King —A letter from Professor Huchard of Paris was read thanking the society for his election as a corresponding member

Dr F D BOYD read a paper on the Fallacies of the Copper Reduction Test for Sugar in the Urine. It dealt with the substances apart from glucose which though they might have no known pathological significance yet had the power on the application of Trommer's or Fehling's test of dissolving copper hydroxide and subsequently reducing it on the application of heat with the formation of the red suboxide. A number of such urines had come under notice. In making the observation two cubic centimetres of Fehling's solution were taken as an average quantity used in the routine application of the test and titrated with a solution of the different substances of known strength. Of those substances the most important were the glycuronic compounds which might appear in the urine in apparent health after the administration of drugs and in infectious conditions They could be estimated by the benzoyl-chloride method, for recognition of their presence in small quantities the phenyl hydrazin bromide test and the orcin and phloroglucin tests were used. The importance of the recognition of the glycuronic compounds was illustrated by the case of a middle-aged man who was desirous of increasing his life assurance policy, but when examined he was at first rejected on the supposition that his urine contained sugar On subsequent more careful examination the urine was found to be clear and of a normal specific gravity with the copper and bismuth tests there was decided reduction but the fermentation test was negative and no crystallised osazon was obtained with phenyl hydrazin. The copper reduction was therefore due not to sugar but to a glycuronic compound The life was accepted for insurance and the applicant was still, after eight years in excellent health. Creatinin had not a powerful copper reducing effect. It required 0·07 gramme creatinin to have an appreciable effect in reducing two cubic centimetres of Fehling's solution. 1 5 cubic centimetres of urine contained normally about 0 0001 gramme creatinin. It was therefore concluded that creatinin could be neglected. With uric acid 0 017 gramme gave a decided reduction in two cubic centimetres of Fehling's solution while 0 03 gramme gave complete reduction. Normally 1 5 cubic centimetres of urine would contain less than 0 0001 gramme uric acid—a quantity too small to produce any appreciable reduction in two cubic centimetres of Fehling's solution. Uric acid could therefore be neglected as a fallacy of the copper reduction test unless present in excessive amount in a highly concentrated urine and even then the fallacy was improbable. Alkaptonuria was next referred to a condition due to the presence of pyrocatechin uroleucic and homogentisic acids, and the allied condition carboluria. The occurrence of alkaptonuria was of importance not so much from any pathological significance which it was known to possess as from its liability to be mistaken for glycosuria from its decided copper reducing power Pyrocatechin was found to have an active influence upon Fehling s solution If two cubic centimetres of Fehling s solution were treated with 0 01 gramme pyrocatechin a deep green colour resulted, while 0 02 gramme gave a porter colour with distinct copper reduction. Hydrochinon which appeared in the urine as an ethereal sulphate showed a deep brown colour with Fehling's solution 0 00125 gramme gave a distinct reduction Dr Boyd said that liability to error would be greatly diminished if the tests were made at a temperature below the boiling point. Glucose gave reduction below the boiling point, while the other substances gave no distinct reduction and if doubt remained the phenyl hydrazin the phenyl hydrazin bromide and the fermentation tests provided easy means of distinguishing the reducing body

Dr R. A. FLEMING read a paper entitled On the Peripheral Theory of Nerve Regeneration with special reference to Peripheral Neuritis. He said that there were two theories of the nerve regeneration which took place when a peripheral nerve was divided. According to the central theory the peripheral end could only regenerate by the central axis cylinders growing down into it while according to the peripheral theory regeneration could and did occur in the peripheral end even when reunion of the two ends never occurred. The central theory was the old theory almost universally held until quite recently The peripheral theory of regeneration was by no means of recent inception but the work of Kennedy and more recently of Mr C A. Ballance and Dr Purves Stewart had done much to direct attention to it in this country Dr Fleming demonstrated neuroblastic regeneration in the peripheral ends of rabbits nerves at various periods after complete division and referred to the value of Stroebe s method of staining axis cylinders. He adhered to the belief that the central axis cylinders were not purely passive agents in the work of regeneration of a nerve after division and stated various facts which appeared to him to point to the probability of this combination of the central and peripheral theories of regeneration being correct. The evidence obtained from a study of a number of amputation neuromata appeared to support this view He then referred to four cases of peripheral alcoholic neuritis in all of which regeneration had occurred in some of the affected nerves The fact that the neurilemma nuclei appeared to have a trophic influence towards the portion of axis cylinder between the two nodes of Ranvier suggested that the neurilemma cells might act as neuroblasts even without considering the much stronger and more logical evidence from embryology This trophic function of neurilemma Dr Fleming described some years ago Neuroblastic" regeneration was probably not an obvious process in normal nerves for the truth of this statement Dr Fleming deduced evidence from the examination of nerves in a small number of cases presumably healthy so far as the nervous system was concerned. There was no regeneration similar to that seen in the four cases of peripheral neuritis described Neuroblastic" regeneration was nature s attempt at repairing the damaged nerve-fibres in peripheral neuritis and it seemed to be the only possible explanation of recovery in a severe case of the disease in which long areas of nerve-fibres had suffered. Dr Fleming suggested that the peripheral axis cylinders were probably of epiblastic origin.

Dr HENRY M CHURCH read a paper on a case of Jejunal Fistula. He said that although many cases of intestinal fistulæ had been recorded few were associated with the jejunum. Mr Golding-Bird's case, published in the Transactions of the Clinical Society in November, 1885, was then shortly described This patient lived only nine days after the operation. His food was passed directly into the jejunum and on several occasions he suffered from severe attacks of indigestion which followed a fluid meal of from 15 to 20 fluid ounces These attacks only ceased on diminishing the quantity of food injected In the following case food was administered solely by the mouth, some of it being discharged by the jejunal fistula and giving the patient great distress, while some of it passed on into the bowel. The patient was a woman, aged 46 years, who underwent operation for acute obstruction of the bowel in 1884 and died in 1892 During this time she had a fistula in connexion with the upper part of the bowel and suffered great misery from this, and especially from the digestive action on the skin due to the constant outflow of pancreatic and biliary secretions. The fluid which issued from the fistula was generally clear, like water and odourless, but not of the slimy, syrupy character ascribed to the pancreatic secretion. Occasionally, there was a flow of green bile which, like the other, caused a burning pain about the wound Over a large area round about there was acute inflammation of the skin. The position of the opening a little above the umbilicus, together with the character and time of the discharge, seemed to locate it as jejunal Morphia was of the greatest value to this patient, it dried up her wound, raised her spirits, and induced sleep Even when it did not dry up the wound it seemed not only to diminish sensibility but actually to deprive the pancreatic discharge of its irritating properties, as evidenced by its diminished action on the skin In large or even in moderate doses it lessened peristalsis and caused constipation. It also inhibited salivary and pancreatic section and induced great dryness of the mouth She feared to drink water to allay the thirst knowing the painful consequence of the increased gastric and intestinal flow which ensued. This seemed to point to the probability of water not being absorbed in the stomach. Headache was generally relieved by taking from three to five grains of citrate of caffeine This drug always greatly increased the flow from the fistula as well as the salivary secretion. In most points caffeine seemed antagonistic to morphia. In whatever form given alcohol always increased the flow and irritated the wound and also stimulated the salivary secretion. In small doses rhubarb always stopped the discharge for from three to four hours, and then the drug came away through the wound and could be both seen and smelt. It irritated the wound much and this was probably due to the chrysophanic acid in the rhubarb However, the drug improved both the appetite and the general condition of the patient. Rhubarb was a sialogogue and so it was difficult to understand how it dried up the wound for so many hours, for with the exception of this drug it was always noticed that any stimulant of salivary secretion was invariably associated with an increase of discharge from the fistula. Before reaching the wound the powerfully astringent influence of the rheotannic acid must have come into play Castor oil was often taken as an aperient but a large proportion of it emerged from the fistula in from one and a half to two hours. It was quite unirritating to the wound but increased the flow from it. This was the only aperient which did not give pain to the wound. The stools always indicated that all the digestive ferments had been at work. Enemata had always the effect of increasing the flow from the fistula for many hours and if castor oil were added to the enema globules of oil were seen to emerge copiously from the fistula some hours afterwards. There seemed to be a complete antiperistalsis on these occasions. Emotion always increased the flow from the wound as also did cold weather As regards food years of observation showed that foods rich in proteid substances were best suited to her For years white meat pounded to a cream and mixed with bread crumbs was administered warm from every three to four hours. Vegetable diet always occasioned pain and however cooked was undigested and came through the fistula with a specially hot and painful discharge which caused not only the margins of the wound but also the surrounding skin to bleed. The only agent which relieved the irritation of the skin was tannic acid frequently applied in weak solution and as an ointment.

Dr CHALMERS WATSON showed a girl, aged who had suffered from Lupus on the Left Cheek four or five years There was a pronounced fami tuberculosis. The treatment consisted in the lo tion of a product of bone marrow (myelocine) crusts had been bathed off this was applied d May 23rd) Already there was a distinct impro the condition and the patch was beginning to happens in the "light" treatment of this disease.

Mr ROBERT PURVES showed a case in which th Artery had been Ruptured by Constriction of the T Running Rope, the torn end of the artery being s natural method of arrest of hæmorrhage.

Mr ALEXIS THOMSON showed a Depressed Fractu Skull sustained 20 years before death

Reviews and Notices of Books

An Introduction to the Bacteriological Examinati Water By W H. HORROCKS, M B, B Sc. London J & A. Churchill. 1901. Pp 300 10s 6d

IN this work Dr Horrocks has made a very valuable tribution to our knowledge not only of water bacteri general but also of pathogenic bacteria which gain water supplies in particular His views as to the most cient methods of conducting the bacteriological examinatio of water are based on practical researches In this his own experiments at Netley relating to the duration life of the typhoid bacillus in water and sewage are greatest importance and interest. Taking these in conjunction with those of other workers it seems extremely probable, he says, that under natural condi tions comparatively few typhoid bacilli will gain access to a water-supply, and in order to detect them it will be necessary to examine a considerable quantity of the water Unless the specific pollution is continuous it is extremely unlikely that typhoid bacilli will be detected in a water-supply if more than a week has elapsed since the actual pollution has occurred. This view had able support in the circumstances of the outbreak of fever at Maidstone Ten days after the specific infection had taken place a bacteriological examination of the infected water failed to find the typhoid bacillus, though the presence of the bacillus coli showed that sewage contamination had occurred. It will be remembered that in the case of Worthing it was thought that the typhoid bacillus had been identified, but Dr Horrocks states that the given then as indicating the presence of the typhoid bacillus would be considered at the present day as quite insufficient to establish the diagnosis of this organism, consequently, he adds, the Worthing epidemic must be relegated to the large class of cases in is still a doubt as to the presence of the bacillus typhosus in the water supply He next asks the question whether, apart from the isolation of the bacillus typhosus, there are any means of diagnosing pollution of a water supply by the specific dejecta of cases of enteric fever To some extent, as he shows, there are, for in some experiments which he made the varieties of the bacillus coli isolated from typhoid dejecta proved to show much greater sensibility to agglutination than did the varieties of the bacillus coli found in normal stools. Therefore, if cultures of the bacillus isolated from suspected water supplies are found to come within the typhoid range of agglutination there is some reason for assuming that the water-supply in question has been polluted with typhoid dejecta This is but one example of Dr Horrook's earnest attempt to place the bacteriological examination of water upon a satisfactory basis and in other chapters he indicates the value of other organisms as a ntamination He, with others, has carefully studied the cteriflora of sewage sufficiently to enable certain bacteria be classed as normal inhabitants of sewage The book is luable, therefore, as being largely the outcome of a series his own painstaking researches the results of which e of the utmost importance and should prove of extreme rvice to the water bacteriologist.

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ncyclopædia Medica Under the general editorship of D CHALMERS WATSON M B F R.C.P Edin Vol. X. Pregnancy to Scarlet Fever Edinburgh William Green and Sons. 1902. Pp 516. Price 20s

THE subject of pregnancy which was commenced in the eceding volume, is concluded in the present one. Under e heading ' Pathology of Pregnancy " are several contribu ons. Dr W E. Fothergill (Manchester) writes on the ffections of the Ovum and Decidua and Dr T W Eden ondon) on Diseases of the Placenta and Cord. Then llow three papers on affections and accidental com lications—Affections of the Generative Organs, by Dr Stephenson (Aberdeen) Systemic Disturbances, by r John Phillips (London), and Death during Preg ancy by Dr W E. Frost (Edinburgh), and, finally r Henry Jellett (late Master of the Rotunda Hos tal, Dublin) writes on Hæmorrhage associated with regnancy It will thus be seen that the whole subject of regnancy is considered most thoroughly and from every int of view An immense amount of information is ntained in the pages devoted to the matters above entioned which will prove most useful for reference by e medical practitioner

An elaborate account is also given of the Puerperium. The hysiology of that period is considered by Dr A E. Giles London) The changes in the maternal system are first de ribed and then directions are given as to the management f the patient up to the time of complete convalescence. he pathological section is split up into five divisions r W J Smyly (late Master of the Rotunda Hospital ublin) writes on Puerperal Infection. He gives an interest ng *résumé* of the bacteriology of the condition, laying articular stress on the germicidal powers of the vagina. he author concludes that the vagina contains germs which re harmless under normal conditions but which may some imes become dangerous in the presence of dead matter or issue the vitality of which has been reduced by crushing and ruising in prolonged and difficult labours, and which may lso be productive of harm if carried upwards into the uterus. he remarks on Affections of the Breasts and Nipples are by r J Haig Ferguson (Edinburgh) and those on Constipation nd other Disorders by Dr W Fordyce (Edinburgh) The ubject of Puerperal Insanity is dealt with by Dr G R. Vilson (Edinburgh) the clinical varieties are particularly vell described. Finally Dr Smyly describes the condition nown as ' Sarcoma Deciduo-cellulare or Deciduoma Malignum.

The article on the Pulse by Dr H. Oliphant Nicholson (Edinburgh) affords interesting reading The use of the phygmograph is minutely described but we cannot agree with the author in his statement that the only accurate method of recording the pulse is by means of that instrument. It is true that as a means of procuring records its alue is very great, but we believe that most physicians would prefer to trust to the sensations transferred to the ingers by actually feeling the pulse rather than to an xamination of a sphygmogram For theoretical purposes the sphygmograph is of the utmost use but we are doubtful if the same worth can be attached to it for clinical work.

Another contribution worthy of notice is that on Diseases of the Rectum by Mr H. W Allingham (London). We may especially draw attention to his remarks on hæmorrhoids. The operative procedures are fully described and stress is laid on the after treatment and the complications that may follow operation for hæmorrhoids.

Those practitioners who interest themselves in ophthalmic work will find a large amount of information in the article on the Retina and Optic Nerve by Mr R. Marcus Gunn (London) A full account is given of inflammation and atrophy of the nerve the injuries to which it is liable, and the tumours with which it may be affected. The diseases of the retina are also considered, the various forms of retinitis being ably described

The subject of Acute Rheumatism receives its due amount of notice from Dr F J Poynton (London) He acknowledges rheumatic fever to be an infective disease but as the result of his researches in association with Dr Alexander Paine (London) he believes that one and not several different bacteria will prove to be the true excitant of the disease. Although there are strong reasons for believing the cause of rheumatic fever to be an infection with a diplococcus which has been isolated by several observers this can only explain one factor in the disease—the exciting cause. As Dr Poynton remarks, the peculiar poisons that are formed and the peculiar vital chemistry of the human tissues are as yet unknown. The article on Chronic Rheumatism is by the editor (Dr Chalmers Watson) and that on Rheumatoid Arthritis by Dr Julia Cook (London) who publishes some good reproductions of photographs illustrating the joint affections and discusses the pathology in a full and interesting manner

Amongst other contributions to this volume we may mention the following Psoriasis, by Dr H. Radcliffe Crocker (London), Puberty by Dr Garrett Anderson (London) Quarantine, by Dr W Collingridge (London) Raynaud s Disease, by Dr J Purves Stewart (London), and Rickets, by Dr H. Ashby (Manchester).

A Practical Treatise on Small pox Illustrated by Coloured Photographs from Life. By GEORGE HENRY FOX, A.M. M D Consulting Dermatologist to the Health Department of New York City with the collaboration of S. D HUBBARD M.D S POLLITZER, M D and J H. HUDDLESTON M D Complete in two parts. Part I. with three Plates and eight Coloured Plates, containing 19 Illustrations. Pp 14 Part II. with three Plates and eight Coloured Plates, containing 24 Illustrations. Pp. 17 London and Philadelphia J B Lippincott Company 1902. Price 12s net.

THIS work is very conveniently adapted for practical use in the out-patient room or at the bedside. The parts are in paper covers and are unstitched the plates being loose The importance of the work lies in the illustrations These are of varying degrees of merit. Some are excellent, such as most of those depicting cases of small pox in the pustular stage. From them may be gathered a very true conception of the appearance presented by most cases of small pox in that stage of the disease. Others of the plates are not so satisfactory In some instances this is due to faults of reproduction. But in most it arises from the difficulty of obtaining in a photograph results which are due not so much to light and shade as to very delicate effects of colour We suppose, for instance that the illustrations of small pox erythema, of hæmorrhagic small pox and of the papular eruption would be of very little assistance to a novice in making a diagnosis. Unfortunately those types of small pox and stages of the disease which present most difficulty in diagnosis are the most difficult to illustrate satisfactorily We think however that something further might have been accomplished by a better selection of cases and points to be illustrated and by a more systematic attempt to represent the essential peculiarities of the disease One illustration *only* is given of chicken-pox, for instance This is from a photograph of the back of the patient's trunk. But the selection of this part of the body makes it impossible for the illustration to convey any information as to the general distribution of the eruption over the surface, while the scale of the picture and its lack of definition prevent any idea being gleaned as to the character of the lesions themselves. The illustration, in fact, would represent equally well a mild case of small pox. Some of the illustrations depicting the condition of the skin in the later stages of small pox are praiseworthy One of these, showing the inspissated pustules left in the soles of the feet, is of real value.

The letterpress is disappointing It consists of a systematic account of the clinical features, diagnosis, and treatment of small pox, without special reference to the illustrations The chapter on Diagnosis, to which the reader naturally turns, makes little attempt to set out the principles on which the diagnosis depends The author contents himself with a perfunctory *résume* of the clinical differences between small pox and the various diseases for which it is liable to be mistaken The accuracy of some of the statements made is open to question

Manual of Military Ophthalmology for the Use of Medical Officers of the Home, Indian and Colonial Services By M T YARR, F R.C S Irel , Major Royal Army Medical Corps London Cassell and Company, Limited. 1902. Small 8vo, pp 236

THE book, of course, follows the lines adopted by the authors of most modern manuals, the optical properties of the eye, the methods of testing the sharpness of vision, a description of the ophthalmoscope, and a consideration of errors of refraction occupying the first part , then follow an account of strabismus, the characters and treatment of the diseases of the eye most commonly met with in soldiers, gonorrhœal, syphilitic, malarial, and non malarial affections, trachoma, injuries of the eye, sympathetic ophthalmia, glaucoma, and cataract, and the work concludes with a chapter on Cataract. The above enumeration of the subjects which Major Yarr discusses will give an idea of what he has thought it expedient for the young military surgeon to know well at the beginning of his career and what he may safely omit, or at least learn from later experience. A knowledge of refraction is necessary and stress is rightly laid upon it, because irremediable defects of vision necessarily exclude the admission of the recruit or the officer into the service The present arbitrary limits determined by letters and dots or other tests are absurd Many a good man has been rejected who in the armies of the continent would have been unhesitatingly accepted, and we agree with Major Yarr when he says "The time is bound to come when the English, like the foreign, soldier will be permitted to wear glasses, and then comparatively high errors of refraction, if unaccompanied by disease, can be passed ' That time has, indeed, already come, for a Regulation in the Army Orders, issued by the War Office on March 1st, 1902, and noticed in our columns,[1] gives permission to wear spectacles to both officers and men The several sections of this little treatise are written with much perspicacity and intelligence, especially those dealing with injuries to the eye from gunshot wounds and from the entrance of foreign bodies into the eye. Such injuries are rare even in long wars In the American War of Rebellion only 1190 cases of gunshot wounds of the eye occurred in 408,072 cases of wounds of the body generally It will be interesting to know the proportion of wounds of the eye to general wounds in the recent war when its medical history comes to be written. The appendix contains the vision regulations of the English army compared with those of other armies Major Yarr's book will prove useful and instructive to every army surgeon

LIBRARY TABLE

Agricultural Bacteriology A Study of the Relation of Bacteria to Agriculture By H. W CONN, Ph D , Professor of Biology, Wesleyan University London Rebman, Limited. 1901 Illustrated Pp 412 Price 11s net —The present work strikes out a somewhat new line of instruction in bacteriology The class of readers for whom the book is written is not indicated by the author, but, from the absence of technicalities and the somewhat popular form of the information—popular, however, in the best sense—it would appear to be intended for the agriculturist rather than for the bacteriologist To the intelligent farmer it should prove very useful and it would be excellently adapted to the needs of the students who attend the recently established county council dairy farms and all who are interested in dairy produce, whether as producers, distributers, or consumers After a very short account of the nature and classification of bacteria the author passes to the consideration of the bacteria of soil and water, with special reference to the fixation of nitrogen from the air and the processes of denitrification and oxidation This rather difficult subject is dealt with very clearly and the limits of our knowledge are sharply distinguished from our more or less probable speculations The work of Frankland and Warrington on nitrification is rather unduly neglected and there is a misleading misprint on page 90 of "oxygen" for "nitrogen." The root nodule organisms in leguminosæ are considered at length, as is the direct fixation of nitrogen by some species of soil bacteria. The relations of bacteria to milk, butter, and cheese occupy, as might be expected, a considerable section of the work, and the treatment of the subject is marked by common sense, an appreciation of the relative importance of the various topics, and a critical examination of laboratory results in the light of practical experience Throughout there is an appreciation of the farmer's point of view We find a straightforward condemnation of all "preservatives" and on p 214 an excellent and not utopian set of rules for the dairyman , if these were conformed to they would largely check the dissemination of disease. Pasteurisation is preferred unhesitatingly to sterilisation on practical grounds Pasteurisation means, of course, centralisation of the dairy industry, but on commercial grounds there is a strong tendency in that direction Apparently in the United States the use of an artificial "starter" for ripening cream for butter making is common, though a pure culture is not invariably or even commonly used. The probable importance of enzymes in cheese ripening and in ensilage is insisted upon, though the bacteria seem to be of chief importance in the production of characteristic flavours The important question of tuberculosis and dairy products is considered in detail and with common sense. Koch's recent views are, perhaps, remembering their unfortunate practical results, treated with too much consideration The use and importance of tuberculin are pointed out, but practical instructions as to its use are wanting , this, however, belongs to the work of the veterinary surgeon and does not come within the scope of this book. At the end of each section there is usually a short epitome of the principal conclusions justified by the present state of our knowledge of the subject. This will prove of use to the reader, and the conclusions do not, as sometimes occurs in scientific papers, go beyond the warrant of previously stated facts To all interested in agriculture in its broadest sense this book may be strongly recommended.

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[1] THE LANCET March 29th 1902, p. 905.

The Elements of Mind Being an Examination into the Nature of the First Division of the Elementary Substances of Life By H. JAMYN BROOKS. London Longmans Green and Co. 1902. Pp. 312. Price 10*s* 6*d* net —Mr Brooks in his dedication of this book which he calls a work says that its appearance is due to the kindly encouragement at a critical period of Professor William James and Dr J Beattie Crozier There is much internal evidence to show that Mr Brooks was pleased with his own ' work, but it was mistaken kindness—if it were kindness at all—for his friends to encourage him to publish it. Mr Brooks claims to have discovered the elements of Mind which he opines when compounded with those of Force and Matter constitute the mysterious substance which we call Life, he seems to claim to have discovered or invented the true Deity and he does not accept the atomic theory Of the making of such books there appears to be no end and much study of them is weariness to the flesh. It is also entirely unprofitable.

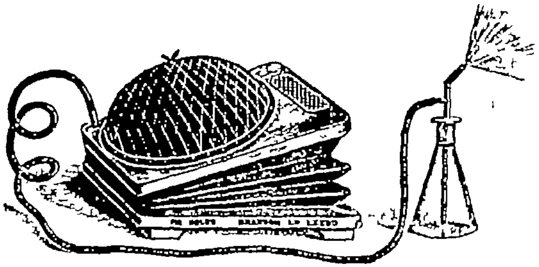
The Diagnosis of Nervous and Mental Diseases By HOWELL T PERSHING M D Professor of Nervous and Mental Diseases in the University of Denver London Rebman, Limited 1901. Illustrated. Pp 223. Price 6*s* net. — The object of this book is to facilitate the recognition nervous and mental diseases by physicians who are not specialists in those diseases. It cannot, of course, take the place of clinical instruction, but it is a useful compendium of diagnostic symptoms for the student s guidance. It deals in a clear and adequate way with the clinical examination of patients, with special reference to the nervous system—a point dealt with nowadays in nearly all text-books. The principles of cerebral localisation and their application to diagnosis are next pointed out Then follow in some detail descriptions of the signs of hysteria, hemiplegia, monoplegia, paraplegia, oculo-motor and facial paralyses, bulbar paralysis, ataxia, tremors, spasms, and contractures. The descriptions given are marked by conciseness and lucidity and the methods of differential diagnosis are very clearly indicated Much information is condensed into these few chapters. Other chapters deal with optic neuritis, trophic and vaso-motor disturbances, and the nature and distribution of pain in nervous disorders The final portion of the work is devoted to disorders of speech and the diagnosis of the various forms of insanity The work throughout is marked by clearness of description and real insight into the complex and difficult subject of diagnosis of nervous and mental diseases generally It will undoubtedly be a helpful work to the practitioner and to senior students. The printing is clear and the text is remarkably free from errors

On the Use of Roentgen Rays and other Radio-active Agencies in Surgery and Medicine By G M LOWE, M.D F R.C P Edin —This is a reprint of a paper read before the Nottingham Medico-Chirurgical Society In it Dr Lowe gives details of his method of working For power he uses either two accumulators giving 12 volts and 28 ampères or else the current from the main at a pressure of 230 volts continuous current. He uses a 10-inch Watson coil and contact-breaker for accumulator work but with the current from the main he uses two of Cox s electrolytic breaks apparently of the Mackenzie Davidson pattern Some illustrations accompany the paper one of which a photographic print of a fractured humerus, shows admirable definition.

New Inventions.

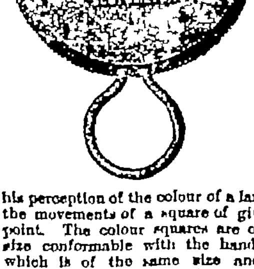
A SPRAY APPARATUS FOR DISINFECTING WITH FORMIC ALDEHYDE.

THE accompanying illustration shows a spray apparatus for the convenient application of formic aldehyde as a disinfectant. It has been introduced by Messrs. Reynolds and Branson, Limited of Leeds and is specially designed to fulfil the requirements of sanitary officers in the disinfection of houses schools and other buildings The current of air for producing the jet of spray is obtained by means of bellows worked with the foot The portable form here shown can conveniently be carried on a bicycle and in this way may be made to do duty over an extensive district. The advantage is claimed for it that it can be used from the outside of a room by passing the tube through the doorway The price of the apparatus complete in a waterproof carrier is £2 10*s* Messrs Reynolds and Branson have also devised an apparatus for utilising compressed air or oxygen, 10 cubic feet of which will they say, vaporise about half a pint of formaldehyde solution—namely a quantity sufficient for an ordinary bedroom. For working on a more extensive scale they supply a larger form of apparatus, the price of which is £6 10*s*



A NEW SCOTOMETER.

MESSRS. WEISS AND SON Limited have made for me a little instrument which in an amateur form, I have found very useful for the purpose of rapid determination of the condition of central colour disturbance common in toxic amblyopia. Behind a screen in which is cut a square aperture there rotates a disc bearing squares of red and green colour—two three, five, and seven millimetres in diameter The rotary disc has an automatic check action, so that it stops as each successive test is brought into the aperture. The observer using his nose as a convenient point of fixation, can pass the 'scotometer over it and judge the presence and extent of colour disturbance in the patient by his perception of the colour of a larger or smaller square or by the movements of a square of given size from the fixation point. The colour squares are of the greatest range and size conformable with the handiness of the instrument which is of the same size and thickness as the usual one-and a half inch trial lens so that it finds a convenient place in the ophthalmoscope pocket-case or in a slot of a trial lens case. In the actual instrument the face is clear of lettering that which appears in the figure is stamped on the back.



N BISHOP HARMAN M A M B Cantab F R.C S

THE LANCET.

LONDON SATURDAY, JULY 12, 1902

The Illness of the King

WE have but little news to communicate this week with regard to His Majesty's illness, a fact which may be considered as very satisfactory, for the case is one in which in its present stage "no news" is emphatically "good news." We are able to state, however, that the wound is granulating slowly but well and without any sort of drawback. Gauze plugs are still being used for the dressings which, we are glad to add, are now quite painless. The KING sleeps excellently, no narcotics are, or have at any time been, employed. His general health is most satisfactory, he looks well and is in good spirits, but it must be borne in mind by his loyal subjects that, well as every thing is progressing, their beloved Sovereign is, as is only natural after having undergone such a severe operation, still an invalid and is at present restricted to the recumbent position. He is taking a diet of the very simplest description but is able to enjoy it. Sir THOMAS BARLOW has ceased to reside in Buckingham Palace but attends there every morning in consultation with his colleagues, Sir FREDERICK TREVES and Sir FRANCIS LAKING, who are both still in residence at the Palace. In view of certain detailed statements which continue to be made in a section of the press—statements which we are rejoiced to be able to stigmatise as lies—it is our duty, and a most pleasant duty it is, to say in the clearest possible terms that there is not, and that there never has been, the faintest shadow or ghost of suspicion of any malignant disease. The KING is free from cancer We trust that this definite pronouncement on our part will put a final stop to such cruel rumours. What their object may be we cannot conceive, but we may ask, How would they who spread them like such false tittle-tattle to be given to the world concerning their own dear ones? Have they no sympathy with, or consideration for, the gracious and sweet lady who, like the rest of the Royal family, has been passing through a period of such great trouble and anxiety?

The Summer Season

WITH each summer come a few weeks of genuine discomfort, followed in some instances by acute suffering, due to the excessive heat. This is an inconvenience which is more especially felt in large towns, and as the towns grow in size the more pressing does this grievance become. The central streets do not widen as the population increases and therefore become more and more crowded This does not so much matter in the cooler days of the year, but the very hot weather makes us long for more elbow-room Nor is it easy to escape, for, in London at least, the top of every omnibus is crowded, the inside is insupportable, [illegible] Metropolitan railway [illegible] where the unfortunate travellers are [illegible] by sulphurous fumes. Yet it is [illegible] much of the suffering [illegible] endured could be [illegible] by the adoption of a few practical measures [illegible] There is [illegible] prospect that the [illegible] electricity instead of steam [illegible] render railway transit more [illegible] and the [illegible] daily benefit of [illegible] persons. there is no reason [illegible] a manner as to admit of thorough ventilation [illegible] ducing a dangerous or at [illegible] draught. In any case, there are [illegible] tramcars with only canvas curtains [illegible] windward or to keep [illegible] the fear of reducing dividends by increasing the expenses this healthy and pleasant means of [illegible] would be more widely employed On the continent, the warm season lasts longer than in England, these summer tramcars are more extensively used

Apart from public services, each individual may, [illegible] exercise of a little thought and discretion, do [illegible] to lessen the inconvenience due to exceptional heat [illegible] difficulty is to persuade persons to alter their habits fo[illegible] season which in this country is of but short duration [illegible] the very fact that great heat is quite exceptional [illegible] therefore we are not accustomed to it, makes it all [illegible] more necessary to take proper measures. The healthy [illegible] strong may be only inconvenienced, but the feeble [illegible] aged may be seriously injured Obviously the first [illegible] caution is so to plan our appointments and business [illegible] to allow plenty of time to walk slowly from place [illegible] place. People who live in hot climates do not race, as we are in the habit of doing in England Also [illegible] hotter the climate the more general is the abstinence from alcoholic drinks. The thoughtless [illegible] however, rushes about with just as much energy [illegible] rapidity during the very hot weather as during the temperate periods of the year As a [illegible] soon overwhelmed with thirst and [illegible] mineral waters with a dash of alcohol [illegible] expensive he will take a glass of [illegible] condition and then at once hurry back [illegible] only increases the perspiration from [illegible] suffering In time, especially if the drinks are [illegible] reaction, headache, and general lassitude ensue. Such [illegible] *régime* is as inefficacious as it is injurious First of [illegible] we should strive to keep cool by moving slowly, then [illegible] must endure thirst and abstain from drink while [illegible] active. It is only when we have reached a [illegible] cool place and can sit and rest for awhile that we venture to quench our thirst. But then we come to face with this great grievance [illegible] suitable summer drinks in [illegible] a still greater lack of cool places [illegible] people can rest while taking [illegible] seething heat and foul atmosphere of our popular [illegible] houses constitute a standing disgrace and no [illegible] people would put up with such shamefully [illegible] accommodation In the centre of Paris, where [illegible] is as valuable as in London, the workman's [illegible] on a chair and a table placed in the shade and in the open air before he will consume a drink in the cheapest of *cabarets*. For the wealthier classes there are luxurious cafés well shaded from the sun, the windows removed, and the ground kept cool by constant watering Here, rest and a fresher atmosphere can be enjoyed together with a great variety of pleasant iced drinks that contain little or no alcohol. Why are we in England so much behind other nations in this respect? In Germany the town workman has in summer time numerous beer-gardens where there are shade and fresh air In due measure with the comforts and luxuries provided do we find a decrease in the prevalence of drunkenness. Drunkards abound in our public-houses, they are almost never seen in a French café, even though absinthe be served at every other table. All that has been said in favour of temperance and against strong alcoholic drinks is doubly appropriate during the very hot weather Then more than ever is a really good temperance drink urgently needed It does not say much for the practical sense of the temperance party in this country that they have never yet been able to invent such a drink. Light lager beer is, we believe, yearly more and more appreciated in England. This is truly a temperate drink well suited for hot weather As we have already shown by careful analyses beer of the Munich type contains as much nutriment with only half the alcohol that is to be found in typical high class English beers[1] Then it must be kept cool—namely at about 45° F which is better than being iced. There is also a larger demand for ' lemon squash or simple lemon juice with plain water and sugar and this is a good symptom, for these are the sort of drinks that will do no harm during the hot weather Tea is likewise taking the place of strong drinks and the hotter it is the more refreshing the after effect—a fact which is at last being recognised.

Altogether a great mass of the people are becoming wiser but there is yet plenty of room for improvement. While in our streets we lack suitable cafés terraces in the open air beer and tea gardens, our homes are not provided with the proper means to keep ourselves cool We want shutters that we can close to keep out the sun while we pen the windows to let in the air Verandahs are rare uxuries and awnings until quite lately have only been seen clubs or the houses of the rich. The walls of our smaller ouses are often so thin that we are exposed to the extremes heat and cold though here, again, legislation to defeat e jerry builder is improving our prospects. The Londoner -comparing in our mind our capital with the capitals of her nations—suffers more from the heat than do the habitants of those continental towns where, the houses eing larger, the walls are thicker and the indoor temperare is regular The Englishman rejoices in the independnce of having a house to himself but he has to pay a price r the privilege. Then in many continental towns it is stomary to close all offices and to stop all business om noon till two o clock so that there is no need to urry over the midday meal and some rest in a cool aded place can be enjoyed. Of course, such a rest would t be practicable in the City of London, where the work the world is done, but in the suburbs and in less proundly busy centres at least the younger and weaker members of families who remain at home might be allowed a siesta in the hottest part of the day It would be better for them to play to study, or to work in the cool of the evening When we have exceptionally hot weather we can with advantage imitate the customs of those peoples to whom such weather is a more usual experience than it is to ourselves.

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The Fees of Medical Witnesses in Criminal Cases

WE recently discussed[1] in a leading article some of the conditions that arise when medical practitioners are called upon to give evidence in civil actions and in an answer to a correspondent in a subsequent issue[2] we further explained our views upon this branch of the question of the remuneration of medical witnesses. The hardships that press upon medical men in connexion with giving evidence are not, however confined to civil proceedings, but are even more oppressive in criminal trials. Our contention is not that medical men should be exempt from giving evidence or that they should give such evidence upon advantageous and profitable terms, but that the peculiar circumstances which make them liable to be called as witnesses more often than any other class of person not directly connected with the administration of justice should be recognised, and that where their evidence is necessary everything reasonable should be done to render their pecuniary loss and their disturbance in the practice of their profession as small as possible.

Recent cases have called attention to the unenviable position occupied by medical men in respect of criminal as distinct from civil trials and two of these may be brought to our readers notice. In one of them at Leeds, a medical man had attended a patient at the infirmary for injuries stated to have been inflicted by persons who had assaulted and robbed him. The medical man was not present when his name was called at the hearing before the deputy stipendiary magistrate, and two adjournments were made before he came. He afterwards explained that this was due on the first day to his not having been informed that he would be wanted and on the second day to a misapprehension as to the time, and he denied any desire to treat the magistrate with disrespect. His explanation seems to have been accepted, but apparently before he had had the opportunity of giving it he had been informed by the magistrate in open court that had he not appeared a warrant would have been issued to bring him in which case had he refused to give evidence he would have been sent to gaol. We need not discuss the good taste of fulminations of this kind they do not, however tend to render the situation of the medical man less irksome and objectionable. In the second of the recent case to which we have referred, on the trial of an indictment at the Suffolk assizes against a prisoner for indecent assault upon a little girl, the police informed the judge that each of the three medical men in the town where the child lived had refused to examine her on the ground that the fees allowed in connexion with criminal proceedings were inadequate. The judge appears to have adopted a somewhat different tone to that employed by the magistrate at Leeds and to have intimated his intention of calling the attention of the Home Secretary to the matter These two cases illustrate the two main causes which lead to medical men becoming witnesses in criminal courts by virtue of their profession The first case belongs to that class which practically compels the medical man to be a witness whether he will or not He is summoned to attend a person who is injured, perhaps seriously, but who is alive, and he can hardly stay to inquire whether rendering surgical aid, which may be necessary to save life, will make the surgeon a necessary witness at a criminal trial. Cases of the second class are those in which the medical man is invited to give evidence which only a medical man can give, but with regard to which there is nothing to indicate a particular practitioner as the witness to be summoned. Such cases not infrequently occur in country districts, where sexual offences constitute a large proportion of the charges which are tried at assizes and quarter sessions It may be in such a case that a man is charged with unlawful carnal knowledge of a young girl There is absolutely nothing about her that calls for medical aid and the medical man is only expected to examine her genital organs and to say in the witness box whether in his opinion the conditions he has observed are consistent or inconsistent with the charge made It can scarcely be a matter of surprise that medical men should hesitate to make an examination at such a juncture knowing that the pecuniary reward will be trifling and that the inconvenience and waste of time incurred will be considerable

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[1] THE LANCET Feb. 16th 1895, p. 429

[1] THE LANCET J 18th 1902, p. 170

[2] THE LANCET June 28th 1902, p. 1,5

It must not be thought that in either of the two classes of case to which we have called attention we would wish to see the trial conducted without medical evidence. We make no such suggestion, but our contention is that a man who has to earn his living in a certain profession should be reasonably compensated if he is wanted as a witness and that his time should not be wasted unnecessarily With regard to the present scale of compensation, the fee of a medical man for each day that he shall necessarily attend a court to give medical evidence does not in any case exceed a guinea, while there are allowances—such as *3d* per mile if he lives at a distance and *2s* as a contribution to the price of his night's lodging, if required—which are equally inadequate. Without discussing the prescribed fees and allowances in detail we would point out that they were fixed in the middle of the last century by Sir GEORGE GREY (the grandfather of the present Sir EDWARD GREY), Home Secretary during one of Lord PALMERSTON'S administrations This alone should suggest that at the present date revision might be an act of justice. More important, however, than the actual amount of fees paid, is the question of inconvenience and disturbance. It may be that if the daily reward of the medical man for giving evidence were doubled or trebled, care would be taken to economise the public funds by occupying as little of his time as possible. Loss of money is not the only loss that he has to put up with He has to leave his practice for an uncertain time, to waste precious hours doing nothing, and to feel frequently that the waste might be avoided Many hours of waiting and inactivity there must be where a number of witnesses are summoned, for instance, to a country assize of a week's duration, but will any medical man who has endured such an experience assert that some part of the worry which was occasioned to him might not have been avoided by the exercise of care and organisation combined with consideration? Consideration is due to those who may have important cases of illness under their charge at home demanding their personal attention, and consideration is due to their patients Medical men under the present system, when bound over to give evidence on a certain date, often do not know whether the trial in which they are witnesses will be concluded on that day or whether they may be kept for four or five days waiting for it to come on, and in consequence can make no proper arrangements for the care of their patients. They are, moreover, not infrequently retained in attendance without any information or permission to retire temporarily being vouchsafed to them, although such information or permission might safely be given To these the inadequacy of the fee under the present scale may seem almost insulting but under whatever scale it was paid it would not compensate them for absence from practice coupled with the idleness and uncertainty needlessly imposed upon them

The Accident to Mr Chamberlain.

IN the early days of railways it used to be said that accidents would continue to occur until a director had been killed in one. Now that a Cabinet Minister has been severely injured in a cab accident and treated at a hospital we may hope to see two reforms brought about, firstly, a more generous appreciation of the hospitals by the well to do classes, and secondly, the abolition of the dangerou moveable window of the hansom With regard to the firs point we would recall to our readers the followin passage from the Hospital Sunday Fund Supplement whic appeared in THE LANCET of June 16th, 1900 In speakin of the reasons why the well to do should give to the hospital we said —

> "Let the giver, if he wants self-interest as well as charit for a motive, remember that the help he confers upon th hospitals may some day come back a hundred fold upon himself He may not belong to the class with which accident are frequent in their daily work, but some day a misha may lay him low so that the saving of his life may depen on the promptitude of succour The doors of the neares hospital will stand open for him as widely as they do for th labourer or for the poorest beggar in the streets His lif may depend upon the application of some new discovery c science, and let him remember that it is in the hospitals tha such discoveries are brought to perfection "

Now, we do not suggest that Mr CHAMBERLAIN'S lif would have been endangered if he had been drive straight home, there to be attended by his medica man, instead of to Charing Cross Hospital, where h was conveyed on the advice of a policeman Althoug wounds of the face or scalp bleed with astonishin freedom, yet owing to there being a hard bony surfac against which to exert pressure the hæmorrhage ca always be arrested, at least temporarily, by pressur on the wound. But the fact remains that he di not go home but was taken by a policeman to general hospital, exactly the same procedure bein followed as would have been had the victim been th cabman or a street waif who had been knocked down by the cab. Arrived at the hospital he was attended to by the house surgeon on duty and the resident medical officer and was detained for the night. A similar accident might happen to anyone on any day and Mr CHAMBERLAIN'S misfortune ought to impress upon the ordinary well to-do citizen that he may one day need a hospital and that therefore he ought to help to support those institutions with gladness and with such liberality as he can afford. We do not suggest that the selfish motive is the really important one but while charity should impel all to support the hospitals it tells in favour of those hospitals that they afford relief to rich and poor alike.

Secondly, is it impossible that a hansom should be rendered a less dangerous vehicle than it is? As at present constituted the sliding window is a really perilous affair If let down it makes the interior unbearably stuffy while if the horse should chance to fall when the window is down the head of the fare is nearly certain to go through the glass and nasty cuts are inflicted. If, on the other hand as in Mr CHAMBERLAIN'S case the horse falls when the window is up the strap breaks or comes unfastened, with the result that the window falls somewhat after the fashion of the axe of a guillotine. Hansoms have been made which are entered at the back, but though this plan does away with the falling window it does not protect the head of the fare if the horse should go down. Is it impossible to manufacture a window which would go up and down like a roller blind? This would obviate any danger of the window falling and although the fare's head might still be projected through it, yet, as it would not be made of glass, but little harm would be done. The material to be used offers difficulty If transparency is required something of the nature of celluloid would seem to be indicated though transparent celluloid is dangerous on account of its high degree of inflammability But is transparency a necessity? The present window of a hansom is almost never let down except on account of rain—rain, moreover which drives in an exactly opposite direction to that in which the hansom is going so that vision is much impeded. It would seem therefore, that the uses of the window of the hansom are very limited certainly they are not commensurate with the risk which the public is invited to take. Cannot mechanical ingenuity contrive a substitute?

Annotations

"Ne quid nimis"

DEATH OF DR JOHN CURNOW

THE death of Dr John Curnow which occurred suddenly on Saturday last, July 5th has come as a shock to a large circle of friends, which practically includes everyone educated at King's College Hospital for over 30 years. To ourselves and to all the senior members of our staff the news of his death brought a deep sense of personal loss for Dr Curnow had been connected with the editorial staff of THE LANCET for more than a quarter of a century We shall publish in an early issue an extended obituary notice of our dead friend who's brilliant record as a young man sound scientific attainments, love of right and scorn of humbug, and unfailing good temper and kindness of heart entitle him to more than mere passing notice. A memorial service was held on July 9th at King's College Chapel and the funeral took place on the same day at Highgate. Besides the two sisters and brother in law of the deceased there were present various friends of the family From King's College Hospital there came Dr N Tirard Dr N Dalton Mr W Watson Cheyne Mr P T Beale, many of the resident medical officers and of Dr Curnow's clinical clerks the sisters of his wards, some nurses and Captain H. S. Tunnard, the secretary Dr H. P Cholmeley represented THE LANCET and Dr Herbert Smalley of the Prison Commission attended as an old King's College Hospital man and a personal friend of long standing

A CASE FOR PUBLICITY

WE have already discussed the affairs of the Royal Orthopædic Hospital under this heading and may assume that the details of the unfortunate plight in which the institution is placed are familiar to most of our readers Roughly speaking the situation is this. The hospital owns a freehold of great value, the committee of management proposes to sell that freehold and certain governors and members of the medical staff think that to do so is suicidal Undoubtedly a large sum of money would be received from the sale, but equally undoubtedly the freehold is one that will increase in value so that, unless urgency can be pleaded, on the face of it the sale should not be made. But if on behalf of the patients urgency is required no pecuniary considerations must interfere with immediate sale. A hospital should be run for its patients. We have recently had an opportunity of inspecting the buildings of the Royal Orthopædic Hospital when every possible courtesy was offered to our representatives and every facility was given to them for framing an opinion upon the whole question. The conclusions which were come to by our representatives, one of whom we may say was an architect, and both of whom were perfectly familiar with the requirements of a modern hospital were as follows. The Oxford-street end of the property where of course, the enormously valuable frontage is situated must be condemned *in toto* as a fabric. At the present time this building is given up to an out patient department of unsatisfactory aspect and imperfect equipment having above it certain leaky little rooms for nurses. The Hanover square end of the property which is now being used as a hospital for some 40 beds, a large proportion of the patients being children, is in better case. It is not a modern building and is without many of the conveniences of a new hospital but the wards are airy light, and clean, and the fabric has recently been put into good sanitary repair That this building will in course of time have to be replaced by a properly equipped structure, should the hospital remain upon its present site is undoubted but the state in which it now is does not allow urgency to be pleaded as a reason for moving In the circumstances it seems to us that the policy of the hospital should be to build upon the Oxford street end of the property when it would certainly obtain a very large rent for the ground floors—perhaps as much as £1000 per annum Above the shop could be placed proper accommodation for the matron nurses and servants. In this way the matron's room at present in the Hanover square building would be free for occupation by a resident house surgeon. The Hanover-square end of the building—that is to say the hospital proper—could be made to do for a further period until the enhanced value of the whole property enables either a better sale to be made or a new hospital to be constructed upon the present site Absolutely no proof of any urgency is forthcoming 40 beds out of the 60 which the building will possibly hold are occupied, and the income of the hospital does not suffice to keep more than that number filled. These are our views and we have heard nothing from those responsible for the policy of an immediate sale that leads us to alter them. We do not say that the committee of management has no reason for what it proposes, but we do say that it is singularly reticent, considering that it is dealing with a public charity. The whole case is one for publicity. Why must the site be sold at all? Why must it be sold at once? And if it must be sold at once, why is not its proper price ascertained in the usual way by putting the property up at Tokenhouse yard? It is possible that an answer to some of these questions may now be forthcoming, for on Wednesday afternoon last an inquiry into the matter was held at the hospital by the Charity Commissioners. The inquiry was conducted by Mr. G. S. D. Murray, assistant commissioner, when the strong case for those opposed to immediate sale was put forward. The Charity Commissioners are not likely to sanction any sale upon grounds that will not bear public investigation and free discussion.

LACHNANTHES

WE publish an interesting communication this week on the chemical and therapeutic properties of lachnanthes, that much discussed drug in regard to its alleged value in the treatment of tuberculosis. By following well-recognised chemical methods Mr. J. A. Gardner, M.A., F.I.C., has been able already to separate from the extract chemical entities which no doubt under further study will resolve themselves into substances of definite chemical composition. Thus, to quote one instance, a syrup was obtained which on standing for some weeks deposited crystals. The nature of these and other bodies will be elucidated, it is hoped, as a sufficient supply of the material is gained. Lachnanthes evidently consists largely of resinoids and further, perhaps, contains bodies of the nature of alkaloids. At any rate, an aqueous extract of the material is very distinctly toxic and far from any inhibitory action being shown upon the progress of tuberculosis the injection of the extract would seem to hasten it. These preliminary results are of sufficient interest to warrant extended inquiry and the indications of further experiments will be awaited with interest. The biological part of the inquiry was undertaken by Dr. Harold R. D. Spitta and Dr. Arthur Latham.

SUTURE OF WOUNDS OF THE HEART

A DIRECT result of the antiseptic method has been the bringing of every region of the body within the field of the operator. In consequence of obvious peculiar difficulties the heart has been the last territory encroached upon by modern surgery. Indeed, the number of operations performed on it are still very few. At the recent annual meeting of the American Medical Association Dr. Harry M. Sherman devoted his "Oration on Surgery" to "Suture of Heart Wounds" and presented a useful summary of our present knowledge of the subject. In 1896 the heart was sutured three times for wounds, in 1897 twice, in 1898 four times, in 1899 11 times, in 1900 three times, and in 1901 nine times. This year two operations have already been reported. All the wounds were punctured or incised except two bullet wounds. The ventricles were injured 32 times, the auricles twice—the right being opened in one case and the left in the other. In most of the cases in which details are given the pleura was wounded and usually there was hæmothorax. The method of operation varied: either a flap of all the tissues of the thoracic wall was turned up or a resection of two or more ribs was performed. Three operators used catgut for suturing the heart. In the other instances in which the material is specified silk was used. In most cases the sutures were interrupted, in a few they were continuous. Inclusion of the endocardium was avoided. The thoracic flaps were, of course, replaced; in seven cases drainage of the pleura and pericardium was performed, in four of the pleura alone. Of the 34 patients five died on the table from hæmorrhage or shock and 10 soon afterwards. These deaths were probably inevitable under any conditions. Of the remaining 19, 13 recovered and six died from sepsis. In not one instance was death due to secondary hæmorrhage. Thus the suture of the heart in all the 19 cases was a perfectly successful operation for the arrest of hæmorrhage. The symptoms of wound of the heart are an external wound in the pericardium, the general signs of hæmorrhage, disturbance of cardiac function, and signs of filling of the pericardium and pleura. The left pleura extends so close to the sternum that practically a wound of the heart implies penetration of the pleura. Also in exposing the heart for suture opening of the pleural cavity is unavoidable. In the *Münchener Medicinische Wochenschrift* of Jan. 16th, 1900, Dr. Rotter has carefully described a method of exposing the heart so completely that even the posterior surface can be reached.[1] In it a flap is formed containing the inner ends of the fourth and fifth ribs which are divided and luxated from their sternal attachments. The flap of thoracic wall is turned inwards like a door on its hinges. The subject is of wide practical importance, for suture of the heart, like herniotomy and tracheotomy, is an operation of emergency which any medical man should be prepared to undertake. If hæmorrhage into the pericardium is not arrested when the limit of pericardial distensibility is reached the heart is unable to dilate and its movements are mechanically stopped.

DISTRIBUTION OF MEDICAL PRACTITIONERS IN THE UNITED KINGDOM

A CORRESPONDENT has been making investigations into the distribution of medical practitioners or professors in the following places in the United Kingdom where the greatest number of them are congregated. He finds that the average number of medical persons in those places per 10,000 of the population works out as follows:—Clifton, 36 80; Bournemouth, 24 38; Harrogate, 21 11; Cambridge, 21 09; Weston-super-Mare, 20 47; Bath, 20 07; Brighton, 19 51; Edinburgh, 19 14; Southport and Birkdale, 17 66; Tunbridge Wells, 17 07; Torquay, 16 65; Eastbourne, 15 46; Bedford, 15 36; Oxford, 14 16; Dublin, 13 83; Scarborough, 13 36; Hastings and St. Leonards, 13 05; Glasgow, 12 80; Cheltenham, 12 33; Cork, 10 92; Blackpool, 10 56; Aberdeen, 10 45; Waterford, 9 72; York, 8 86; Plymouth, 8 55; Wakefield, 8 42; Limerick, 8 13; Newcastle-on-Tyne, 7 91; Cardiff, 7 78; Lancaster, 7 68; Southampton, 7 53; Londonderry, 7 49; Birmingham, 7 29; Birkenhead, 7 21; Croydon, 7 17; Belfast, 6 59; Stockport, 6 51; Manchester and Salford, 6 41; Nottingham, 6 38; Liverpool, 6 33; Portsmouth, 6 02; Preston, 6 01; Wolverhampton, 5 94; Leeds, 5 75; Derby, 5 57; Bootle, 5 46; Huddersfield, 5 36; Blackburn, 5 33; Northampton, 5 28; Great Yarmouth, 5 26; Bradford, 5 19; Sunderland, 5 11; Halifax, 5 05; Leicester, 5 05; Oldham, 5 02; Norwich, 5 01; Sheffield, 5 01; Paisley, 5 00; Bristol, 4 89; Burnley, 4 84; Hull, 4 65; Rochdale, 4 45; Dundee, 4 40; Middlesbro' on Tees, 4 38; South Shields, 4 31; Bolto 4 16; Walsall, 3 93; Leith, 3 67; Gateshead, 3 63; and St. Helens, 3 31. In London there are about 12 medical perso per 10,000 of the population. The 24 cities in the Unite Kingdom which contain the largest number of medica practitioners or professors are the following, placed i numerical order—viz. London, Glasgow Edinburgh Manchester (including Salford) Liverpool, Dublin, Birmingham Leeds Brighton Belfast Sheffield, Newcastle-on Tyne Aberdeen, Bristol, Bradford, Bournemouth, Nottingham Cardiff, Portsmouth Hull, Southport (including Birkdale) Clifton Leicester and Bath The above figures are based upon information comprised in the Medical Directory 1902, which contains in the London list 6292 names, in the Glasgow list 732 names, and in the Bath list 100 names. Some of the medical persons however have retired and a few are travelling

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[1] THE LANCET, Feb. 16th, 1901, p. 491.

THE PREVALENCE OF SMALL-POX

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned on Saturday, July 5th there were six fresh cases on Sunday, the 6th there were four fresh cases on Monday the 7th there were seven fresh cases, on Tuesday the 8th there were 6 fresh cases, and on Wednesday the 9th, there were 5 fresh cases.

ACROPARÆSTHESIA: AN ANALYSIS OF 100 CASES

AN important study of the somewhat rare nervous disorder known as acroparæsthesia is contributed by Professor Joseph Collins of New York to the *Medical Record* of May 31st last Acroparæsthesia is characterised by abnormal sensations in the extremities principally those of pricking tingling 'pins and needles, and numbness. The present contribution was based on the study of 100 cases observed during the past five years at the clinic of the New York Post-graduate Medical School Symptoms allied to acroparæsthesia are often associated with such bodily conditions as chronic rheumatism gout, and other arthritic disturbances, peripheral neuritis, diabetes, and pulmonary phthisis but such cases were excluded from the present research which concerned itself only with cases where the acroparæsthesia itself was the only manifestation of disease or where other manifestations could not be found. As a typical case among the many cited by the writer the following may be given. A woman, aged 68 years suffered from symptoms of numbness and tingling of the hands and arms soon after retiring to bed. When the pain or discomfort reached its height she would awake and rub her fingers and hands till relief was obtained and then go to sleep again. This occurred five or six times every night and prevented her sleeping soundly It was found that she had been overworking herself to the point of fatigue for some time preceding the illness and was also suffering from constipation. The symptoms soon ceased and did not recur Among the 100 cases the average age when the symptoms appeared was 39 years most of the patients being between the ages of 30 and 50 years. There were 69 females to 31 males and most of the latter were Jews of the lower class. Among diseases which preceded the ailment were rheumatism, influenza, typhoid fever pneumonia, or ill health from alcoholic intemperance but in not one case was syphilis ascertained to have been present. As regards distribution of the symptoms in 52 per cent. of the cases they were in the arms and hands in 10 per cent. in the feet and legs and in 30 per cent. in both the upper and lower extremities. In the remaining few cases they were present in other parts of the body and only in a single case in the face Associated gastric disorders were present in many cases—viz. constipation in 32 per cent. anorexia and coated tongue in 15 per cent. and gastro-intestinal fermentation in 10 per cent of the cases. 14 patients complained of headache and 11 had marked neurasthenic symptoms. The peripheral circulation was slow and feeble, the pulse was small and the hands and feet were clammy in 20 per cent., but in no case was sclerodactylia or Raynaud's disease present in the whole series. The average duration of the symptoms of acroparæsthesia was 14 months. The occupations in which it was most prevalent were those involving overwork with the hands, as in the case of tailors washerwomen and laundry workers but gastric disorder or constipation predisposed to it. The treatment consisted of rest, 'tonic baths" (cold water splashing of the body and limbs at from 65° to 75° F followed by vigorous rubbing of the back and abdomen) galvanisation of the cervical and brachial plexuses a diet to correct constipation and the administration of arsenic and strychnine as nerve tonics. The pathology of the disease remains, adds Professor Collins, as yet obscure

PRESERVED SHRIMPS AGAIN

ON more than one occasion we have referred in our columns to the increasing sale of shrimps imported from Holland preserved with excessive quantities of borax. It appears that an enormous amount of Dutch shrimps are imported for distribution as fresh English shrimps. Apart from the deception which is thus practised the shrimps contain very large amounts of borax or boric acid, equal to about 41 grains per pound of the acid According to the recommendations of the Departmental Committee on Food Preservatives borax is permitted to be used in cream, butter, and margarine in certain amounts which are not to be exceeded. The recommendations, however do not relate to other articles of food, such as shrimps, and, therefore, we may take it that these could be treated with an unlimited amount of borax. Imported shrimps so preserved are obviously however not of the nature and substance demanded, as of course, they are not English shrimps. Such was the view taken by the bench in the case tried recently at Ormskirk. During the hearing of the case it was stated that an old industry was threatened with ruin by the introduction of foreign shrimps. It would be interesting to know what view would be taken in the case of other fish, such as salmon, which let us assume, was sold as fine Scotch salmon but which proved to be an imported fish preserved in the same way as are Dutch shrimps.

ON THE USE OF TRIANGULAR DIAGRAMS FOR THE REPRESENTATION AND COMPARISON OF DIFFERENT TYPES OF SKULL.

Professor W M. Flinders Petrie, the Egyptologist, has devised an ingenious method of representing the principal cranial indices by means of a system of diagrams which clearly exhibit their characteristic features even though they may be drawn so small that a threepenny piece will cover them. The principle is fully explained in the June number of *Man*, a journal published under the direction of the Anthropological Institute of Great Britain and Ireland. A vertical line is drawn on paper and from its lower extremity two other lines are drawn making with it angles of 120° The three lines therefore meet in a point, like radii of a circle, and are equally inclined to one another Any scale of equal parts being taken and the numbers corresponding to the three principal measurements of the skull being found upon it, the vertical line is made equal to the number of divisions representing the height of the skull the line sloping downwards to the left is made equal to those representing the length of the skull and the line sloping downwards to the right is made equal to those representing the breadth of the skull Then by joining the outer ends of these three lines a triangle is formed the inclinations of the three sides of which show the ratios (1) of the length to the breadth, (2) of the length to the height, and (3) of the breadth to the height. The indices of different skulls obviously may be compared by observing the slope of the corresponding sides of the respective triangles—e.g , with a brachycephalic skull the base line will slope downwards from left to right, while with a dolichocephalic skull the base line will slope downwards from right to left Moreover, in these triangles the whole area varies with the capacity of the skull, and the area of each of the three triangles within the large one varies with the area of the three cross sections of the skull, vertical fore and aft section being shown by the left-hand inner triangle, vertical cross section by the right hand inner triangle, and horizontal section by the lowest inner triangle In order that two or more triangles may be comparable with one another it is obvious that the same scale of equal parts must be used in setting out the lengths of the three central radiating lines Ethnological classifications of a more elaborate kind can be obtained in a graphic and compact form by superimposing these cranial triangles upon paper ruled in squares which in the horizontal direction show the transition from the orthognathous to the prognathous type and in the vertical direction the transition from the wide-nose type to the narrow nose type.

THE HENRIETTE RAPHAEL NURSES' HOME

ON July 7th the Prince and Princess of Wales visited Guy's Hospital and opened the Henriette Raphael Nurses' Home, which was founded by the late Mr H. L Raphael in memory of his wife. The erection of the home has cost about £68,000, and towards this sum the late Mr Raphael gave £20,000 The building contains, besides living rooms, 213 bedrooms, a sick ward, and a swimming bath In reply to an address of welcome by Mr Bonsor, the treasurer of Guy's Hospital, the Prince of Wales said - -

> Mr Treasurer, my Lords, Ladies, and Gentlemen —before I allude to the object for which we are met together to-day I am sure that all who are here will join with me in expressing our feeling of unbounded thankfulness to God for the merciful recovery of my dear father the King And speaking before the authorities of one of our leading hospitals I should like to say that we who have watched at the sick bed of the King fully realise how much, humanly speaking is due to the eminent surgical and medical skill as well as to the patient and highly-trained nursing which it has been His Majesty s good fortune to enjoy So it seems almost fitting that one of the first public ceremonies that the Princess and I should take part in since the King s serious illness should be to open this beautiful home for nurses within the precincts of this great hospital which we have just had the pleasure of inspecting It is only in comparatively recent times that the rôle of the nurse in the sick room has been fully recognised But are there not many here who like myself will throughout our lives remember with the deepest gratitude the soothing comfort indeed I may say the blessing of efficient nursing? Recognising therefore the high and indispensable position which nurses occupy, the least that can be done for them is to provide the comforts of a home where they can enjoy rest and relaxation after their hours of arduous and self sacrificing work It was one man who holding this view gave practical reality to it by the munificent gift already referred to by the treasurer for the purpose of establishing this home which we to-day inaugurate and I am glad as your President to congratulate Mr Raphael who I am happy to think is one of our governors, upon the consummation of the work of which his father was the founder and which for all time will bear the name of his mother I now have much pleasure in declaring the Henriette Raphael Nurses Home open

THE REPORT OF THE JOINT SELECT COMMITTEE OF THE TWO HOUSES OF PARLIAMENT ON THE LONDON WATER BILL.

THE ' Report and Special Report from the Joint Select Committee of the House of Lords and the House of Commons on the London Water Bill with the proceedings of the Committee" have been recently published.[1] The gist of the proceedings and the practical outcome of the report have already been given in THE LANCET and the nature of the special report has been correctly foreshadowed. The information given which is new to us is the way in which the members of the committee voted at the various divisions The first important division was that which took place on April 30th on the constitution of the proposed Water Board Lord Balfour of Burleigh proposed that ' the committee accept in its general lines the composition of the board as set out in the third schedule," and to this Lord Llandaff proposed an amendment to leave out all the words after "committee" and to insert instead the words "delete the representation of the metropolitan boroughs from that schedule " Those who supported the amendment were the Earl of Crewe, Lord de Mauley, Sir William Houldsworth, Sir James Kitson, and Mr M'Crae Those in favour of the Government proposal were Lord Balfour of Burleigh, Lord Ludlow, and Sir William Arrol It will be remembered that the Government made a strong appeal to the committee to reconsider its decision, and the President of the Local Government Board himself was present. On May 6th the committee decided to receive evidence tendered by the metropolitan boroughs with reference to the proposed Water Board. This course practically reopened a question which had been already decided, and those in favour of the proceeding were Lord Balfour of Burleigh, Lord Ludlow, and Sir William Arrol (who were from the first in favour of the Government measure), Sir Edgar Vincent (who was not present in the earlier division), and Lord de Mauley, Sir William Houldsworth, and Sir James Kitson, who practically changed sides The final decision as to the constitution of the Water Board was made on June 11th and the result really depended on the way in which the question was put. Lord Balfour, Lord Ludlow, Sir William Arrol, Sir William Houldsworth, and Sir Edgar Vincent were in favour of the Government proposal, the Earl of Crewe, Viscount Llandaff, Lord de Mauley, Sir James Kitson, and Mr M'Crae were opposed to it. The special report drawn up by Lord Balfour of Burleigh in regard to the way in which the decision was arrived at is as follows —

> On the question of passing the schedule as a whole the chairman was requested to put the question, That the schedule stand part of the Bill," but he gave it as his decision that he should not so put the question, but that if such motion were made he should put the question in the form ' That the schedule be disagreed to" The question having been thus put and the numbers being equal the chairman (having in accordance with precedent no casting vote) ruled that the said schedule must stand part of the Bill on the principle that no amendment should be made to the Bill as referred to the Committee by the House after second reading unless there should be a majority in favour of such amendment

THE WATER-SUPPLY OF LIVERPOOL

THE annual report of the engineer of the City of Liverpool Waterworks[1] has recently been published A full account of the sources of supply has been given in THE LANCET and on that point nothing need be added The most interesting part of the present report is that which relates the difficulties which have occurred owing to the obstruction to the flow of unfiltered water through the pipe which conveys it from Lake Vyrnwy to Oswestry An elaborate series of experiments has been made and the information which has been obtained from them will be of the greatest service to all those who have the responsibility of conducting upland water for long distances for the supply of cities It may be of use to state in the briefest possible manner the difficulties which have presented themselves, the nature of the investigation which was adopted to discover their cause, and the new facts which have been established as a result of the investigation. The trouble arose from the fact that the pipe which conducted the unfiltered water delivered a quantity considerably less in amount than it should have done—roughly speaking, about one seventh less Mr Deacon's pipe cleaning apparatus—a specially devised brush—was used with good results and the process of cleaning the pipe occupied about 10 days. The trouble recurred. Experiments were undertaken with a view to determine the exact nature of the obstructing matter and the best method of preventing its accumulation. Professor J Campbell Brown, D Sc., *found incrustations on the inner surface of the* pipes, that these were due mainly to corrosion that there were growths of organisms and that the flow of water was checked partly by the diminution in the lumen of the pipe and partly by the increased friction set up by the nodosities on its surface Accumulations of débris of mineral and organic substances were found. Professor Campbell Brown recommended that the pipes should be treated with pitch and that lime should be added to the lake water Filtration he recommended as perhaps a less important measure. The most interesting part in his report is to the effect that he has ascertained that a great deal of the colour of Vyrnwy water is due to an organic compound of iron, and not to peat, as is popularly supposed. Professor Rubert Boyce has made a very thorough examination of the matter which is deposited from the Vyrnwy water as seen in specimens taken from the lake at different depths from the settling reservoir at Oswestry and from the aqueduct which carries it from the lake to the reservoir The deposit has the appearance of coffee-grounds, is rich in iron, contains some manganese and a fungus of undetermined name, of thread like appearance, gelatinous nature, and oxide-of iron forming properties. Although the presence of the organism is advantageous in so far as it precipitates some of the iron contained in the water it is highly inconvenient that the deposit should occur in the pipes. The elimination of the organism is therefore desirable, and Professor Boyce believes that the best method of accomplishing this is by the process of filtration, and Mr Joseph Parry the engineer to the waterworks agrees with this view The chief practical point which the investigation has brought out is that in the case of upland waters there is strong evidence in favour of placing the filter beds as near as possible to the gathering grounds.

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[1] London: Eyre and Spottiswoode, price 3d

[1] City of Liverpool Waterworks: Annual Report of the Engineer Year 1901 Printed in accordance with a Resolution of the Water Committee Liverpool 1902

HORSE-DUNG IN LONDON STREETS

FEW of the sanitary problems of large towns more urgently require to be dealt with than the constant fouling of the streets by the droppings of the countless horses which daily thread the busiest thoroughfares and few at present receive less notice, for even the nimble youth with brush and pan, at one time a familiar object, is fast vanishing if not quite extinct, and the only attempt apparently now made to deal with the problem is to water spasmodically the surface of the roads by day and to sweep them by night. Apart from the disgust occasioned by the sight of roads thickly powdered with dried or drying manure and the offensive smell exhaled as evaporation proceeds particularly from the sodden surface of wood paved thoroughfares there is the discomfort caused as the result of the dried floating particles, stirred by the wind or the traffic in the streets irritating the nasal mucous membrane and conjunctivæ, while the pathogenic possibilities must not be forgotten. Intestinal bacteria certainly flourish in the large intestine of herbivora as well as of carnivora, and apart from these the dejecta, especially when moistened, may well form a culture-medium for other organisms It is at any rate possible that some of the cases of conjunctivitis or of catarrh of the throat and nose may if not actually caused at any rate be predisposed to by the persistent irritation set up It is no uncommon thing especially on a slightly windy day to see the dried material swept by the wind into a thick layer at one side of the road and pedestrians walking in a thin haze of irritating particles. It is of course, easier to point out a nuisance than to remedy it but surely it is imperative, in the interests of public comfort and not improbably of public health, that municipal authorities should endeavour to find some means of dealing with this matter possibly some light form of mechanical scavenger—motor propelled—might be contrived so as to pass sufficiently rapidly over the surface of the road as not to impede the general traffic.

WALL-PAPER AND VENTILATION

IN a recent number the *Builder* draws attention to the influence of wall papers on the ventilation of rooms. With doors and windows closed the atmospheric contents of an unpapered room undergo change at the rate of one-twenty fifth of the whole per hour for each degree of difference between the inside and the outside temperatures. Supposing the external air to be at 35° F and the internal air to be at 60°, a complete renewal would take place in an hour by means of transpiration alone. When rooms are papered however the rate of diffusion is much slower not exceeding one-eightieth of the whole per degree per hour Should the paper be varnished the rate falls still lower while cemented and painted walls are almost impermeable. As very little provision is designedly made for ventilation in ordinary dwelling houses and especially in those at low rentals the subject is one well worthy of consideration by architects and builders Thanks to the jerry builder with his green wood fittings the wholesome outside air can make its way into many a dwelling house that otherwise would be uninhabitable but ventilation through cracks and fissures is of course, objectionable as it gives rise to draughts The employment of reasonably porous building material should be advocated in all new constructions but when, for any reason impermeable material is used the provision of scientific ventilating media should be made a *sine qua non*

ASPHYXIA FROM PRESSURE ON THE CHEST

THOUGH asphyxia from pressure on the chest is a well recognised cause of death the symptoms have been seldom studied because the condition usually is rapidly fatal. We have already described one case in which the patient survived [1] In this a peculiar mottled dusky bluish appearance of the skin was produced which differed from cyanosis in that it did not disappear on pressure and persisted after the patient improved In the *Boston Medical and Surgical Journal* of May 15th another case is recorded by Dr H. H. A. Beach and Dr Farrar Cobb It is of special importance not only on account of its rarity but also because a piece of the affected skin was removed during life and examined A healthy muscular man, aged between 30 and 40 years, was caught in an elevator and held for fully three minutes His face turned black. his eyes protruded and he bled from the nose When set free he was unconscious for a few minutes. An hour later when he was admitted to hospital he was conscious but stupid and in a state of moderate shock. The skin of the face was dotted with countless closely set spots from black to reddish black or blue in colour Between them were minute areas of normal skin. In the neck in front there was a sharp line of demarcation behind the discolouration corresponded to the position of the trapezii muscles a fact which has not been noted in any other case There were signs of severe injury from the groins and buttocks to the middle of the thorax several contusions of the abdomen, a large fluctuating hæmatoma in the left loin and back, and fracture of the eighth and ninth ribs in the axillary line with subcutaneous emphysema in the neighbourhood. Pressure on the blue black skin had little effect in causing it to become pale. The patient was never very ill except on the third day when his temperature rose to 106° F and his breathing was difficult both lung were full of râles and the expectoration was somewhat bloody This condition, however passed away in 24 hours The hæmatoma in the back was aspirated six times, each time from one to two pints of bloody serum were withdrawn and each time the fluid reaccumulated with great rapidity The discolouration of the skin faded rapidly after the third day and the intermediate areas of normal skin became larger In contrast to this subconjunctival hæmorrhages, which were present, went through the usual changes observed in absorption of blood. A piece of discoloured skin was removed from the neck and examined microscopically The section showed nothing abnormal This bears out the view advanced by Dr Ollivier, who examined the bodies of 23 persons crushed to death by the rush of the mob in the Champs de Mars in 1837, that the discolouration is due to stasis of hyper-venous blood in dilated capillaries. All the cases examined post mortem have shown changes characteristic of venous engorgement—distended great veins and punctate hæmorrhages on the surfaces of the viscera. But why was the remarkable discolouration of the skin confined to the face and neck? In the case previously described in THE LANCET[2] it extended as low as the third rib No satisfactory answer to the question is apparent.

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[1] THE LANCET, Jan. 25th 1902, p 245.

A MEDICAL RESEARCH INSTITUTE IN THE FAR EAST

WE have received from the office of the Resident-General at Selangor an intimation to the effect that the Government of the Federated Malay States has established in Kuala Lumpur, the capital of the Federated Malay States a research institute which is open to all workers irrespectively of nationality The medical department is fully equipped for special and general pathological work, for the scientific study of clinical medicine, and for experimental physiology and bacteriology It includes a modern mortuary with a refrigerator chamber, a department for both organic and inorganic chemistry, a well-equipped photographic department, facilities for biological research, and a good working library It is stated that to the members of scientific commissions who visit the Malay Peninsula and neighbouring islands the institute affords an excellent opportunity for working up and preparing collected material Students of tropical medicine will find there an ample field for work. Beri beri is prevalent and malaria exists in at least four distinct types The institute is at present under the direction of Mr Hamilton Wright, M.D McGill, to whom any communications in reference to the institute may be addressed

THE DESTRUCTOR NUISANCE AT TORQUAY

IN our issue of June 14th, page 1706, we adjured the municipal fathers of Torquay to endeavour to render their beautiful town worthy of its reputation as a health resort. The destructor still continues to emit offensive odours and we learn from Dr H Humphreys that on July 1st he had to keep his windows shut all day and night on account of "oily and gritty fumes blown down upon us by a northerly wind." The Misses Tapper who have before complained to the Council on the subject tell us the same story about July 1st. These ladies say that even after their doors and windows were closed "the sickening odour pervaded the whole house" The town council apparently argue that there is no noxious smell given off by the destructor Of municipalities it may be said with the Psalmist, "Noses have they but they smell not." In the good old days when Smithfield and its vicinity was a sink of cruelty—"dung, guts, and blood" and other horrors—it was proposed to do away with the cattle market This proposal met with bitter opposition from the City fathers, one of whom went so far as to say that the Smithfield smells were as refreshing as the seaside This remark inspired Leech to the drawing of an inimitable cartoon which appeared in *Punch*—we fancy in 1854—wherein the alderman and his family were depicted taking a summer holiday in Smithfield and saying, "How delicious the drains smell this morning" Possibly when the Torquay councillors do smell the destructor they will say the same thing We wish that they would send us a copy of Mr Davis's report. We have it on the authority of the mayor that there is nothing to keep back We learn from the "Torquay Directory" of July 2nd that 500 copies of the new "Pictorial" issued by the Torquay Directory Company have been obtained by the corporation for distribution throughout the country From this "Pictorial," a copy of which lies before us, we see that it is claimed for Torquay that at the present moment it stands pre-eminent for the perfection of its sanitary system. 'Nothing that science, skill, and money can achieve has been left undone the local authorities and sanitary staff are imbued with a deep sense of the importance of perfect sanitary arrangements and devote no little time, energy, skill, and constant supervision to maintain in a high state of efficiency everything bearing upon, or contributing to, the health of the people" Despite this, however, the average visitor will not be allured by the smells from the destructor which apparently envelop Torquay whenever there is a northerly wind.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND

THE sixty-first annual meeting of the Medico Psychological Association of Great Britain and Ireland will be held at the Medical Institution, Hope street, Liverpool, on Thursday and Friday, July 24th and 25th, under the presidency of Dr Joseph Wiglesworth. The annual meeting will commence at 11 A M on Thursday and will be preceded by meetings of the Educational Committee, the Rules Committee, the Parliamentary Committee, and the council, to be held between 9 and 10 A.M After the election of the officers and council eight candidates will be proposed for election as ordinary members, Dr Giovanni S B Estense of Rome will be proposed for election as a corresponding member, and Dr Sidney Coupland of London and Dr Edward N Brush of Towson, Maryland, U S A, will be proposed for election as honorary members At 2 P M. Dr Wiglesworth will deliver the presidential address, after which medals and prizes will be distributed. At 3 15 P M Mr Damer Harrisson will read a paper entitled "Some Remarks upon the Surgical Treatment of Insanity" At 4 P M Dr Charles A. Mercier will propose the following motion, upon which Mr Percy Becher, solicitor, of Bedford row, London, and others will speak "That in the opinion of this association further legislative measures are needed to protect the property of those who, without being certifiably insane, are yet, by reason of disorder of mind, unable to administer their affairs with ordinary prudence" The annual dinner will be held at the Adelphi Hotel, Liverpool, at 7 P M (tickets £1 1s, inclusive of wine) On Friday July 25th, at 10 A M, Dr F W Mott will read a paper entitled "Stimulus in Relation to Decay and Repair of the Nervous System." Professor C S Sherrington, Dr W B Warrington, and others will take part in the discussion Dr A W Campbell will give a lantern demonstration on Medullated Nerve fibres of the Cerebral Cortex. Dr David Orr will give a lantern demonstration on Nerve-cell and Medullated Fibre Changes in Acute Insanity At 2 P M Dr T S Clouston will introduce a discussion upon "The Possibility of Providing Suitable Means of Treatment for Incipient and Transient Mental Diseases in our Great General Hospitals," after which Dr C Hubert Bond will read a paper entitled "Medico-Psychological Statistics—the

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[2] Loc. cit

Desirability of Correlation with a View to Collective Study " Dr A. R. Urquhart and Dr W Ford Robertson will read a clinical report on a case of Epilepsy Dr W R. Dawson will read notes on the Pathology of Diabetic Insanity The President and Mrs. Wiglesworth invite members to a garden party on Saturday July 26th, at the Rainhill Asylum, near Liverpool.

THE DISTRIBUTION OF PLAGUE

THE weekly return of the Director General of the Sanitary Department of Egypt shows that for the week ending June 29th there were 3 new cases admitted of which 1 occurred in a European. The deaths numbered 7 the recoveries 6, and 8 cases remained under treatment With respect to sanitary measures 14 230 rooms were disinfected and 3714 were limewashed 136 sacks of effects were disinfected and 1423 sacks of rubbish were burned. The number of rats killed and burned was 960

THE REGULATION OF THE SALE OF LIQUID DISINFECTANTS UNDER THE PHARMACY ACT

ACCORDING to a recent order of the Lords of the Privy Council liquid disinfectants are now to be included in the clause of the Pharmacy Act which relates to the dispensing and selling of poisons and liniments, embrocations and lotions containing poison. That is to say it is now required by the Pharmacy Act that liquid disinfectants shall be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, and that there shall be affixed to each such bottle (in addition to the name of the article and to any particular instructions for its use) a label giving notice that the contents of the bottle are not to be taken internally This sensible amendment is the result of a resolution of the Pharmaceutical Society made on May 28th 1902, the Privy Council consenting to it almost immediately It will be seen that the term liquid disinfectants will embrace a very great number of preparations.

THE POSTPONED PROCESSIONS AND THE HOSPITALS

THE sad and widespread disappointment which the postponement of His Majesty's Coronation inevitably occasioned was felt with peculiar weight by those hospitals the happy situation of which enabled them to offer a large number of seats for spectators. It will be readily understood that besides the natural joyfulness of the occasion an excellent opportunity was welcomed for adding to the funds—never too flourishing—of charitable institutions Considerable expense was incurred to render those who had bought seats at the hospitals comfortable for the day s sight-seeing and the disappointment which overwhelmed London was thus given an exceptional keenness in the cases to which we refer It is very pleasant, therefore to be able to record the generosity with which on the whole those who had purchased seats at the hospitals have acted. In the case of St. George s Hospital very many of the purchasers have refused to take back any of their money many others have accepted only part, and but a very small proportion have availed themselves of the offer of the hospital to refund the whole amount. It is fortunate that the return of Lord Kitchener provides St. George s Hospital with an opportunity that the authorities of the hospital have eagerly seized for repaying in some degree the generosity of the seatholders. Those who have presented to the hospital the full amount that they subscribed for Coronation seats are having seats placed at their disposal for Saturday s pageant and as far as possible all who contributed any of their money are to be similarly accommodated if they so wish.

WE understand that Sir Frederick Treves on the occasion of his being made a baronet will be described as Sir Frederick Treves of Dorchester and Sir Francis Laking on receiving the same honour, as Sir Francis Laking of Kensington Such designations are not, we believe territorial but are necessary as distinctive marks seeing that there may be baronets who happen to bear the same Christian and family names

THE annual meeting of Fellows of the Royal College of Surgeons of England was summoned for July 3rd but only five Fellows attended and as a quorum of 30 is required no meeting was held. The President remained in the theatre for 15 minutes before he could declare that the meeting would not take place. This is the sixth occasion on which no quorum has been present.

THE Epsom College annual prize distribution will take place on Founder's Day July 26th at 3 30 P M in the big schoolroom of the College, preceded at 3 P M. by a choral evensong in the College chapel The Right Rev the Lord Bishop of Winchester D D will give an address and distribute the chief prizes.

Looking Back.

FROM

THE LANCET, *SATURDAY, JULY 10*, 1824

ST THOMAS'S HOSPITAL.

An accident seldom met with was also brought in, and is now in George s ward The man in coming down stairs slipt his foot and in attempting to save himself he threw his trunk suddenly backwards, and felt something snap at his knee, and on recovering his footing he found he had no power over the leg He was carried to the Hospital and it appears that he has ruptured the tendon of the rectus the patella is in its situation its figure is perfect, but there is a hollow just above it, into which the finger readily sinks, and a defined firm surface can be felt just above the hollow but it has not the hardness of bone. The leg is secured just in the same way as in the fracture of the patella.

Dr ROBERT HONEYMAN a Physician, who died on the 21st ult. in Virginia, whither he emigrated from Scotland in 1774 has left the following bequest in his will dated in 1821 — I also give and bequeath to my son *a human rib* which will be found in a small trunk in my chest with my earnest request that he will carefully keep the said rib (*which is of James the Fifth King of Scotland*) and transmit it carefully to his descendants.

BIRTH.

At Martley in this county on the 9th of April Charlotte Hawlins a married woman about 36 years of age was delivered of a male child, totally without arms legs or thighs! The child is still living and appears healthy There is not to the present time the slightest appearance of the upper or lower extremities; but on the left side at the part where the thigh usually commences there is a little process in the shape of a finger consisting of two small bones united by ligaments, and covered with skin and cellular membrane; the projection has apparently muscles attached to it as it is constantly moved by the child when it cries or struggles It is nearly two inches long, thick at the base and runs to a point having a nail attached to it The expression of the countenance is not unpleasing The extraordinary appearance of this child (which in fact is a mere *torso*) cannot be conveyed by description *It is presumed* that there is no case on record at all parallel in the degree of defect.—The father is a labouring man between 60 and 70 years of age.—*Worcester Journal.*

THE LANCET

Special Analytical and Sanitary Commission

ON THE

IODO-BROMO SALINE WATERS OF SALSOMAGGIORE

History, Environment, and Climate

THE remarkable natural waters of Salsomaggiore were known to possess very definite therapeutic properties long before their exact chemistry was brought to light All that was known was that the waters were excessively saline and many times stronger in this respect than sea water, but soon it was clear that the marked therapeutic advantages which the water presented indicated something more than the presence of common salt. And chemical analysis has now established the fact that the Salsomaggiore waters possess a wealth of the rarer salines not approached by any other water in Europe. The bromides and iodides of magnesium and the chlorides of strontium and lithium exist in such tangible amounts that there can be no doubt that these contribute considerably to the therapeutic efficacy of the waters. The presence of such enormous quantities of dissolved salts, such as the chlorides of sodium and calcium, in the Salsomaggiore waters as shown by our analysis below renders them of course *antiseptic*, and doubtless to some extent definite therapeutic effects may be referable to a continuous antiseptic lavage In that case, however, it might be expected that all waters presenting a simple and similar composition would have the same action, and this to an extent is the case When, however, the composition is complex the therapeutic indications and applications at once widen And this is remarkably so with the waters of Salsomaggiore They not only contain rare salines over and above the ordinary chlorides of calcium and sodium but they are saturated with gaseous as well as liquid hydrocarbons, and these, as we shall show presently, contain impurities of a bituminous nature, and sulphur, an observation which may throw still further light on the excellent results gained in certain therapeutic applications

The Salsomaggiore waters were undoubtedly known to the Romans as salt springs and as such were regarded as a valuable asset It was not however, until 1839 that definite evidence of their therapeutic properties was gained Dr Berzieri established the value of the waters as a therapeutic agency of distinct merit by showing their favourable action in tuberculous disease, not then specifically recognised and his first case was one of caries of the bones of the foot This formed the starting point of the reputation of the Salsomaggiore waters which are employed *inter alia* with encouraging results in all cases of tuberculous lesions, whether of the bones, joints, or skin , in tuberculous enlargement of glands , and in other scrofulous manifestations But, as we shall point out a recent visit of our Commissioner to the place has demonstrated that the result of increasing experience has opened a far wider field of therapeutic usefulness for these waters—a fact which has put immense pressure to bear upon the resources of the baths and hotels in the village, a pressure which has led the authorities to provide an increased balneological equipment equal to growing needs and not in any degree inferior to that found in the well known European spas

Salsomaggiore is a village of some 2000 inhabitants, situated in the Emilian valley on the eastward side of the Appenine foothills in the province of Parma in North Italy It is only a few miles west of the main line of railway between Milan and Bologna The journey by light railway from the station on the main line, Borgo San Donnino, occupies about half an hour to Salsomaggiore Milan is distant about three hours' journey and the best trains stop at Borgo San Donnino during the season, which is from the beginning of April to the end of October The most suitable time for English visitors is, however the spring and the autumn, for in the months of July and August the weather is very hot. In the spring and autumn months the temperature is comfortable and the climatic conditions in general are genial Salsomaggiore is about 500 feet above the sea level and the surroundings are undulating and picturesque and tree and vegetable growth is very luxuriant. There are many interesting and charming localities in the environment of Salsomaggiore. Views may be obtained over the great blue Lombardy plain, stretching away to the Swiss Alps which can be seen plainly with their snowy tops beyond The air, though soft, is decidedly bracing The view given in Fig 1 was taken from a hill at the east end of the village, showing the Grand Hôtel des Thermes on the right, the Grand Hôtel de Milan and the Terme Magnaghi on the left, and other *alberghi* (hotels), the salt works, and the sanatorium in the distance. The Grand Hôtel des Thermes, which was completed in 1900, is nearly opposite the largest *stabilimento* There are, however, a number of *stabilimenti* The Terme Magnaghi are the most important and the best equipped, and they are situated close to the *Pozzo artesiano* (Magnaghi), the artesian well sunk on a piece of land adjoining the Grand Hotel which supplies both the *stabilimenti* and the baths of the hotel The Grand Hotel contains 300 rooms and is under the joint management of Mr Ritz of the Carlton Hotel, London, and Mr Pfyffer of the Grand Hôtel, Rome.

The Water supply

The water supply to the hotel, of which those in the village who choose may avail themselves, is derived from a deep cutting in the chalk of the hills to the west of Salsomaggiore, a few miles away In Fig 1 the road leading up to the reservoir will be seen Great care is exercised to keep this water from contaminating influences Our Commissioner secured several samples of this water for analysis and for that purpose drew the water from a supply tap There are two sources of water supply but the character and quality of both waters are the same. As will be seen from the results of analysis the water supply is of excellent quality and character It is of a very high degree of purity with not a trace of organic impurity Indeed, there is a singular and complete absence of nitrogenous matter in any form—practically no nitrates and no ammonia saline, or albuminoid, only a little carbonate and sulphate of lime The colour is a pure transparent bluish green The results of analysis were as follows —

Analysis of Salsomaggiore Water supply

Appearance	Bright and without sediment.
Colour in 2-feet tube	Bluish green, like distilled water
Taste	None.
Smell	None
Reaction	Slightly alkaline
Free ammonia	None.
Albuminoid ammonia	None
Nitrogen in nitrates and nitrites	Trace.
Chlorine in chlorides	0 56 grain per gallon.
Equal to common salt	0 91 grain ,,
Phosphates	Slight trace
Total hardness	19 68 grains per gallon
Permanent hardness	5 50 ,, ,,
Temporary	14 18 ,, ,,
Oxygen absorbed in one hour	Inappreciable

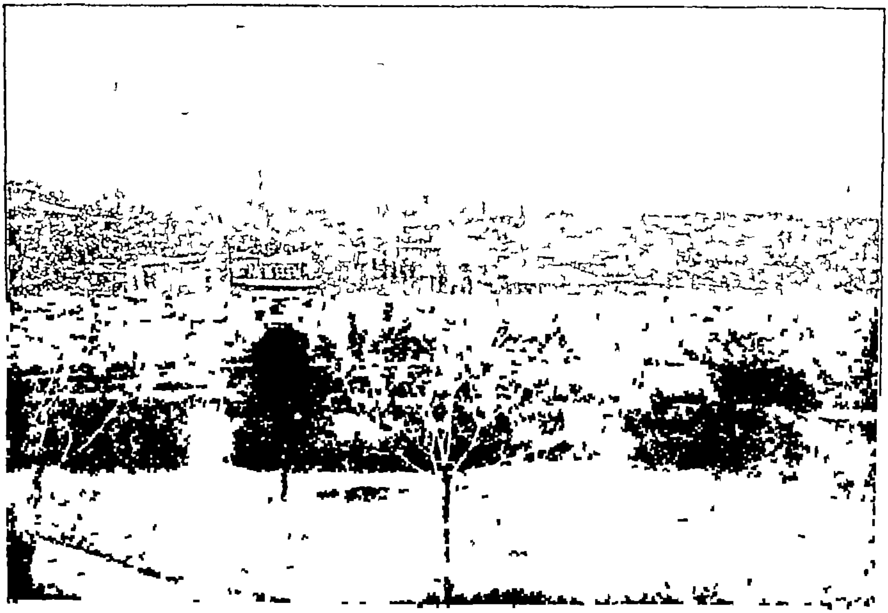
The water supply of Salsomaggiore is abundant and its striking purity as displayed in the analysis is a matter for congratulation It ranks amongst the purest potable waters known

The Bathing Establishments and Balneo therapeutic Methods.

As already stated, amongst the chief *stabilimenti* are the Old, the New, and the Terme Magnaghi, which, being the last to be constructed, are the most modern in design as they are the most commodious in the village. They are fitted throughout with the electric light, so the current may be used for many other purposes and as an adjunct to hydro therapy There are an x ray room, a high frequency apparatus, and an apparatus for the application of the ultra violet rays. Photo therapy, electro-therapy, hydrotherapy, and, as we shall point out presently, mechanotherapy are thus associated. A view of the establishment, which is at the present time undergoing considerable further enlargement, is afforded in Fig 1. A tall shaft which will be noticed on the left serves to locate it.

This chimney is connected with machinery employed for raising steam, for pumping water for working the inhalation and spray apparatus and for other purposes It is not a little remarkable to find in a mere village remote in the Alps a commodious bathing establishment containing all the modern scientific appliances used in balneo-therapy and to find also in practice the most modern methods of affording supplementary treatment. Members of the medical and surgical staff, both English and Italian are constantly in attendance Rooms are provided and are fitted with all the modern surgical appliances for minor operations or examinations. There is adequate provision for massage, skilled masseurs and masseuses being retained for the purpose. The comfort of the patient has been very carefully studied in all particulars and there is a lift to every floor A staff of skilled attendants is kept. The baths are of special composition, resisting the corrosive action of the water and most minute antiseptic precautions are taken to insure the cleanliness of the bath and of the linen used in connexion therewith for each bather The bath is washed out with creolin for each occupant and all the linen and towels are sterilised in a steam disinfector and washed also in a weak solution of corrosive sublimate. Similar antiseptic precautions are taken with respect to the walls and floors of the building and altogether an admirable regard as to conducting the establishment on strict hygienic principles is shown

FIG 1.



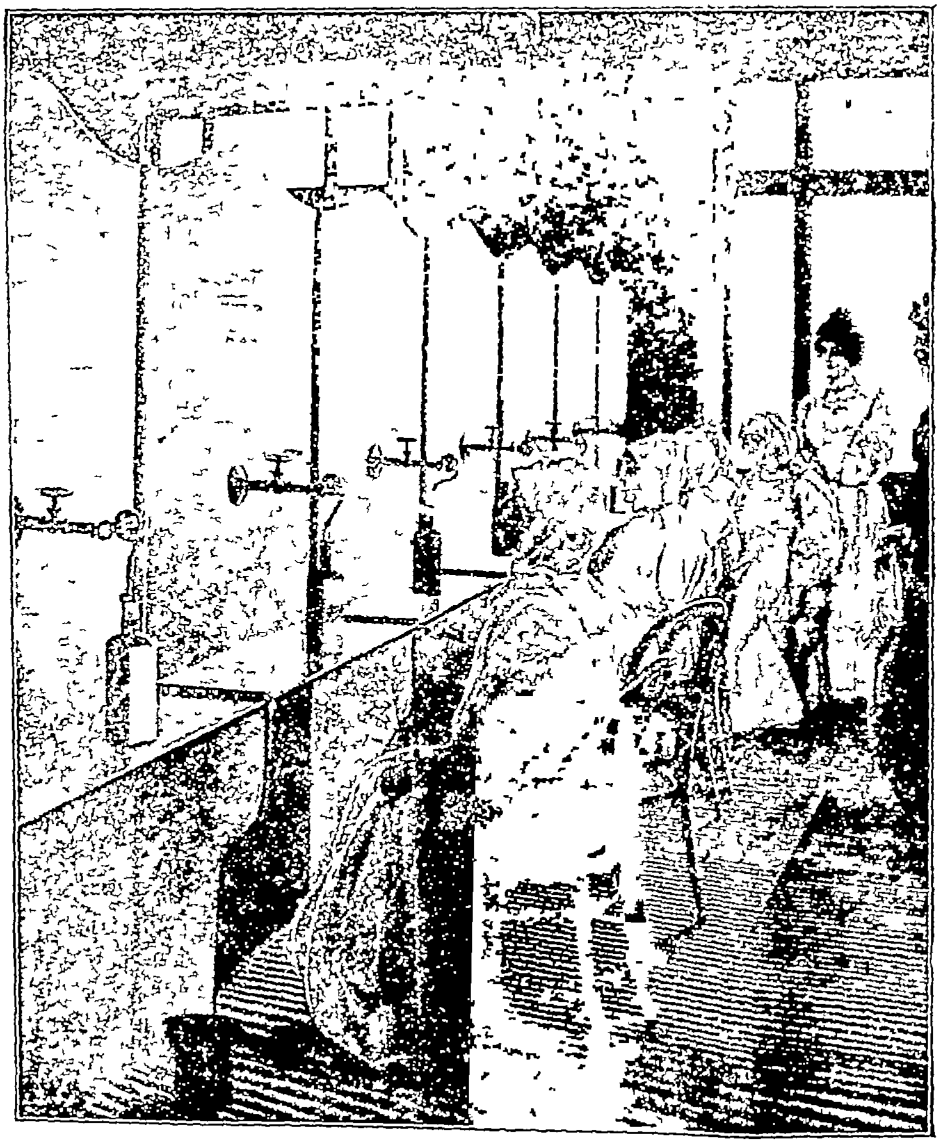
View of Salsomaggiore looking to the West

The course consists of a daily bath in the natural mineral water for about three weeks according to the indications of the patient. Some may take a bath every day with comfort, while in other cases it is found that the bath must be taken on alternate days or suspended for a time. This course becomes necessary owing to the marked therapeutic action of the water Again an excellent system is adopted by which the patient is gradually introduced to the full strength of the water This method of educating so to speak the patient to the effects of the water is one that must be generally approved and one which is obviously sound in principle. With such a wealth of powerful salines as are contained in the Salsomaggiore waters a system of graduation is imperative. Undoubtedly mischief might be done by disregarding this graduated system of administration The duration of the bath is from a quarter of an hour to three-quarters of an hour and the temperature varies from about 34° to 39° C. As a rule the density of the saline bath seldom exceeds 1096, and as the density of the natural water is according to our examination made on the spot, 1120 it is a simple matter to obtain the requisite lower density The composition of the bath may be varied however in many ways—for example, the *acqua madre* or mother liquor may be used in special cases in which it is considered that a richer proportion of lithium chloride or of the iodide and the bromide is desirable. This concentrated liquor is obtained by the evaporation of Salsomaggiore water in large flat basins, the salt being removed as it crystallises By proceeding in this way the rarer salines which are more soluble than common salt, are concentrated.

In addition to a very complete equipment of baths the Magnaghi establishment contains also rooms set apart for *providing means of inhaling the waters—a system* which forms a novel and very important feature of the treatment at Salsomaggiore For the purpose of inhalation two methods are employed In the first the patient sits in front of an atomiser operated by steam power projecting the mineral water in a fine vapour from a given quantity of the water contained in a sterilised bottle below The system will be understood from Fig 2 and is known as Siegle and Pirey's system. Here again the water is used in different strengths according to the needs of the patient and this system of graduation is carefully adhered to throughout the establishment so far as individual cases are concerned. It is noteworthy and we shall return to this point, that in the inhalation room a smell pervades the atmosphere recalling that of iodoform There is no doubt that small quantities of free iodine and perhaps free bromine *exist under the conditions of the system. At any rate, light* and air or both liberate iodine from Salsomaggiore water For the purpose of inhalation by Siegle and Pirey's system the *acqua madre* is employed of a specific gravity varying from 1014 to 1057 As will be seen from the illustration (Fig 2) the patient wrapped in a waterproof cloak i seated in front of the spray producer and bottle. The patien inspires the fine vapour for from 10 to 15 or even 30 minutes Presently will be described the therapeutic indications of this particular form of inhalation. Suffice it now to add that this method, coupled with another which we will next discuss, is assuming great importance, constituting a departure in the administration of natural mineral waters which is yielding very interesting results and deserving of special attention.

In Jünnigen and Beiselen's system the spray is exceedingly fine, like mist, and is made to occupy the whole of the space of a room large enough to admit of exercise being taken, if need be, at the same time. This system becomes intelligible from an inspection of Fig 3, in which the patients are shown in a large room muffled in white *peignoirs* and their heads wrapped in white cloths, walking about, sitting down, talking, or it may be carrying out gymnastic exercise, such as riding a stationary bicycle or taking exercise on a mechanical horse, or pulling the sculls of a mechanical rowing-boat. Exercise in increasing the circulation promotes the absorption of the saline vapour In this case the natural Salso water at a density of 1057 is pulverised by a special apparatus shown at the upper part of the illustration a little to the left The odour in this room is strongly suggestive of an iodo organic compound as well as oily So encouraging in many cases are the results of treatment by this system that an entirely new building is being constructed for the purpose which will afford considerably greater accommodation This system is increasing in favour

FIG 2



Siegle and Piroy's system of inhalation

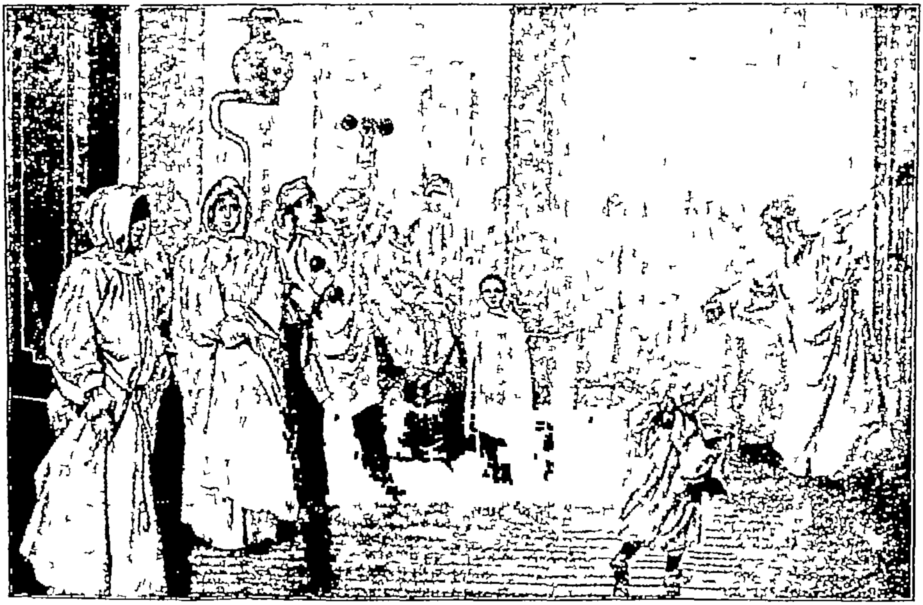
The Pozzi (Wells) at Salsomaggiore

There are quite a number of wells (*pozzi*) in Salsomaggiore but they obviously tap one origin, for the composition of the water is practically the same from whatever well it is drawn Formerly, and at the time when the waters were only valued for the common salt which they contained which was crystallised out by a process of evaporation and sold for ordinary purposes, the water was pumped from shallow wells, but now some *pozzi* are over 2000 feet in depth The Pozzo Artesiano Magnaghi is a deep well which supplies the Magnaghi establishment and the Grand Hôtel des Thermes As already pointed out, the wells are remarkable in yielding at the same time gas, oil, and mineral water At times there is a considerable disturbance of the water owing to the sudden discharge of gaseous hydrocarbons, the chief of which is methane So great is this disturbance on occasions that a tall wooden shaft or canopy is erected over the well to avoid any unpleasant consequences of overflow arising from the inflammable nature of the gas or the oil. In Fig 4 is depicted the Pozzo Artesiano Magnaghi over which a shed has been constructed to cover the pumping machinery and the reservoirs The mouth of the well itself will be seen at the end of the shed with a ladder resting against the wall of the well. The pump, though at present of a somewhat archaic description, the arm on the crank being made of wood, answers its purpose well. The pump is driven by a gas-engine shown at the right of the picture, the gas being derived from the well itself. On the floor of the shed will be noticed a square area of illuminated ground which is the light coming from the shaft over the well already described. Viewed from the outside this shaft resembles in appearance the hop cones seen in Kent.

The Nature of the Oil and Gas

The gas escapes by a pipe at the top of the well directly into a gas-holder whence it is distributed without any purification whatever for lighting and heating purposes. It contains two-thirds methane and a third ethane with heavy hydrocarbons and carbonic acid gas. The amount of natural gas evolved is sufficient to supply the street lighting of the village and to drive gas-engines where power is required. A litre of the water holds about 20 cubic centimetres of this gas in solution but the ratio of methane to carbonic acid gas is about equal volumes. The water and oil flow together into a small tank where the latter is separated by the simple expedient of decanting Of course there is a great difference between the specific gravity of the water and the oil. According to our observations the specific gravity of the oil is 0 840 so that it rapidly rises to the surface. The oil has exactly the smell of common paraffin or light petroleum. *By transmitted light it has a clear dark brown colour* but by reflected light it exhibits a marked green fluorescence very like that of uranine. We have submitted this oil to fractional distillation. It first shows signs of boiling at 150° C. and fully one-half of the oil distils below 200° C. The rest showed no sign of distilling at 250° C. and at that point notable quantities of sulphuretted hydrogen were evolved The oil contains bituminous bodies and sulphur but apparently neither iodine nor bromine. We found however as might be expected, *that it readily absorbs* iodine and bromine. This observation is of some importance, for though we failed to find any appreciable quantity of iodo- or bromo-oils present yet on exposing the mixture as it comes from the well to light and air iodine is liberated and afterwards in part absorbed by the petroleum. Again when the water is reduced to an exceedingly fine spray as in the inhalation room in the presence of light and air iodine is also liberated, as demonstrated in our experiment and since the natural water contains some oil there is no doubt that traces of iodo-oil are formed. We found further that when iodine was added to the natural oil of Salsomaggiore and mixed with water and atomised the resulting spray had identically *the same iodous smell as that which characterises the inhalation* room at the Terme Magnaghi. This interesting experiment has an important bearing on the therapeutic effect of natural Salsomaggiore water as administered in the form of a respirable spray Again, the presence of sulphur in the oil as determined by our experiments is probably another important therapeutic factor

FIG 3.



Jännigen and Beiselen's system of inhalation.

The Water of Salsomaggiore and its Analysis

The water is brownish in colour and greasy looking and smells unmistakeably of common paraffin oil. Its brown turbidity is due to the separation of ferric oxide. The temperature of the water as it issues from the well is, according to our observations, exactly 20 5° C. *and its density* at 15 5° C. 1120 For the purpose of analysis samples were secured and sealed on the spot by our Commissioner and despatched to THE LANCET Laboratory Subsequently a consideration of the results gained has led to the probability of the amount and kind of salts present being as follows —

The Analysis of Salsomaggiore Natural Mineral Water

Sodium chloride	146 2940	grammes per litre.
Calcium chloride	16 2376	„ „
Magnesium chloride	5 0861	
Ammonium chloride	0 6000	
Strontium chloride	0 5000	„
Lithium chloride	0 6399	
Strontium sulphate	0 4868	
Magnesium bromide	0 3022	
Magnesium iodide	0 0664	„
Ferric oxide	0 1000	
Total mineral constituents	169 3129	grammes per litre

Spectroscopic examination gave a pretty array of luminous bands, the presence of sodium calcium strontium and lithium being easily demonstrated in this way The spectrum of the rarer elements was more marked with the *acqua madre* or the concentrated water The striking features of this analysis are the important amounts of bromine, iodine, strontium, lithium, and ammonium salts, the presence of which in such remarkable quantity marks the waters of Salsomaggiore from other saline waters of the same class The lithium chloride thus exceeds over 40 grains per gallon or five grains per pint, while the bromine is no less than nearly 20 grains per gallon and the iodine amounts to over four grains per gallon It is doubtful whether other mineral waters show such a richness of these comparatively rare constituents The proportion of certain of these saline constituents is, of course, raised by concentration, while the common salt is lowered on account of its separation and removal by crystallisation on evaporation. The process of concentration is carried on at the salt works at the lower end of the village and not far from the railway station. The actual site is marked in the illustration (Fig 1) by a chimney shaft which will be seen just below a far off hill in the middle of the picture The water is concentrated to various degrees of density so as to leave a wide choice to the physician as to the strength which he deems it desirable to administer to the patient. *Acqua madre* is contained in sterilised bottles of the description shown on the bench in Fig 2 To facilitate the separation of the iron and to remove also some of the calcium and magnesium salts carbonate of soda is sometimes added to the natural water before concentration If a sufficient quantity of carbonate of soda is added the calcium salts can be almost completely removed The water would then contain in solution common salt with the rarer salines Common salt being crystallised by evaporation and removed another liquor is obtained very rich indeed in lithium, iodine, and bromine The strongest *acqua madre*, according to our examination, exhibits a density of 1270 Unlike the natural mineral water, it is bright and clear and without sediment and does not contain iron or any sulphate. Our complete analysis of *acqua madre* was as follows —

The Analysis of "Acqua Madre"

Sodium chloride	45 8581	grammes	per litre
Calcium chloride	221 5560	,,	,,
Magnesium chloride	73 7200	,,	,,
Strontium chloride	11 5500	,,	,,
Ammonium chloride	2 0972	,,	,,
Lithium chloride	8 7853	,,	,,
Magnesium iodide	1 0008	,,	,,
Magnesium bromide	4 8355	,,	,,
Sulphate (probably of strontium)	traces		
Ferric oxide	*Nil*		
Total saline constituents	369 4029	grammes	per litre

It will be seen from this analysis that the constituents, except of course the common salt which is removed by crystallisation, bear practically the same ratio to each other as in the natural mineral water, and since these occur in about 15 times the quantity the concentration amounts, in this instance, to the reduction of 15 volumes of natural mineral water to one volume *Acqua madre* is exceedingly rich in lithium, bromine, and iodine. Expressed in English equivalents the lithium chloride amounts to no less than 614 grains per gallon or nearly 80 grains per pint, and the bromine to 294 grains per gallon or nearly 37 grains per pint, and the iodine to 64 grains per gallon or eight grains per pint. There is no mother liquor derived from a natural mineral water which in our knowledge is richer in the rarer salts than this, and certainly no other water shows a more interesting composition from a therapeutical point of view than the natural waters of Salsomaggiore or presents such an interesting chemistry

The Therapeutics of Salsomaggiore Water and Indications

It is not surprising, in view of the chemistry of the Salsomaggiore water as revealed in the foregoing analyses, that it is possible to open a wide field of therapeutic application and usefulness Chemistry, however, does not always throw a sure and certain light on the action of certain waters, indeed, there are notorious instances in which very little clue is afforded at all by the facts of chemical composition In Salsomaggiore water, however, the presence of very definite salts and substances which are of known value therapeutically is readily established by chemical analysis How far the action of these substances is modified or accentuated by the particular way in which they are grouped in a natural mineral water is difficult to determine We can only rest on the actual evidence of clinical experience and in many instances that is often problematical, for good results are often obtained when not anticipated and *vice versâ* unsatisfactory results are sometimes obtained when good might reasonably have been entertained Balneo therapy is not so completely understood as to enable us to formulate exactly why certain conditions are relieved by this that, and the other water

A systematic and practical study of the action of the Salsomaggiore waters administered either in the form of a bath or inhalation was begun several years ago by an efficient medical staff. We may record the experiences that have been so far gained, and we are indebted to Dr G Sandison Brock of Rome, who has had ample opportunity of studying the action of the waters and of devoting special attention to the large number of cases constantly under treatment at Salsomaggiore, for the substance of the clinical observations that follow We have already referred to the fact that the first recorded case of the therapeutic application of Salsomaggiore waters was that in which Dr Berzieri in 1839 was induced to submit a patient to treatment who was suffering from caries of the bones of the foot, which was no doubt tuberculous in origin It is freely stated that Dr Berzieri's idea was that Salsomaggiore water might be substituted for sea water The result was a striking success and the reputation of the waters in regard to their favourable action in cases of tuberculous lesions, in tuberculous enlargement of glands, or in other scrofulous manifestations steadily spread until at the present time Salsomaggiore enjoys an almost unique position in regard to the benign effects of its waters in cases of this class It is interesting in this connexion to point out that the efficacy of the treatment became so well known and so firmly established that the various communes in Italy, at their own cost, have been accustomed to send parties of poor patients for treatment every three weeks to the sanatorium The result has evidently been so encouraging that patients have presented themselves again of their own accord as relapses of their old maladies or fresh symptoms have led them once more to seek relief Of course, change of air and environment must be ever factors in balneo therapy, but these cases must be considered as amongst the most promising of those indicated for the Salsomaggiore treatment.

The alterative and absorbent effects of the water which are at the root of the successful treatment of scrofulous affections soon suggested an extension of the use of the waters to all affections where in connexion with some localised morbid process there existed open sores or sinuses or inflammatory swellings, and especially exudations. Thus might be expected to yield to treatment with the Salsomaggiore waters those maladies which are due to what is now recognised as the result of infection by specific germs other than that of tubercle, especially in their later or chronic stages when the acute inflammatory period has disappeared Naturally in this category come the later stages of syphilis, both the secondary manifestations in skin, mucous membrane, and periosteum, and the tertiary effects in bone and the organs, *gummata*, *necrosis*, &c., and also the sequelæ of gonococcic infection, whether in the form of inflammatory infections of the genital organs as in orchitis, endo-, para and peri *metritis*, *salpingitis*, *oöphoritis*, or the general rheumatoid arthritis and infective lesions of serous membranes often seen as sequelæ of the gonorrhœal infection. Under special circumstances the irrigation of the uterine cavities with the water of carefully graduated strength is valuable

As to the acute stages of inflammatory diseases it is stated that in the experience of some the Salso waters are contraindicated Dr Brock, however, records a case of gout which yielded so favourably to treatment as to give an opposite inference The acute condition was, he states, distinctly relieved by the baths and acute rheumatism has been treated with similar success It is probable that by graduating the baths in the way which we have already described the Salsomaggiore treatment would be helpful and not harmful. It is agreed, however, that the acute stage once over great benefit is derived in the treatment of the sequelæ or of any of the results of inflammation that may have persisted In this regard might be mentioned the after effects of appendicitis and peritoneal inflammations attended, or followed by, exudations, chronic pleurisies, synovitis, arthritic troubles, or bony enlargements following fractures, in fact, any chronic inflammatory process accompanied by pain, swelling, or deformity and stiffness which call for the soothing, stimulating, or absorbent effects of the waters or application of the mud deposited from them. The mud, we should add, is a soft clay deposit found in the reservoirs. It has a marked soothing effect. The mud is saturated with the salines of the water and contains also an appreciable amount of the petroleums. It is greasy to touch. When heated and applied daily after the manner of a poultice for from 20 minutes to half an hour round the affected part it allays pain, reduces swelling, and renders supple stiffened muscles and ligaments. In this way it has been employed with excellent results for chronically inflamed joints, enlarged glands, and painful periosteal swellings and relief is also obtained by its application in painful gouty and rheumatic affections of nerves, especially where there is a localised neuritis.

The baths give very satisfactory results in arthritis consequent upon acute rheumatism or in relapses of that disease and the same is true, though perhaps less emphatically so, in gouty affections. In these cases the baths exercise a soothing and absorbent effect, increasing tissue metabolism and the activity of the secretions and excretions and thus enabling the system to dispose more readily of waste products through the skin, the lungs, and the kidneys. Some interesting observations on these points have been made by Dr. Luigi Zoja in his "Studi Preliminari sull' Azione dei Bagni Salsi (Acque di Salsomaggiore)." Dr. Zoja has also made some observations on the cutaneous absorption of iodides in the baths and has contributed also a further interesting study on the reduction of the body weight by treatment with Salsomaggiore waters.

FIG. 4.

The pozzo artesiano (Magnaghi).

In view of the stimulating and purifying action of the Salsomaggiore waters it is not surprising to find that they are beneficial in neurasthenic and anæmic cases even without the simultaneous employment of the usual hæmatinics. Thus it happens that incidental complaints are relieved in patients who had presented themselves for treatment for some other malady. In one instance, a case of rheumatism, while much benefit was derived and pains and stiffness ceased by the use of the baths and inhalations, the patient noticed that the loss of hair which she had been steadily sustaining for some time suddenly stopped. As we have pointed out, the waters at Salsomaggiore are saturated with gaseous and liquid hydrocarbons and these latter contain sulphur in organic combination. Although the benefit derived was probably of a constitutional origin, yet it is just possible that these interesting facts were contributory to the relief. Other incidental cases of interest are those in which women have been cured of sterility although they had come for the Salsomaggiore treatment for the relief of other ailments; but here, of course, the *modus operandi* may differ widely in different cases according to the cause of the condition. Functional disorders such as constipation, irregularity of the catamenia, &c., have been noticed to disappear and appetite to increase and the ability to sleep to return.

The Inhalation of Salsomaggiore Water Reduced to Spray.

Special attention has already been directed to a somewhat new departure in balneo-therapeutic practice, consisting in the application of the water in the form of inhalation, a method which is pursued with considerable success at Salsomaggiore. Indeed, the inhalations at Salsomaggiore form a very important and interesting feature in the treatment and have proved a most valuable adjunct to the ordinary course of waters. We have already described the two systems of inhalation employed. In one case a spray is produced for the throat passages and in the other case the space of a room is filled with an exceedingly fine mist of the natural water. The patients, in fact, live for the moment in a Salso fog, inhaling the water in the form of vapour and exercising themselves, it may be, in order to gain the greatest advantage, for with increased circulation the absorption is speedy. There is good reason for concluding that the various salines in the vapour are readily absorbed by the mucous membranes. The use of these inhalations is, at any rate, becoming very general amongst bathers. There seems to be little doubt that during a prolonged stay in the inhalation room the salines, including iodine and bromine and probably traces of halogen organo-bodies derived from the oil, actually enter the blood and subsequently exercise a distinct influence upon morbid processes in the body. The inhalation method is thus a rapid and effectual means of *conveying* the therapeutic properties of the natural water At any rate, it is certain that by direct contact of the waters, whether by a spray or by means of the pulveriser of the inhalation room, excellent therapeutic results are obtained in local affections of the respiratory mucous membrane. Amongst respiratory affections thus frequently treated at Salsomaggiore with the most favourable results are coryza, chronic rhinitis (both the hypertrophic form and that accompanied by atrophy and the ozena-producing organism), chronic pharyngitis (especially the granular type), and laryngitis The irritation of the mucous membrane is soothed, congestion and swelling are reduced, and tough inspissated mucus is liquefied or loosened and a natural healthy condition of the moist surfaces is gradually induced. When the lower part of the respiratory tract is involved, as in chronic bronchitis and bronchial asthma, a prolonged stay in the inhalation room is frequently productive of good.

Summary

To sum up, Italy possesses a wealth of natural mineral and gaseous waters, but none are more remarkable than the waters of Salsomaggiore These are unique, not only in containing an unusual amount of the rarer salines such as the chlorides of lithium and strontium and the iodide and bromide of magnesium, but also gaseous and liquid hydrocarbons It is well known how often the therapeutic efficacy of a given element is increased by being associated with organic groups. Mention need only be made of the organic compounds, such as lecithin and glycero-phosphoric acid, containing phosphorus, of thyroidin containing iodine in organic association, of the cacodyls containing arsenic, and the hæmoglobin derivatives, and the albuminates containing iron Undoubtedly the organic association of iodine bromine, and other inorganic elements in Salsomaggiore water is contributory to a very important extent to the remarkable successes which are gained in the treatment of so many maladies at this favoured health resort The natural waters of Salsomaggiore are sharply distinguished from other natural mineral waters in presenting this organic association, and, moreover, they possess a degree of *mineralisation*, including the salts of rare alkalies, not exceeded by any other water This is shown in the analyses which we have made, which, as far as we know, are exhaustive. We have demonstrated that in contact with air and light Salsomaggiore water yields up some of its iodine in the free state and that the element so liberated is in part absorbed by the oils forming an iodinated compound with marked iodous odours which recall the iodoform series and which it is reasonable to suppose is an important factor in treatment especially by the method of inhalation We believe that we are the first to direct attention to this fact and also to the existence of an important amount of sulphur in the oil.

It may be added that the analyses made in THE LANCET Laboratory confirm in regard to the main points the analyses made in 1899 by Professor Nasini and Professor F Anderlini of the chemical laboratories of Padua University The water when fresh from the well *does not* contain any appreciable amount of free iodine or iodinated oil, but both are found after it has been in intimate contact with air and light. The water is constant in chemical composition and this composition indicates a wide field of therapeutic efficiency—a field which is still open for further exploration. Very important clinical evidence has, however, been gained which has established the value of the water in well-known and prevalent morbid conditions. These have been pointed out.

We have ascertained, and have placed the analysis here on record, that the water supply of Salsomaggiore is remarkable for its purity and excellent steps are taken to protect this purity Moreover, a factor of the utmost moment in balneotherapy, Salsomaggiore has a charming environment and a pure and bracing air The comfort of the patient is provided for in a number of excellently appointed hotels, and the course of waters is enlivened by amusements of all sorts. There are a theatre, a *café chantant*, and a music room, and outdoor and indoor sports and pastimes are encouraged. Our Commissioner has been impressed with what he has seen at this rapidly rising hydropathic resort, and it is satisfactory to be able to state that the authorities have striven hard to place their *stabilimenti* on a thoroughly sound and scientific basis, consistent with the requirements of a locality in which great numbers every year seek to regain health and vigour by the treatment. So well directed have these efforts been, and so high is the standard of balneo-therapeutic practice adopted there, that Salsomaggiore bids fair to take a well merited place in the front rank of European health resorts

ROYAL COLLEGE OF PHYSICIANS OF LONDON

AN extraordinary meeting of the Comitia was held on July 4th, Sir W S CHURCH, Bart., K C B, the President, being in the chair

The PRESIDENT announced that after paying expenses connected with preparations for viewing the procession in connexion with the Coronation, which had unfortunately been postponed, there remained a balance to the Fellows of £122 13*s* 6*d* This sum he suggested should be put aside as a nucleus around which he felt sure a fund would speedily accumulate and which should be devoted to obtaining a portrait of the King This would be an appropriate way of commemorating an exceptional event and also the connexion of His Majesty with the College This was formally proposed and seconded by Sir JOSEPH FAYRER, Bart., K.C.S.I., and Dr F W PAVY and was carried unanimously

A letter was read from the Royal College of Surgeons of England adopting with some slight alterations the scheme of cancer research This was adopted as modified and it was moved by Dr NORMAN MOORE and seconded by Dr FREDERICK TAYLOR that the College give the instructions recommended for the immediate nomination of the members of an executive and general committee to carry out the scheme.

A report was received from the Special Conjoint Finance Committee, dated June 30th, on the arrangements for the occupation of part of the laboratories by the Army Medical Department for three years at an annual rent of £1050. This was adopted

A letter was read from the Dowager Lady Jenner conveying to the College, according to the wish of the late Sir William Jenner, a silver vase presented to him by His late Royal Highness the Duke of Albany Sir DYCE DUCKWORTH, seconded by Dr WHIPHAM, moved that the gift be gratefully received and that the thanks of the College be returned to the donor

Communications were received from the Royal College of Surgeons of England reporting certain proceedings of the Council on May 8th and also on June 18th and conveying an invitation to the College to join them in appointing a committee to decide whether any practicable scheme of common examinations can be arranged with the University of London for the degree of M B of the University and the diplomas of L R.C P Lond. and M R.C S Eng Dr LIVEING moved, and Dr WHIPHAM seconded, that these be received and entered on the minutes. There was some discussion on this subject and the committee nominated to confer with nominees of the Royal College of Surgeons and report to the Comitia were Dr G V Poore, Dr P H Pye-Smith, Dr T Clifford Allbutt, Dr Norman Moore, Dr W H Allchin, Dr Frederick Taylor, Dr J K. Fowler, and Dr F J Smith

Reports were received dated June 2nd and 9th from the Committee of Management. They included (1) the revision of the list of recognised institutions for instruction in chemistry, physics, and practical chemistry, (2) the recognition of science institutions, (3) the proposed tramway on the Victoria Embankment, and (4) the revised regulations of the University of London in regard to matriculation In connexion with this matter the committee recommended following the lead of the University in preliminary examinations

A report from the Laboratories Committee on the general and bacteriological work was received and adopted, as was also the quarterly report of the examiners on the April examinations The enactment for the second time of a by law to admit two Members to the Fellowship *in absentiâ* was agreed to

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WE are asked to draw attention to a change of title in the *Nursing Record* which will now be issued as the *British Journal of Nursing, with which is incorporated the Nursing Record*

YELLOW FEVER IN EUROPE

THERE has just arrived from Washington a fairly extensive report issued by the United States Marine Hospital Service of the Treasury Department on yellow fever in France, Italy Great Britain and Austria. It is a report upon which it is safe to say that much labour has been spent, for not only does the official who is responsible for its authorship—Dr J M. Eager of the Marine Hospital Service—devote his researches to the whole of the last century but there is a bibliography of books issued during the same period. Curiously enough, not a single American work is included in this list.

The earliest account we have of yellow fever in Europe is a case that is noted of importation of this disease at La Rochelle in the middle of the year 1700. Mention of this is to be found in a history of La Rochelle by Arcere published in 1756, but nothing can be got in the way of corroboration of this report. This, as we have said, is the earliest reported case of yellow fever in Europe, and the first authentic record comes also from France the date of the outbreak being 1802. The French fleet was the means of conveying *the pestilence to its own country* for when five vessels of the line commanded by Admiral de Joyeuse came into the roads from San Domingo it was the Admiral's unpleasing duty to notify that among the crews of his small fleet 42 persons were in the active stages of the fever and there were an equal number of convalescents. Of the sick crew who were all disembarked at the lazaretto at Tiberon, 32 died. Luckily it was well into the autumn and apart from the Customs officials some of whom had been on board one of the vessels the *Tourville* no mortality was reported ashore, a circumstance which is probably due to the fact that at Brest were several medical men who had been in the West Indies who insisted on the strongest sanitary measures being taken. The next outbreak of yellow fever in France was traceable to the epidemic which broke out in Spain, the date of both being 1821. What might have been a very serious epidemic for Marseilles was only averted through the fact that the famous Professor Palloni, who had been through the very bad epidemic of 1804 at Leghorn, was in Marseilles at the time and so prompt and thorough were the precautions upon which he insisted that the deaths, in spite of the big trade between Barcelona and Marseilles, were comparatively few Passing by the minor epidemic of 1839 at Brest we come to what Dr Eager calls the only important epidemic that ever broke out in France. It occurred at Saint Nazaire. Melier who carefully observed and recorded the epidemic, concludes that it was determined by mosquitoes infected at Havana and carried to France in the hold of a vessel. There are several interesting data to be noted in connexion with this case. The first is that yellow fever was noticed on the ship (the *Anna Maria*, with a crew of 16) 18 days after leaving Havana. She had been delayed by head winds and had to drift about the Straits of Florida for some time. Two seamen were taken ill *simultaneously* and died *within* a few hours of each other on the fifth day of their illness. At the time of their death there were seven other persons including the captain, down with yellow fever but quinine and cathartics cured them. In the whole ship there were nine cases of sickness and two deaths and 20 days after the last death the ship entered the port of Saint Nazaire. As no case of sickness had been noted for 10 days she was at once given *pratique*

Then the epidemic started. Two boats that were lying near the *Anna Maria* lost men the inception of the epidemic being seven days after the *Anna Maria* entered the port. One of the two boats already mentioned had sailed for Indret—a place 25 miles above Saint Nazaire—and it was there that the attack broke out. On the same day or eight days after the arrival from Havana, the first officer of the *Anna Maria* himself was laid low he died in 60 hours. Five stevedores who had been handling the *Anna Maria's cargo died in four* days a harbour master who had been 260 metres away from the boat or anyone connected with it all the time fell ill and several of the inhabitants also got the disease, mostly with fatal results. Of all the boats anchored near the ill fated *Anna Maria* not one escaped contagion. Indeed, speaking of vessels, the *Anna Maria* infected several, of which there were 40 cases of yellow fever and 23 deaths. And following this epidemic there were reports of the importation of the fever to French Mediterranean ports and also ports on the west and north. Fortunately there was no diffusion of the disease.

The outbreak of yellow fever at Leghorn in 1804 has already been referred to above. Strange to say a vessel named the *Anna Maria* was also on this occasion the means of bringing the scourge to Europe At that time the population of Leghorn was 60 000 of whom no less than 7000 fled to Pisa. How many of those that remained died from the fever it is difficult to say but the number must have been very considerable. Lacoste estimates it at no less than 1900 Coppie says it was 1500 and Palloni says it was 700 What is certain is that, curiously enough, the mortality was highest in the November of the year the fourth and penultimate month of the epidemic.

England has happily been practically free from this awful scourge. Dr Eager is able to give five well authenticated instances of outbreaks of yellow fever in English ports during the past century They were as follows, put quite briefly 1817 Liverpool cotton brig from America, outbreak confined to crew, no deaths. 1852, Southampton a steamer from Saint Thomas 14 cases seven deaths. 1857 Southampton, the same steamship that was suspected of having been the cause of a very severe epidemic at Lisbon entered the harbour, a *few cases of yellow fever no deaths* 1864 Southampton again, no full details. 1865 Swansea, boat from Santiago de Cuba, 15 deaths amongst the crew mortality on shore *nil*.

The bibliography at the end of the report, mentioned already is singularly incomplete but interesting It includes books published over the period 1789–1901 the works are mostly in Spanish or as in the fashion of the earlier days, in Latin The only book in our own tongue was published in 1804 it is by Valerio Arditi

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN extraordinary meeting of the Council was held on July 2nd Sir HENRY G HOWSE, the President, being in the chair

The following resolution was passed —

> The Council hereby offer their hearty congratulations to Sir Henry G Howse President, and Sir Alfred Cooper on being knighted by His Majesty and to Sir Frederick Treves on having received the honour of a baronetcy

On the recommendation of the Committee of Management it was resolved to lease to the Army Medical Department some rooms at the Examination Hall for the purpose of a medical school

It was resolved that an examination in Parts I and III (Chemistry and Biology) of the First Examination of the Conjoint Examining Board shall be held at some provincial centre as well as in London and a scheme was approved for this purpose. The first examination will be held in January next.

The following Cancer Research Scheme was approved and it has since received the approval of the Royal College of Physicians of London —

I —*Objects of the Fund.*

1 To provide, extend, equip, and maintain laboratories to be devoted to cancer research.

2. To encourage researches on the subject of cancer within the United Kingdom or in the British dominions beyond the seas.

3. To assist in the development of cancer research in various hospitals and institutions approved by the Executive Committee.

4 And generally to provide means for systematic investigation into the causes prevention, and treatment of cancer

Should the objects of the Fund be attained by the discovery of the cause and nature of cancer and of an effective method of treatment the Royal Colleges, with the consent of the Trustees, shall be empowered to utilise the fund (*a*) for equipping with the necessities for such treatment such hospital as they may select or (*b*) for forwarding research into other diseases.

II —*The President, Vice-Presidents, Trustees and Treasurer*

1. The future Presidents shall be appointed by the General Committee

2. The future Vice-Presidents shall be appointed by the General Committee.

3. There shall be five trustees of the Fund

4 Of the first trustees three may be nominated by the donors of sums of £1000 and upwards and one each by the Royal Colleges of Physicians and of Surgeons.

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5 In the event of vacancies occurring by death, resignation, or other cause the General Committee may nominate new trustees and shall be called upon to do so in case the number shall fall below three

6 All moneys other than annual grants or subscriptions or sums specially given for definite objects or under special conditions, shall be invested as capital in the names of the trustees

7 The trustees shall pay over to the account of the Executive Committee all dividends on the invested trust funds as they fall due

8. If in any year the income derived from the invested capital is insufficient to defray the expenses authorised by the Executive Committee the trustees shall at the request of the Executive Committee realise sufficient funds to raise such sum as may be requisite to cover such deficiency

III —*General Committee*

1 The General Committee shall consist of: (*a*) The President (*b*) the Vice-Presidents (*c*) the five trustees, (*d*) the honorary treasurer (*e*) the Executive Committee (*f*) one member to be nominated by the Local Government Board, (*g*) one member to be nominated by the Colonial Office (*h*) one member to be nominated by the Royal Society (*i*) one member each nominated by the Royal College of Physicians of Edinburgh the Royal College of Surgeons of Edinburgh the Faculty of Physicians and Surgeons of Glasgow the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland (*j*) one member each nominated by the Royal Veterinary College London the Royal Veterinary College Edinburgh and the Royal Veterinary College of Ireland (*k*) donors of sums of £1000 and upwards whether given in one sum or more With power to add to their number

2 The General Committee shall nominate two members of the Executive Committee, who shall hold office for three years and shall be eligible for re-election

3 The General Committee shall meet at least once a year to receive reports from the Executive Committee on the general progress of the research an account of expenditure and the audited financial statement, and at such times as they may be summoned by the Executive Committee

4 The President shall summon a special meeting of the General Committee on receiving a requisition so to do, signed by five members of the General Committee

IV —*The Executive Committee*

1 The Executive Committee shall consist of —

(*a*) The President (for the time being) and two Fellows of the Royal College of Physicians of London to be nominated by the Fellows of such College	3
(*b*) The President (for the time being) and two Members of the Council of the Royal College of Surgeons of England to be nominated by the Council of such College.	3
(*c*) Two Members of the Laboratories Committee of the Royal Colleges of Physicians and Surgeons to be nominated by such Committee	2
(*d*) Two Members nominated by the General Committee	2
(*e*) One Member nominated by the Royal Society	1
(*f*) One Member nominated by the Royal Veterinary College London	1
	12

The members of the Executive Committee shall hold office for three years and shall be eligible for re-election

2. The Executive Committee shall have control of the income of the Fund which shall be expended in furthering the objects stated in Section I including the assignment of Funds: (*a*) for the erection or extension of laboratories or for the equipment of any existing laboratory in which investigations are or shall be pursued (*b*) for grants to individual workers in laboratories or elsewhere (*c*) for investigations other than those in laboratories (*d*) for the collection of statistical dietetic topographical and other information (*e*) for the salaries of any officials who may be appointed

3 The Executive Committee shall be charged with the general supervision and management of the arrangements to carry out the objects of the fund and particularly (*a*) they shall appoint the working and consultative staff under such conditions as they may think desirable (*b*) they may appoint a general superintendent of the investigations who may be director of the central laboratory and such assistants as may be considered necessary (*c*) they shall draw up the regulations under which the work of the staff shall be conducted in such rooms as may be placed at their disposal by the Royal Colleges or elsewhere (*d*) they may seek the advice of the members of the working and consultative staff on any questions relating to the objects of the fund and may appoint committees to conduct investigations or to collect statistics and information and may assign funds for the expenses of these investigations and for the remuneration of the members of these committees (*e*) they may appoint a secretary or other official to conduct the correspondence summon and attend the meetings keep the accounts write the minutes &c. (*f*) they may make arrangements for investigating methods of treatment in cases of cancer and malignant disease (*g*) they may make arrangements to establish a system of correspondence with foreign and colonial laboratories and workers (*h*) and generally they shall make such other arrangements as may seem to them best for the thorough investigation of this disease in all its aspects

4 The Executive Committee shall be required to report their proceedings from time to time to the General Committee

V —*Working and Consultative Staff.*

1 The working staff may consist of —(*a*) A general superintendent of the investigation who may be the director of the central laboratory (*b*) assistants to the general superintendent and director (*c*) any other persons who may be appointed to make special investigations

2. The consultative staff shall consist of persons skilled in scientific investigations representatives of various home and colonial Government departments physicians and surgeons attached to hospitals statistical experts and others appointed by the Executive Committee

3 The consultative staff may receive fees for attendance at meetings and may be remunerated for any services performed in connexion with the objects of the fund on such conditions as the Executive Committee may determine

A letter was read from Surgeon General A. F Bradshaw, C B, honorary secretary to the Oxford Eye Hospital, enclosing a copy of the decree and regulations of the University of Oxford establishing a readership in Ophthalmology and including the President of the Royal College of Surgeons of England as a member of the Electoral Board

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METROPOLITAN HOSPITAL SUNDAY FUND

THE following are some of the principal amounts received at the Mansion House in aid of the Fund additional to those announced in THE LANCET of June 21st and June 28th The total now exceeds £43,000 There is now practically no chance of the Fund reaching the coveted £100,000, even with the generous offer of Mr George Herring to add 5s in the £ on all sums collected in churches The final total, it is expected, will be about £60,000

	£	s.	d.
Parish of St Peter's Eaton square	986	0	0
St Mary Abbots Parish, Kensington	724	0	0
St Peter's Vere-street	561	0	0
St Peter's Cranley gardens	407	0	0
Holy Trinity Sloane-street	370	0	0
West London Synagogue	285	0	0
St George's Hanover square	281	0	0
St Stephen's Westbourne park	252	0	0
Wimbledon Churches per Canon Haygarth	233	0	0
St Paul's Beckenham	189	0	0
St Margaret's Westminster	186	0	0
St Martin's in the Fields	185	0	0
St Michael and All Angels, Paddington	175	0	0
St Matthew's, Bayswater	172	0	0
St Stephen's Gloucester road	172	0	0
St Stephen's South Dulwich	172	0	0
Blackheath Congregational Church	168	0	0
St Alban's Streatham Park	163	0	0
St Paul's Avenue-road	161	0	0
All Saints North Peckham	157	0	0
St Peter's Brockley	155	0	0
Temple Church	152	0	0
Essex Unitarian Church Kensington	145	0	0
St John's Paddington	144	0	0
Blackheath Congregational Church	142	0	0
St Mary's, Kilburn	132	0	0
St Peter's Bayswater	116	0	0
Holy Trinity Paddington	109	0	0
St John's Wood Presbyterian Church	108	0	0
Christ Church Streatham	107	0	0
Stamford hill Congregational Church	107	0	0
Hampstead Parish Church	103	0	0
St Michael's Blackheath park	101	0	0
St James's Paddington	100	0	0
Holy Trinity Wandsworth	100	0	0
Regent-square Presbyterian Church	92	0	0
St John the Evangelist's Penge	88	0	0
St Mark's Reigate	88	0	0
St Philip's Kensington	83	0	0
Lyndhurst Church Hampstead	82	0	0
St Saviour's and Christ Church, Ealing	81	0	0
St Matthew's Denmark hill	80	0	0
St Andrew's Wells street	79	0	0
Hampstead Unitarian Church	79	0	0
St Ann's Soho	76	0	0
St George's Albemarle-street	75	0	0
St John the Evangelist's Blackheath	74	0	0
Holy Trinity Upper Tooting	74	0	0
Denmark hill German Lutheran	73	0	0
St Paul's Upper Norwood	72	0	0
Lewisham Parish Church	71	0	0
Camden Church Camberwell	70	0	0
Highbury Quadrant Congregational Church	70	0	0
Kensington Presbyterian	70	0	0
St Matthew's Earl's-court	70	0	0
St Margaret's Lee	67	0	0
St. Paul's Finchley	66	0	0
The Ascension Church Balham hill	66	0	0
Christ Church Hornsey	65	0	0
Metropolitan Tabernacle	64	0	0
Park Chapel Crouch-end	63	0	0
St Augustine's Honor Oak	61	0	0
St James's Muswell hill	61	0	0
Hendon Parish Church and Christ Church	60	0	0
Marylebone Presbyterian Church	60	0	0
St Peter's Streatham	60	0	0
The Oratory Kensington	56	0	0
St Augustine's Kilburn	55	0	0
Parish Church and Christ Church, Wanstead	54	0	0
Monken Hadley	52	0	0
St Olave's Woodberry-down	52	0	0
St Mary's Cuddington	51	0	0
St Matthew's West Kensington	51	0	0
St Matthew's Upper Clapton and Mission	50	0	0
Sir William J Farrer	50	0	0
Willesden Presbyterian Church	50	0	0

THE RECONSTITUTION OF THE BRITISH MEDICAL ASSOCIATION

THE members of the British Medical Association, at an extraordinary general meeting held at the Exeter Hall, Strand, London, on July 9th, decided by 82 votes to 43 to adopt the proposed new regulations for the Association.

Sir VICTOR HORSLEY, in proposing a motion to confirm the adoption of the rules pointed out that the merits and demerits of the new regulations had been discussed in the branches of the Association and in the committees formed for that purpose. There was also further consideration of the matter at Cheltenham. The present meeting was for the determination of the great general principles by which the Association was to be guided in the future. It was evident that the new rules would organise a machine of general political influence throughout the country Four years ago he had endeavoured to point out that this was the real purpose of the Association. Good scientific work was done by the Association already and it only remained for it to take its place as the leading organisation for the whole of the medical profession. The corporate bodies, the colleges and the universities had all their own objects to serve. But the British Medical Association was the only body that could take up the work By passing the new regulations there would be imposed on the Association the privilege of doing this work and at the same time securing to it the prestige which the work must bring to it. Recent events in connexion with the Government of this country in relation to the General Medical Council had not been so favourable as to make it safe for them as a profession to go on without having a combination of the kind proposed by the new regulations which would represent the views of the medical profession in the United Kingdom and elsewhere. Sir Victor Horsley continuing said that he had been a member of the General Medical Council for some years and he found that the Council was supposed to be a *quasi* sub-department of the Privy Council He was obliged to say supposed to be because during the last few months on several occasions the General Medical Council had been ignored by the Privy Council. As that was his experience of the inefficacy of the General Medical Council they would not be surprised when he said that he looked to the British Medical Association as the only body capable of bringing the General Medical Council into a more efficient condition. The Government was now beginning to realise that the Association was an important factor in the State The medical profession was paramountly a scientific one, always advancing and progressing and he contended that the new rules should receive the most sympathetic attention of all the members of the medical profession

Mr J S WHITAKER of Great Yarmouth in seconding the motion gave a history of the movement for the reform of the Association.

Dr J G GLOVER, who was the next speaker said that the meeting was engaged in discussing momentous issues. He asked what the argument was for the enormous change proposed. It was said that the reform was necessary because the profession was at the present moment weak and impotent and Parliament took no notice of its views. This Dr Glover denied entirely He thought the language was exaggerated and extremely inaccurate. Parliament in passing the Midwives Bill had accepted an entirely new principle in medical legislation as put forward by the medical profession represented by the British Medical Association and the General Medical Council Where was there any impotence, he asked in beating the Government, the Home Secretary in the House of Commons and the Lord Chancellor in the House of Lords? Dr Glover then went on to show that the action of the General Medical Council in connexion with certain friendly societies disproved the charge of the Council being powerless. He considered that the new rules were fantastic, new fangled, costly and altogether degrading In regard to the proposed delegates he said that their position would be a degrading one. The new rules would add immensely to the complications of the Association and would impose another set of masters upon the executive.

Dr DOUGLAS also addressed the meeting and he was followed by Dr J BRASSEY BRIERLEY Mr STAMFORD FELCE, Dr O SULLIVAN and Mr H. NELSON HARDY

On a show of hands the voting was declared to be 82 in favour of the new regulations and 43 against.

ASYLUM REPORTS

Salop and Montgomery County Asylum (Annual Report for 1901) —The average number of patients resident during the year was 800 comprising 361 males and 439 females The admissions during the year amounted to 191—viz. 99 males and 92 females Of these 146 were first admissions Mr Alan Rigden, the acting medical superintendent, states in his report that in addition to the patients resident in the asylum there were 25 male patients boarded out at Forden workhouse. Dr Arthur Strange the medical superintendent, died on May 11th, 1902, after a tenure of office of over 30 years, at the asylum and his successor has not yet been appointed. The number of cases discharged as recovered during the year amounted to 79—viz. 36 males and 43 females, or 98·8 per cent. of the average number resident. The deaths during the year amounted to 82—viz. 41 males and 41 females or 10·25 per cent, as calculated on the same basis. Of the deaths three were due to renal disease, four each to epilepsy and colitis, five to general paralysis of the insane, six to cardiac disease, seven to apoplexy 14 to pulmonary phthisis, 16 to senile decay and the rest to other causes. Until the early part of the year the health of the asylum was reasonably good, but in February 1902, an outbreak of influenza occurred, beginning in the female department and subsequently attacking the men Up to May 17th, 1902, 31 patients have died of this disease out of a total of 78 attacked making a death rate of 39 74 per cent." An outbreak of swine fever occurred on the farm necessitating the slaughter of nearly all the pigs and leading to a considerable reduction of the profit on the farm account. The average weekly cost of maintenance has been 8*s* 11*d* per patient. The committee of visitors states in its report that owing to the increase in the cost of maintenance it has been found necessary to raise the weekly charge to the unions from 8*s* 6*d* to *9s 6d per patient as from July 1st, 1902.* The sum of £1033 13*s* 6*d* has been expended during the year in additions, alterations and improvements including £757 8*s* 3*d* for the construction of the sewer connecting the asylum with the borough of Shrewsbury system. The committee has at present under consideration the question of electric lighting for the asylum The report of the Commissioners in Lunacy is not included in the present annual report

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9260 births and 4384 deaths were registered during the week ending July 5th. The annual rate of mortality in these towns, which had been 15 0 14 9 and 15 1 per 1000 in the three preceding weeks, further increased last week to 15 4 per 1000. In London the death rate was 15 1 per 1000 while it averaged 15 5 in the 75 other large towns. The lowest death rates in these towns were 7 6 in Hornsey 7 8 in Reading 8 0 in Derby 8 6 in Willesden 9 2 in Smethwick and in Leicester and 9 3 in Swansea the highest rates were 19 7 in Sunderland 20·0 in Tynemouth 20·3 in Liverpool 20 8 in Gateshead, 22 5 in Hanley 22 9 in Wigan, 25 5 in St. Helens and 25 7 in Middlesbrough. The 4384 deaths in these towns last week included 522 which were referred to the principal infectious diseases, against 496, 481 and 476 in the three preceding weeks of these 522 deaths 125 resulted from whooping cough, 117 from measles, 83 from diarrhœa, 64 from scarlet fever 64 from diphtheria, 53 from fever" (principally enteric) and 16 from small pox. No death from any of these diseases was registered last week in Hastings Northampton Great Yarmouth Smethwick Bootle, or Rotherham while they caused the highest death rates in Leyton, Hanley West Bromwich St. Helens, Barrow in Furness, South Shields Gateshead, and Rhondda. The greatest proportional mortality from measles occurred in Plymouth Devonport, Burton-on Trent, West Bromwich Bury Barrow in Furness Gateshead and Rhondda from scarlet fever in West Bromwich, Birmingham, and St. Helens, from diphtheria in Hanley Oldham, Cardiff, and Rhondda from whooping-cough in Aston Manor Wigan Salford Tynemouth, and South Shields from fever in Leyton and

Birkenhead, and from diarrhœa in Warrington, Stockton on-Tees, and West Hartlepool Of the deaths from small pox registered last week 13 were of persons belonged to London, one to Tottenham, one to Walthamstow, and one to Swansea. The Metropolitan Asylums hospitals contained 677 small-pox patients at the end of last week, against numbers decreasing from 1515 to 837 at the end of the 10 preceding weeks, 58 new cases were admitted during the week, against 157, 107, and 129 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital which had increased from 2207 to 2496 on the seven preceding Saturdays, had declined again to 2432 on Saturday last, July 5th, 256 new cases were admitted during the week, against 282, 378, and 276 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 166, 173, and 194 in the three preceding weeks, declined again to 168 last week, and were four below the corrected average. The causes of 54, or 1 3 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Newcastle, and in 45 other smaller towns, the largest proportions of uncertified deaths were registered in Northampton, Leicester, Liverpool, Rochdale, and Sunderland

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16 4 and 19 2 per 1000 in the two preceding weeks, declined again to 16 3 per 1000 during the week ending July 5th, but showed an excess of 0 9 per 1000 over the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 7 8 in Perth and 10 9 in Aberdeen to 17 9 in Paisley and 18 0 in Dundee The 528 deaths in these towns included 24 from diarrhœa, 16 from whooping cough, 13 from measles, five from scarlet fever, five from diphtheria, and three from "fever" In all 66 deaths resulted from these principal infectious diseases last week, against 54 and 57 in the two preceding weeks These 66 deaths were equal to an annual rate of 2 0 per 1000, which was 0 2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns The fatal cases of diarrhœa, which had been 18, 17, and 16 in the three preceding weeks, rose again last week to 24, of which 13 occurred in Glasgow, four in Dundee, two in Edinburgh, two in Aberdeen, and two in Leith The deaths from whooping-cough, which had been 13 and 14 in the two preceding weeks, further increased to 16 last week, and included 10 in Glasgow, two in Edinburgh, and two in Dundee The fatal cases of measles, which had declined from 22 to 15 in the four preceding weeks, further decreased last week to 13, of which six were registered in Edinburgh, three in Glasgow, and three in Paisley The deaths from scarlet fever, which had been four in each of the two preceding weeks, increased to five last week, and included four in Glasgow The fatal cases of diphtheria, which had been two and four in the two preceding weeks, further rose last week to five, of which two were registered in Glasgow and two in Edinburgh. The three deaths from "fever" showed a slight decline from the number in the preceding week, and included two in Paisley The deaths referred to diseases of the respiratory organs in these towns, which had been 96 and 101 in the two preceding weeks, declined again to 87 last week and were eight below the number in the corresponding period of last year The causes of 24, or nearly 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 17 9 and 19 9 per 1000 in the two preceding weeks, declined again to 18 9 per 1000 during the week ending July 5th During the past four weeks the death-rate has averaged 19 1 per 1000, the rates during the same period being 14 5 in London and 17 4 in Edinburgh The 139 deaths of persons belonging to Dublin registered during the week under notice were six below the number in the preceding week, and included 11 which were referred to the principal infectious diseases, against 10, eight, and nine in the three preceding weeks, of these, six resulted from measles, two from "fever," two from diarrhœa, one from scarlet fever, and not one from either small-pox, diphtheria, or whooping cough These 11 deaths were equal to an annual rate of 1 5 per 1000, the death rates from these principal infectious diseases during the same period being 1 8 in London and 2 1 in Edinburgh. The fatal cases of measles, which had been four, five, and three in the three preceding weeks, increased again last week to six, while the two deaths from "fever" showed a decline of two from the number in the preceding week The 139 deaths in Dublin last week included 20 of children under one year of age and 35 of persons aged upwards of 60 years, the deaths of infants showed a decline, while those of elderly persons slightly exceeded the number in the preceding week Eight inquest cases and seven deaths from violence were registered, and 53, or considerably more than a third, of the deaths occurred in public institutions The causes of 10, or more than 7 per cent, of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JUNE, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the cities and boroughs in the county of London. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 10 0 per 1000 of the population, estimated at 4,579,107 persons in the middle of the year In the three preceding months the rates had been 11 9, 10 5, and 10 3 per 1000 respectively The rates were considerably below the average in Paddington, Kensington, Hammersmith, Hampstead, Battersea, and Woolwich, while they showed the largest excess in St. Pancras, City of London, Bethnal Green, Stepney, Poplar, and Southwark. The prevalence of small pox, which had been declining in the two preceding months, showed a further diminution last month, among the various metropolitan boroughs this disease was proportionally most prevalent in Hackney, Holborn, Shoreditch, Bethnal Green Stepney, Poplar, and Southwark. The Metropolitan Asylums hospitals contained 837 small-pox patients at the end of June, against 1526, 1442, and 1274 at the end of the three preceding months, the weekly admissions averaged 145, against 461, 319, and 260 in the three preceding months. The prevalence of scarlet fever during the month under notice showed a slight excess over that recorded in the preceding month, the greatest proportional prevalence of this disease occurred in St Pancras, Stoke Newington, Bethnal Green, Southwark, Camberwell, and Lewisham The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2113, 2176, and 2222 at the end of the three preceding months, had further risen to 2439 at the end of last month, the weekly admissions averaged 251, against 258, 258, and 274 in the three preceding months The prevalence of diphtheria during June showed no variation from that recorded during the preceding month, among the various metropolitan boroughs this disease was proportionally most prevalent in Fulham, Stepney, Poplar, Southwark, Bermondsey, Camberwell, and Lewisham. There were 975 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1123, 1035, and 960 at the end of the three preceding months, the weekly admissions averaged 152, against 156, 140, and 146 in the three preceding months The prevalence of enteric fever last month showed a considerable excess over that recorded in the preceding month, the greatest proportional prevalence of this disease occurred in Chelsea, St Marylebone Stoke Newington, Finsbury, Bethnal Green, Poplar, and Greeenwich The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 121, 115, and 127 at the end of the three preceding months, had further increased to 195 at the end of June, the weekly admissions averaged 38, against 17, 17, and 19 in the three preceding months Erysipelas was proportionally most prevalent in St Marylebone, Holborn, Finsbury, Shoreditch, Southwark, and Deptford. The 15 cases of puerperal fever notified during the month included three in Kensington and two each in Islington, Bethnal Green, Wandsworth, and Lewisham.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JUNE 1902.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES											Deaths from all causes.	Death rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever	Diphtheria.*	Typhus fever	Enteric fever	Other continued fevers.	Puerperal fever	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living	Small pox.	Measles.	Scarlet fever	Diphtheria.*	Whooping cough.	Typhus fever	Enteric fever	Other continued fevers.	Diarrhoea.	Total	Annual rate per 1000 persons living			
LONDON...	4,579,107	600	1447	800	—	279	4	15	379	—	3524	10·0	99	198	43	53	151	—	29	—	57	630	1·8	4898	13·9	112
West Districts.																										
Paddington	145,107	6	27	9	—	6	—	—	10	—	58	5·2	3	2	3	1	1	—	1	—	1	12	1·1	134	12·0	124
Kensington	177,605	15	28	16	—	9	—	3	13	—	84	6·2	1	10		—	3	—	2	—	4	20	1·5	185	13·6	122
Hammersmith	114,210	8	19	17	—	6	—	—	5	—	55	6·3	—	10	—	1	1	—	1	—	3	16	1·8	96	11·0	130
Fulham	143,102	8	39	27		6	—	—	9	—	89	8·1	1	5	2	2	3	—	—	—	3	16	1·5	132	12·0	103
Chelsea	74,018	2	19	10	—	6	—	—	7	—	44	7·7	2	19	1	1	—	—	—	—	3	28	4·8	101	17·8	140
City of Westminster	180,800	18	54	20	—	8	—	—	14	—	114	8·2	1	2	3	2	1	—	1	—	1	11	0·8	167	12·0	71
North Districts																										
St. Marylebone	132,089	9	40	11		13	—	—	22	—	95	9·4	2	2	2	3	1	—	—	—	2	12	1·2	160	15·8	83
Hampstead	83,743	2	23	7		3	—	—	2	—	37	5·8	—	—	—	—	—	—	—	—	—	—	—	43	6·7	44
St. Pancras	235,596	32	105	71		17	—	1	10	—	236	13·1	11	4	3	5	16	—	2	—	3	44	2·4	270	14·9	117
Islington	337,268	30	88	72	—	17	2	2	21	—	232	9·0	6	5	1	2	11	—	2	—	3	30	1·2	321	12·4	95
Stoke Newington	51 700	3	21	4	—	4	—	—	4	—	36	9·1	2	1	1	—	—	—	—	—	—	4	1·0	47	11·9	95
Hackney	221 926	49	58	38	—	9	—	1	15	—	170	10·0	6	17	—	2	8	—	1	—	1	35	2·1	216	12·7	102
Central Districts.																										
Holborn	58,536	9	12	8	—	2	—	—	8	—	39	8·7	2	3	—	2	1	—	1	—	—	9	2·0	78	16·9	85
Finsbury	100 487	3	39	16		9	1	—	17	—	85	11·0	—	7	3	2	7	—	—	—	1	20	2·6	149	19·3	147
City of London	25,598	1	8	27	—	1	—	—	2	—	39	19·9	—	1	—	2	1	—	—	—	—	4	2·0	24	12·2	333
East Districts.																										
Shoreditch	117,980	19	16	26		8		—	19	—	88	9·7	1	6	—	2	7	—	2	—	1	19	2·1	123	13·6	98
Bethnal Green	129,589	51	52	14		10		2	16	—	145	14·6	5	4	1	—	9	—	—	—	3	22	2·2	172	17·3	143
Stepney	300,551	84	91	65	—	18	—	—	27	—	285	12·4	12	18	4	6	13	—	—	—	4	57	2·5	391	17·0	113
Poplar	168,214	47	45	34	—	24		—	18	—	168	12·9	8	2	—	4	4	—	1	—	3	22	1·7	188	14·5	105
South Districts.																										
Southwark	206,225	56	100	52	—	13	—	—	29	—	250	16·8	8	17	3	2	11	—	2	—	3	46	2·9	318	19·9	166
Bermondsey	130 218	15	47	35		7	—	—	10	—	114	11·4	6	17	1	2	6	—	—	—	2	34	3·4	171	17·1	111
Lambeth	305,102	39	96	35	—	19	1	—	28	—	218	9·3	5	3	8	4	6	—	2	—	5	33	1·4	331	14·1	84
Battersea	171 401	7	43	21		8		1	11	—	91	6·9	1	13	—	—	6		3	—	2	25	1·9	168	12·8	101
Wandsworth	241 610	9	90	38	—	11	—	2	10	—	160	8·6	—	21	1	—	8	—	1	—	4	35	1·9	2,0	12·4	138
Camberwell	262,775	34	112	52	—	18	—	1	14	—	231	11·5	12	8	2	1	13		3	—	3	42	2·1	288	14·2	129
Deptford	111,577	19	37	16	—	8	—	—	16	—	95	11·1	3	—	2	—	3	—	1	—	2	11	1·3	114	13·3	128
Greenwich	98,013	7	52	10	—	8	—	—	11		88	11·7	—	—	—	1	1		1	—	—	3	0·4	77	10·2	81
Lewisham	132,432	5	61	34	—	5	—	2	7	—	114	11·2	—	—	2	3	5	—	1	—	—	11	1·1	103	10·1	81
Woolwich	119,556	12	23	16	—	4	—	—	6	—	61	6·7	1	1	—	2	6	—	1	—	—	11	1·2	107	11·7	117
Port of London	—	1	—	—	—	2	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the four weeks ending June 28th the deaths of 4898 persons belonging to London were registered, equal to an annual rate of 13 9 per 1000, against 20 4, 16 8, and 15 9 per 1000 in the three preceding months The lowest death rates last month in the various metropolitan boroughs were 6 7 in Hampstead, 10 1 in Lewisham, 10 2 in Greenwich, 11 0 in Hammersmith, 11 7 in Woolwich, and 11 9 in Stoke Newington, while the highest rates were 17 0 in Stepney, 17 1 in Holborn and in Bermondsey, 17 3 in Bethnal Green, 19 3 in Finsbury, and 19 9 in Southwark The 4898 deaths from all causes included 99 from small pox, 198 from measles, 43 from scarlet fever, 53 from diphtheria, 151 from whooping cough, 29 from enteric fever, and 57 from diarrhœa, in all, 630 deaths resulted from these principal infectious diseases. No death from any of these diseases was recorded last month in Hampstead, in the other metropolitan boroughs they caused the lowest death rates in Paddington, Westminster, Stoke Newington, Greenwich, and Lewisham, and the highest rates in Chelsea, St. Pancras, Finsbury Stepney, Southwark, and Bermondsey The 99 fatal cases of small pox were 55 below the number in the preceding month, the greatest proportional mortality from this disease occurred in St. Pancras, Stoke Newington Poplar, Southwark, Bermondsey, and Camberwell The 198 deaths from measles were 87 below the corrected average number, among the various metropolitan boroughs this disease was proportionally most fatal in Chelsea, Hackney, Finsbury, Southwark, Battersea, and Wandsworth. The 43 deaths from scarlet fever showed a decline of 24 from the average number in the corresponding periods of the 10 preceding years, the greatest proportional mortality from this disease was recorded in Paddington Westminster, Finsbury, Lambeth, and Deptford. The 53 fatal cases of diphtheria were 91 below the corrected average number, among the various metropolitan boroughs this disease was proportionally most fatal in St. Marylebone, St Pancras, Holborn the City of London, Poplar, and Lewisham. The 151 deaths from whooping cough were within one of the average number in the corresponding periods of the 10 preceding years, the greatest proportional mortality from this disease occurred in St. Pancras Finsbury, Shoreditch, Bethnal Green, Southwark, and Camberwell The 29 deaths from enteric fever were slightly below the corrected average number, among the various metropolitan boroughs this disease was proportionally most fatal in Kensington, Shoreditch, Southwark, Battersea, and Camberwell. The 57 fatal cases of diarrhœa were more than 100 below the decennial average for June, the highest death rates from this disease were recorded in Kensington, Hammersmith, Fulham, Chelsea, and Bethnal Green, In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 25 per cent. below the average.

Infant mortality in London during June, measured by the proportion of deaths of children under one year of age to registered births, was equal to 112 per 1000 The lowest rates of infant mortality were recorded in Westminster, Hampstead, St. Marylebone, Lambeth, Greenwich, and Lewisham, and the highest rates in Paddington, Chelsea, Finsbury, City of London, Bethnal Green, Southwark, and Wandsworth.

THE SERVICES

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J Battersby is appointed to the medical charge of the Station Hospital, Quetta. Lieutenant L J S Cahill has been transferred from the Bombay District to the Poona District. Surgeon Major C L Fraser, A.M R, assumes temporary medical charge of troops, Station Hospital, &c., Berwick on Tweed, vice Lieutenant-Colonel J Stevenson, A.M S, retired pay, who assumes medical charge of troops, Station Hospital, &c., Aberdeen, vice Surgeon Lieutenant-Colonel W S Cheyne, A.M R.

THE ARMY AND TYPHOID FEVER.

Notwithstanding that the war in South Africa is now over we trust that the question as to whether something cannot be done in the direction of lessening or abolishing the deplorable prevalence of enteric fever in armies in the field will not be lost sight of and that the consideration of such an important and pressing matter will not be relegated to some future time, but that it will be undertaken at once No time can be more opportune than the present while the facts connected with the late campaign are still fresh in everybody's mind and now that the advent of peace has removed or lessened the stress and strain more or less inseparable from war If we turn to the medical history of military campaigns we are confronted with the presence of typhoid fever as one of the gravest contributory causes of mortality, sickness, and inefficiency among the belligerents We need scarcely say that this was so in respect of the British forces in South Africa, for enteric fever was almost throughout the whole course of the late war the most prominent feature in the casualty returns. Nor is it only at such times that enteric fever has proved to be a scourge to the army, for this disease constitutes a terrible annual drain on the life and health of our young soldiers in India We are above all things, then, anxious to see this matter taken up in an earnest and practical spirit with a view to ascertain whether anything can be done Dr H. E Leigh Canney has, as our readers are well aware, put forward a scheme by which he claims, among other things that the amount of this and other ' water borne" army diseases might be greatly lessened, the medical work of the army much reduced, and a great saving in the way of money and transport effected. The basis of his scheme is to safeguard the army against infection through the most common (though not the exclusive) source of it among troops serving in the field by providing them with a "safe" water supply and by pointing out at the same time a method by which this might practically be accomplished About a year has elapsed since Dr Leigh Canney first definitely put forward his proposals in this respect and we recommended that instead of being merely theoretically discussed they should be practically tried It may be mentioned that, with a similar object in view, in the United States army a water sterilising apparatus, known as the Waterhouse Forbes apparatus, is used. Dr Leigh Canney has, it is well known, continued to pursue his labours in the meantime and to press the subject upon public attention He is naturally surprised at the delay which has occurred and still more dissatisfied with the way in which it is now apparently proposed to give effect to a practical trial of his scheme He has consequently felt compelled to call attention to the conditions under which this should be undertaken, and in a long and forcible letter written in an enthusiastic spirit, which appeared in the *Times* of June 28th, he has fully set forth the past history and present state of the question In this communication, which should be read *in extenso*, he, it will be seen, lays down eight essential details as the conditions which he considers are required to be fulfilled to secure the success of his scheme It is not that he would have merely a trained "water section" provided as a permanent institution in the army and furnished with the necessary material and properly qualified agents for doing the work, but he would also make the *non medical officers* of the army responsible for executive sanitary work and for the incidence of water borne diseases in their several and respective units We have so frequently adverted in the past to the subjects of army sanitation in the field and to the possible organisation of an executive sanitary corps acting under the authority and direction of expert sanitary officers that there is no need to enter upon them now While we do not by any means seek to close our eyes to the difficulties in the way of preventing the occurrence and spread of typhoid fever under the conditions of war we are nevertheless of opinion that this question of the provision of a "safe" water supply for the troops engaged, and, indeed, the whole subject of field army hygiene, require to be considered thoroughly and to be threshed out by the Army Medical Advisory Board or by some committee specially appointed for the purpose.

HEALTH OF THE ARMY

The Army Medical Department Report for 1900, which has just been issued as a blue book, states that the average strength of European troops serving at home and abroad (exclusive of South Africa) in 1900 was 226,276 officers, non commissioned officers, and men The total number of admissions to hospital was 187 284 and the total deaths were 2242. The admissions represent a ratio of 827 7 per 1000 of strength, the deaths one of 9·05 per

1000 on a strength of 247 819 Amongst the troops serving in the United Kingdom the admission and constantly-sick rates were lower and the mortality rate was higher than in 1899 At Gibraltar the admission and constantly sick rates were lower but the death rate was somewhat higher than in 1899 At Malta, including Crete, the admission rate was higher and the death and constantly sick rates were lower than in the previous year In Canada there was an increase in the admission, mortality and constantly sick rates. At Bermuda enteric fever again showed a decline At Barbados and at Jamaica the health of the troops was very good. In Western Africa malarial fevers furnished the chief cause of admissions to hospital. In Mauritius the general health of the troops was much better than usual and in Ceylon there was a marked decrease in the admissions for malarial fevers In the Straits Settlements the health of the troops has been exceptionally good. In China the ratios of admission and constantly sick were lower than in 1899 In India there was a decline in the admission and constantly sick rates but an increase in the death and invaliding rates. In Egypt the general health of the troops was good and bore a satisfactory comparison with the previous year

An Army order has been issued which states that all present members of the Nursing Service and members of the Army Nursing Reserve who have been in military employment during the war in South Africa shall be eligible for appointment in Queen Alexandra s Imperial Military Nursing Service if recommended by the Nursing Board

THE KING'S DINNER TO THE POOR

Some 40 volunteer medical officers and 28 squads of fully equipped stretcher squads were distributed among the places at which the guests invited to the King s dinner to the poor were assembled on July 5th. The services of medical practitioners, men of the St. John Ambulance Brigade, and hospital nurses were also requisitioned In the evening a number of volunteer medical officers dined together after doing duty at the King s dinner at the Cecil Hotel, ' to drink the King s health," which was heartily done, and a telegram of congratulation on the progress of His Majesty s illness was sent to Buckingham Palace. The following reply was received Buckingham Palace —To Surgeon Major Marshall, Chairman of Volunteer Medical Officers' Dinner Hotel Cecil Strand —Your telegram conveying the kind congratulations on the King s progress towards recovery of the volunteer medical officers dining together under your presidency at the Hotel Cecil last night shall be submitted to His Majesty at an early opportunity —DIGHTON PROBYN " Surgeon Major John J de Z Marshall honorary secretary of the Volunteer Medical Association wishes us to state that he will be glad to do his best to obtain Coronation mugs and the King s Hearty Invitation Cards for medical officers and men who were unable to obtain them at the dinner by applying through the Lord Mayor on receiving lists authenticated by medical officers of health.

CHIROPODISTS FOR THE ARMY

The War Office of this country is following the example adopted in the armies of other countries in view of securing and developing the marching capacity of the soldier During the big American war chiropodists to the army were appointed by the United States Government and in the German army the greatest attention is paid to the soldier s feet An Army Order has just been issued by the War Office providing that a soldier not above the rank of sergeant may be employed as a chiropodist in each infantry battalion provided he has undergone a short course of instruction and has obtained a certificate of proficiency in chiropody Battalion chiropodists are to receive sixpence a day in addition to their daily pay While we regard this as a good practical measure and as conferring a boon upon the soldier care will obviously have to be taken that only those who have been properly instructed are allowed to exercise their skill in this respect.

MEDICAL EXAMINATION OF CANDIDATES FOR THE ARMY

The medical attendants of parents who contemplate educating their sons for the army frequently seek information from us as to the effect which some minor ailments of youth may have upon candidates when being examined by the Army Medical Board previously to receiving a commission. With regard to the removal of tonsils we understand that, other things being equal, the operation would not affect the candidate prejudicially He must be up to a certain standard of height and chest girth and be free from organic disease. His vision without glasses must be up to a fixed standard and if there is an error of refraction it must be capable of correction to another fixed standard It should be generally known that parents have now the right to have boys examined by a medical board before allowing them to join army classes.

NAVAL MEDICAL SUPPLEMENTAL FUND

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on July 8th, Sir J N Dick K.C B being in the chair the sum of £40 was distributed among the several applicants.

Correspondence.

'Audi alteram partem '

PERITYPHLITIS

To the Editors of THE LANCET

SIRS,—Many will have read with much interest the letter in THE LANCET[1] of my revered teacher Sir Samuel Wilks, asking When will surgeons cease to proclaim to the world their ignorance of the existence of the above-named disease until operative means were first used for its cure? and also the letter of my friend Dr P H Pye-Smith in the *British Medical Journal* of July 5th with its quiet cynicism at the supposed benighted ignorance of surgeons. But I rather imagine that neither of these distinguished physicians *sincerely* believes in the imputed unenlightenment which has aroused the indignation of the one and the scarcely veiled ridicule of the other Their love for their old school and the cherished memories of their early training and teaching have doubtless led them to repudiate even the semblance of a claim for modernness ' for a disease which has received practical recognition for the greater part of a century

My own first recollection of disease due to the appendix goes back to a time long prior to my clerkship to Dr Barlow and Dr Rees and my dressership to Cooper Forster and Hilton—to the year 1854 or 1855 in fact, when as a schoolboy I heard of the sudden death of a young lady the only daughter of patients and friends of my father and an occasional playmate of my sisters. We were told that her illness was inflammation of the membrane covering of the bowel She died from an alarmingly acute attack which extended over one or two days only My father made the post-mortem examination and found that a body like a cherry stone had ulcerated through the appendix and had caused the fatal trouble. This case created great dismay in our young minds and used often to be spoken of by all of us at home—not to be sure, as one of 'appendicitis or perityphlitis but in remembrance of our lost comrade and because of the terrible dangers supposed to arise from the proverbial cherry-stone " Later after I had studied in the wards of Guy's Hospital, the same case was several times referred to in conversations with my father a country practitioner as a type of a group of cases of acute peritonitis. I also recall the fact that one of the earliest cases of iliac phlegmon' under my charge—an enormous abscess containing horribly foul pus—was seen with me by the late Mr Hulke about the year 1871, and was considered to be connected with the cæcum and its appendix Many of my contemporaries must have had as early or possibly earlier similar experience.

The author of the address criticised by Sir Samuel Wilks and Dr P H. Pye-Smith both in the headline (The Appearing of Appendicitis) of his opening section as well as in the first three paragraphs of this section does certainly seem to imply that appendicitis is a modern disease and speaks of its almost abrupt appearance" as one of the most remarkable circumstances in the history of medicine in the closing years of the nineteenth century " But in subsequent paragraphs Sir Frederick Treves acknowledges that this clumsily named malady is not a new disease " and he adds *nor is there evidence to support the suggestion that it has* undergone any recent and remarkable recrudescence or that it has become more frequent in its appearance " He alludes, it is true, to the "long-ignored appendix," and to appendicitis as having "no coherent existence 20 years ago", still he tells us that the disease "can be traced back to distant centuries" and he thinks that the cave man occasionally succumbed to its ill-effects. Further, he admits the existence of many published isolated cases and refers to the monograph of Burne (1837) and the articles by Mélier (1827) on the "appendix as a cause of certain inflammatory troubles in the right iliac region." Thus, whilst seeming to declare the disease as one of modern date, Sir F. Treves acknowledges quite as fully as his critics that it is as old as the hills and was long ago described by many writers.

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[1] THE LANCET July 5th 1902, p 44

Another point raised in this interesting address appears to be claimed as a discovery within the same short and recent period. Sir F. Treves writes: "The rapidity with which the peritoneum can isolate inflammatory effusion and render pus encysted was not understood and consequently localised iliac abscesses were supposed to occupy the connective tissue of the iliac fossa." But the critic might fairly ask (besides other questions), What about encysted traumatic dropsy of the abdomen? Let the reader refer, if he will, to a work published in 1878 (Agnew's Surgery, vol. i., p. 392). Agnew there states, "The circumscribing walls of these cysts are the result of a chronic peritonitis." After pointing out that these cysts may be formed in various ways between the omentum and the intestinal peritoneum, Agnew goes on to say that they "may be converted into purulent sacs," and gives as illustrations a case in which two gallons of purulent fluid were drawn from such a cyst between the omentum and the intestines, and another in which he drew off over three gallons from a cyst on the right side of a woman's abdomen. After describing the symptoms and treatment of encysted dropsy of the peritoneum Agnew ends by saying, "When the cysts suppurate it will be best to open them, evacuate the contents, and treat by drainage tubes and carbolic water." Here there is a full recognition of the limiting of fluids by adhesive peritonitis, and a treatment is recommended which very closely resembles that employed in 1902 for an abscess connected with the appendix.

I may be permitted, perhaps, to remark that all surgeons will probably not agree with the statement that the clinical phenomena which are familiar under the name of "an attack of appendicitis" are due to peritonitis in the region of that organ, that some will consider Sir F. Treves is unnecessarily hostile in his remarks against "the classification of appendicitis," but they will welcome his distinct recognition of "ultra acute" and other clinical varieties of the disease, though he does not designate them by names such as "fulminating," "suppurative," and 'relapsing." Moreover, it is known that all surgeons do not endorse his opinions as to the advisability of non interference during an acute attack.

Surgeons of experience who only remove the appendix during the quiescent period may look to a mortality of only a fraction per cent., whilst those who do not limit their operations to this period may not surpass, even if they equal, Dr. Mynter's results of 81 recoveries and 34 deaths in 115 cases operated upon by him *at some period during an acute attack*. We want figures to tell us how many patients die during an acute attack unoperated upon, and how many die or recover only after a protracted illness when operated upon after the disease has passed into an advanced stage of suppuration. It would be good to learn, also, how many patients who otherwise would have died have their lives saved or are spared long periods of convalescence from suppuration by the practice of operating in acute attacks as soon as the diagnosis is made. There must be many surgeons who with melancholy feelings have had occasion to ask themselves, "Had this patient been operated upon two days, or even one day earlier, might not his life have been saved?" and who in other cases with happier thoughts have reflected, "Had the operation been postponed another 24, or even 12, hours this patient must have died."

It is to be hoped that the concluding paragraph of Dr. P. H. Pye Smith's letter, and the passages in Sir Frederick Treves's address to which it makes reference, will not be too freely "read into" clinical practice, and thus act to deter from operating in cases in which an operation alone will enable the sufferers to enjoy long life and lead laborious days. But, Sirs, I will not pursue this theme, for my object in writing at all on the subject is merely to suggest with as much modesty and diffidence as I possess that surgeons are probably not quite so ignorant as these greatly-respected and highly-esteemed physicians would lead your readers to suppose.

I am, Sirs, yours faithfully,

Cavendish-square, W., July 7th, 1902. HENRY MORRIS.

To the Editors of THE LANCET

SIRS,—Personal experience of a disease impresses its features strongly on the mind. My own experience of perityphlitis may be of interest, especially in connexion with the observations of Sir Samuel Wilks. Between 26 and 34 I had five or six definite attacks, the last of great severity. In none was there any spot of greater tenderness to suggest that the affection started from the appendix. My personal observation generated a strong conviction of the origin of the form from which I suffered. In his teaching Sir William Jenner used to insist on the variation in the amount of peritoneum over the cæcum in connexion with intussusception, which he held to occur chiefly when the covering is so complete as to give rise to a meso-cæcum and consequent mobility. It seemed to me that true perityphlitis occurs especially when the cæcum is imperfectly surrounded by peritoneum, so that part of the intestinal coat is in direct relation to the extra peritoneal connective tissue, and that, in this, cellulitis is excited by the spread of inflammation from the mucous membrane of the bowel. Certainly every attack I had was distinctly set up by intestinal catarrh. Besides the definite attacks with some induration, the cæcum seemed to become prone to be slightly inflamed, for I had many slight attacks in which the cæcum became distended and very tender, the state passed with a day's rest, hot fomentations, and the avoidance of any action of the bowels.

The last attack was very instructive. Beginning in the usual way, the cellulitis which, I assume, was excited from the mucous membrane, spread, clearly in the extra peritoneal tissue, and the induration that resulted extended as far as the middle line of the abdomen. I suppose that there was no indication of suppuration, for Sir William Jenner, who kindly looked after me, did not think a surgeon's opinion necessary. In the course of a few weeks the whole gradually disappeared, in spite of an incidental attack of catarrhal jaundice. It was before the days of "appendicitis." I wonder whether, with such extensive induration, I should have escaped operation and the removal of the appendix at the present day. I do not think my prospects of recovery would have been increased thereby. I should add that no one recognised more clearly than Sir William Jenner the fact that dangerous local inflammation is often excited by the impaction of substances in the appendix.

I have met with several illustrations of one other fact which my experience illustrated—that a very severe attack of perityphlitis, whether operated on or not, is usually the last. I think the explanation is that the connective tissue is left in an altered, cicatricial condition which becomes less and less prone to inflammation as the cicatricial change is more and more complete.

I am, Sirs, yours faithfully,

July 7th, 1902. W. R. GOWERS.

To the Editors of THE LANCET

SIRS,—It may possibly interest some of your readers at this moment to know that in 1884, Sept. 20th, I published in the now extinct *Medical Times and Gazette* a fatal case of well-marked perityphlitis (as it was then called), as part of a series of summer clinical lectures on peritonitis in its various forms which occupied the two last years of the journal in question. This was just two years before the appearance of the admirable research of Dr. Fitz to which Sir Frederick Treves attributes not only the name appendicitis, but all the more modern aspects of the disease resulting from that name. It may, therefore, be worth while to remark that although my lecture (being strictly clinical and not systematic) made no attempt at a large display of authorities, it may fairly be taken as representative of the knowledge by physicians of the diseases included under the names typhlitis and perityphlitis at that date, when surgery had not as yet (except in very peculiar circumstances) put in a special claim to the management of such diseases. The first point that appears to require notice in view of more recent researches is that the case in 1884 was absolutely the first case that I could find in my own records of a fatal result in perityphlitis during the 10 years in which the Western Infirmary had been open. A careful inspection of the records of the pathological department discovered two more such cases as well as two others which had been sent in from without for examination. On the whole, and speaking with such diffidence as is necessary to allow for lapses of memory I am inclined to think that this was the very first fatal case that had occurred to myself personally either in hospital or consulting practice, and this would accord very well with the conclusion of Sir Frederick Treves, who places the mortality of the disease without operation as no higher than 5 per cent. I am willing to admit, however that the whole circumstances of this fatal case as viewed in the light of later experience incline me to the opinion that an operation ought to have been performed although owing to the subsidence of the temperature and all the acute symptoms we were led into a practice of expectancy Four years later I had the pleasure, along with the late Sir George MacLeod of saving by operation from imminent peril a professional brother whose case in every detail seems to correspond exactly with that of our King and who is now performing the duties of a large practice without any trace of a subsequent recurrence of symptoms. But in view of the letter by Sir Samuel Wilks which appeared in your columns last week it seems important that I should call attention in your columns to the fact that not only was the share of the appendix in the morbid process not ignored, but it was most carefully treated as the result of experience in the Western Infirmary as well as of previous research elsewhere, the whole subject being discussed with reference to a paper by the late Dr Hilton Fagge in *Guy's Hospital Reports* for 1875. I am sorry my attention was not drawn to Dr Addison s much earlier statements which are only one more proof of the genius and penetrating sagacity of that great physician but I think that the perusal of this lecture in detail and in its whole surroundings will satisfy anyone that in 1884 at least the share of appendix disease in perityphlitis was by no means overlooked, and that the reparative processes incidental to a limited peritonitis in such circumstances were most carefully insisted on.

I am Sirs, yours faithfully

Edinburgh July 7th 1902. W T GAIRDNER.

THE BETTERMENT OF LONDON

To the Editors of THE LANCET

SIRS,—I ask permission to place before the public, through the medium of your influential journal some particulars regarding the recently established Betterment of London Association of which I have accepted the presidency for the current year The press has always been foremost in the advocacy of any movement which has the public welfare at heart and I therefore feel confident of its support in the present instance. The principal items of our programme are as follows.

Section I—To agitate for a quieter London primarily in respect to unnecessary and objectionable street noises such as those produced by organ grinders, costermongers, and newsboys for a healthier and cleaner London obtainable by a constant removal of refuse of all descriptions and in other ways, and for a more clearly designated London. In this latter respect the association will direct attention, amongst other matters, to the illegible naming of public thoroughfares and to the insufficient manner in which names are illuminated after dusk.

Section II—To agitate against the immigration of pauper aliens (obtaining legislation thereon if necessary) against the employment—in the street—of children under 10 years of age and after 9 o clock P M of children under 12 years of age. To draw attention to the extreme danger to health engendered by the obnoxious habit of expectorating in public conveyances and buildings to promote action against the sale of impure ice cream (another very fruitful source of disease) to direct the attention of the authorities to the Act relating to betting and gambling in public places, and to agitate against the constant digging up of the highways to the great inconvenience of the community

Section III—To impress upon the municipal and other authorities of the metropolis the necessity of enforcing as in Liverpool the registration of street musicians" and street traders, including newspaper vendors and to impress upon the railway companies the desirability of freeing their stations and approaches from all idlers and hawkers

From these statements it will be seen that the association is instituted for the service of the public and that it has at heart the desire to make London—what it certainly is not at present—the best governed city in the world. The propaganda will be carried on by public meetings and conferences by deputations and petitions to local authorities to the office of works, &c., by the publication of health leaflets of literature relating to Acts of Parliament, by laws, &c, and in various other ways.

In conclusion, I would add that if any of your readers are disposed to coöperate in this much needed movement for the betterment of London, and thus help it to grapple with many nuisances which ought to be abolished, they should communicate with the honorary secretary Mr Bowden Green, at the offices of the association, 1, Finsbury circus E C.

I am Sirs, yours faithfully

July 5th, 1902. W B. RICHMOND President.

OBSERVATIONS ON DIET

To the Editors of THE LANCET

SIRS,—Dr F W Forbes Ross dissents from my view that the diet of old people should be spare. He has no sympathy with arguments metabolical", he thinks they savour rather of the diabolical' and that 'an ounce of practice is worth a ton of theory" If by this he desires to protest against the all too-prevalent tendency to base treatment on theoretical considerations rather than upon experience I am with him. Medical treatment must ever be to a large extent empirical Nevertheless *a priori* reasoning may give trustworthy indications and the physiological arguments in favour of the aged living on a spare diet seem to me to be unmistakeable mere common sense in fact. They are, briefly as follows. In old age the active cells, such as the epithelial, atrophy while there is overgrowth of the comparatively inert fibrous tissues and *pari passu* with these retrograde changes there is a general depression in the sphere of vital activity the vital fire no longer blazes as in the period of lusty youth and prime, but rather smoulders or feebly flickers. Hence the furnace as represented by the tissues requires less fuel in the shape of food than in the earlier years and not only so but the atrophied digestive glands are less capable of coping with food and the excretory glands less able to rid the system of the waste products to which it gives rise. Have I thus far pursued my argument on the rock of common sense, or have I been treading the quicksands of mere fanciful theory?

So much for *a priori* argument But after all as Dr Ross observes questions of this sort must ultimately be decided by practice. Well, my experience is all in favour of the thesis I put forward. I find that the healthiest, and therefore the happiest, and longest-lived old people are spare eaters.

Let us see what the Doctor commits himself to He administers to aged broken-down foot-in the-grave" persons with cardiac, lung and kidney complications a generous, good full diet." He would urge i.e. such a diet on an old man suffering from frequent attacks of nose bleeding and giddiness and with a radial blood pressure of 200 millimetres of mercury—on one, in other words, with the sword of Damocles hanging over him and threatening at any moment to descend and to strike open one of the cerebral vessels. The same generous diet he would recommend (to mention some cases I have under observation at the present moment) to an aged person on the verge of uræmia, to a septuagenarian whose left ventricle is rapidly succumbing before an excessive peripheral resistance, and to an octogenarian with fixed thorax and the victim of agonising asthmatic paroxysms. Each and all of these our procrustean Doctor would subject to the same rigid routine of a full good, generous diet. No need for him to remind us that doctors disagree" They do indeed In their conception of what constitutes a correct dietary for the aged two of them at least are as widely separated as the poles

But I would not be misunderstood. I do not for one moment contend that a generous diet may not be indicated in certain cases among the old. Few indeed are the therapeutic principles that can be accepted unconditionally and I should be the last to pin myself to any rigid system, realising to the full that the physician who does this or allows himself to become the victim of a fad is in very evil case. I should not hesitate cautiously to increase and even to generous proportions the diet of a starved, anæmic old man with a low arterial pressure. I am also aware that there are cases such as those referred by D F R aged persons whose metabolism has for years been habituated to an excess of stimulating diet and for whom it is not always wise suddenly to reduce the quantity of food to slender proportions Nor do I forget that exceptional instances are met with—they are in my experience very exceptional—of old people consuming enormous quantities of food without apparent harm I myself know of a centenarian who on his 103rd birthday freely partook, among other things, of roast pork and baked potatoes, port wine, and whisky All this shows how difficult it is to dogmatise, how necessary it is to keep one's mind open, and to judge every case on its own merits But though therapeutics can never become an exact science, we should nevertheless seek to formulate general therapeutical principles for our guidance—rules of treatment which, even though they may not be universally applicable, are yet applicable to the generality of cases Such a principle is set forth in the aphorism, ' Let the diet of the aged be spare ' I believe this to be wise counsel, dictated by common sense, sanctioned by tradition, and justified by experience. I am, Sirs, yours faithfully,

Wimpole-street June 23rd 1902. HARRY CAMPBELL.

To the Editors of THE LANCET

SIRS,—In your issue of June 14th last, p 1724, you did me the honour to print a communication based on an earnestly emphasised exhortation by Dr Harry Campbell concerning a "spare diet" for the aged in his current series of articles entitled "Observations on Diet" To day (June 21st) you kindly print communications on the same subject from Dr Eric Pritchard and Dr Thomas Dutton (p 1797) Pray permit me to reply to these gentlemen through your agency

Dr Pritchard appears to be more struck with my phraseology than by the real factors of the subject under discussion in which he desires to participate There is at present no onslaught on Dr Harry Campbell—nor have I any intention of attempting one—yet, if Dr Pritchard desires to "shiver a lance" by all means let him do so and not run full tilt at me, armed with a bulrush and mounted on a donkey

Sarcasm never advanced argument yet, and a proper understanding cannot possibly be arrived at by jumping to a hasty conclusion and rushing *in medias res* simply to get one's oar in, even in the cause of "physiological feeding of the aged," which a "spare diet" is not Neither Dr Pritchard nor Dr Dutton seem to have a clear grasp of the matter in dispute, if they did they would not have succeeded in confusing the issues as they have done I am well aware of the capacity of Dr Campbell and when writing to you my disagreement with his "spare diet" dicta I was conscious of what a pitfall the phrase "spare diet" would prove to some. If Dr Campbell considered it worth his while to support his statements and had stronger reasons for his opinion than I have for mine, then he would no doubt extend and elaborate his subject—especially the terms "aged" and "spare diet." That is, if the whole paragraph in Dr Campbell's article were not to pass as a remark *en passant*, not to be taken seriously, and to be looked on as "padding" pure and simple for his article

Dr Pritchard speaks of alcohol and morphomania, and deduces from them parallels for arguing on 'physiological diet." I myself cannot see the connexion, for alcohol and morphia have further and more remote and ultimate actions over and above their immediate effect on administration They are not "food" but "drugs" Until either Dr Campbell or myself take the trouble to define what we mean by an "aged person" and "spare diet" neither Dr Pritchard nor Dr Dutton can safely intervene I am speaking of "seniles," persons well over 70—between 70 and 90—and by "generous full diet" I mean a good physiologically nutrient diet, high in proteids, carbo-hydrates, fats, and salts. Dr Pritchard and Dr Dutton seem to arrogate to themselves the right to decide what I mean and do not mean. For example, because hay and potatoes contain some small amount of proteid in their composition therefore a "generous good full diet" as used by me should of necessity correlate an elephantine meal of chopped hay or boiled potatoes in quantity sufficient to provide the necessary nitrogen. Dr Dutton, after 30 years' experience, prefers a diet "rich in nutriment substance." That is exactly what I am contending for, the more nutrient the better, though I claim to give your readers credit for understanding that I did not mean a large meal of boiled cabbage, or potatoes, or turnip tops, or chopped horse food Dr Dutton surely believes that your readers and persons to whom you accord the honour of printing their communications have some slight idea that the organs of the aged are more or less worn out, and that fermentative dyspepsia is a digestive trouble of old age I did not mention them, as I took them for granted, and was well aware that their correction and successful treatment is "part of the game" There's where the "skill" comes in. If Dr Dutton believes that "spare diet" means a diet of good nutrient quality though limited in amount, then he does not read English as "she is writ" Of course, we may now be told that that was what was meant by "spare diet." Nine medical men out of 10 in general practice interpret "spare diet' to be ' cup food," "slops,' "little or nothing during the day," "a cup of arrowroot,' a little beef tea' (*sic*), and a small piece of toast, &c Letting an old person shift for him or herself May I be permitted to call the attention of Dr Pritchard and Dr Dutton to the phrase in my letter "*full diet suitably prepared*" The only regrettable deduction from the communications of Dr Pritchard and Dr Dutton is that either they hurriedly hastened to vindicate nothing in particular, on the strength of a hasty glance at your pages (a thing never safe to do where THE LANCET is concerned as others no doubt have learned), bringing to bear on their task the least possible forethought and still less an amount of their vast knowledge and experience, or otherwise they credit me with a more profound ignorance than is usually accorded as the outcome of their everyday experience These gentlemen would, no doubt, give me credit for knowing the results of over indulgence after due proof An earnest assurance from them that they had carefully perused my article in the *British Medical Journal*, Oct 13th, 1900, and a search and verification of the references given—a task which occupied me for six months—would have made me more disposed to consider their "defence" of Dr Campbell as really serious

I am, Sirs, I trust, quite conversant with "metabolism" and with the terms 'anabolism' and "katabolism," also with that "blessed word" auto intoxication, together with their theoretical results, as the armament of the diet specialist. I had hoped that my parenthetical mention of lung and kidney disease would have spared me their being flung at me by Dr Pritchard—for which much thanks Complications of old age (from 70–90) are only those complications peculiar to senility, and anyone really conversant with my subject would not drag into the discussion the results of previous riotous living—though even they can be successfully dealt with as part of the "game." Aging as we see it, is nature's mode of killing, and in order to assist the process she calls in weak digestion, loss of teeth, liver, kidney, lung, and heart disease When the disease complications are the result of fair hard wear and tear they can be restored by "good full generous diet," to a surprising extent The medical man who plays nature's game for her by "spare diet" simply because there are "kidneys," "liver congestion," "cardiac failure," &c., is very like that general who "marched his men up a hill and marched them down again" because there were persons on the top likely to dispute with him its possession. Rather is it better to flank or enfilade the position than to retreat because of the opposition This retreat the "spare diet" treatment closely imitates I have ever noted that your medical scientist, well versed in the "bolisms" and autoisms and what not, is in the end usually found pleading the excuse in justification for his failure in treatment, especially where the very aged are concerned, "Oh, you see, he (or she) was so old, you know", "Quite worn out", "You see, the heart was literally used up", "Run to a standstill," &c. That man was running the "spare diet" ticket, had he run the good, full, generous diet (I don't mean feeding to repletion), suitably backed up therapeutically, he would most probably have got another five to seven years out of his patient I am not "done for" yet, Sirs, and remain yours faithfully, F W FORBES ROSS, M.D Edin

June 21st 1902.

THE MIDWIVES BILL

To the Editors of THE LANCET

SIRS,—The Lord Chancellor made it clear in his speech on the second reading of the Midwives Bill on June 20th that though not unfriendly to the Bill as a whole he disapproves of the provision (Cl. 1) that *after the year 1910 no woman shall habitually or for gain attend women in childbirth unless she be certified under this Act* " If this provision is left out no protection whatever will be given to the public against the most dangerous class of untrained women who will be just as free to practise as they are at present, so long as they call themselves by some other name than midwife. The safeguard afforded by the Bill would be very slight, though undoubtedly a step in the right direction. The Lord Chancellor suggests that those who drew up the Bill had in their minds large centres of population and had not considered the case of thinly populated districts where trained assistance would be hard to get. But we maintain that the very scarcity of medical help in rural districts makes it the more necessary that skilled midwives should be available, and as long as untrained women are allowed to habitually practise it is useless to look for an adequate supply of competent ones.

During the eight years that would elapse before this provision comes into force there would be ample time to organise and increase the means of midwifery training all over the country The Lord Chancellor points out that as a rule the midwife in country districts acts also as maid of all work in the house during the mother's illness. That is in very many cases true, and it is surely another reason for insisting that she should have a certain amount of training and a knowledge of the paramount necessity of antiseptic precautions in the sick room. Many are the cases in which fatal injury has been done to mothers by women coming direct from field labour or various uncleanly occupations to attend them in childbirth and it is well known that want of cleanly attention at birth is the cause of a large proportion of the cases of blindness and impaired sight in this country Being trained as a midwife would in no wise prevent a woman from carrying on other avocations in the intervals between her cases. It is often forgotten that the word habitually in this clause leaves a wide margin for freedom of action in cases of emergency or for the individual preference of patients. Anyone could still freely go to the help of a neighbour in distress a mother could nurse her daughter or friend go to friend if for personal reasons or in sudden cases the midwife was not to be had But we maintain that if any persons habitually undertake this work ample cause has been shown why they should be obliged to duly qualify themselves for it.

We believe that much of the opposition that has been shown to this clause is due to the fact that people imagine that all friendly aid from one neighbour to another will be put an end to. That this fear is unfounded the above explanation will show That, also we think may be at the root of the objection of the clergyman quoted by the Lord Chancellor who said there was very serious objection to the Bill on the part of the working classes. Wherever to our knowledge meetings have been held and the details of the Bill laid before them the very strongest feeling in favour of it has been manifested and many and very numerously signed petitions from working men and women have been sent to the House of Commons in favour of this legislation.

On behalf of the Association

KATHERINE BALFOUR OF BURLEIGH
President ;
A. MABEL BRUCE,
Chairman of the Executive Committee.
Association for Promoting Compulsory Registration
of Midwives, July 1902.

THE MEDICAL SERVICE OF THE MERCHANT MARINE

To the Editors of THE LANCET

SIRS,—With reference to a letter in your issue of June 28th, p. 1857 from Dr W T Burres *re* the position social and financial of surgeons in the merchant service I should just like to say how thoroughly I agree with Dr F B Ryan s answer in THE LANCET of July 5th, p 45. As a former surgeon in the P & O Company and speaking of the ship surgeon s lot from that standpoint, it has always appeared to me ever since I joined the company that a ship surgeon has singularly little at which to grumble The position never seemed in any danger of being lowered in the eyes of either passengers officers or crew and from my own experience and that of other P & O surgeons if a man did find himself given the cold shoulder it was almost a certainty that it was his own fault. The pay was £10 a month and no one need grumble at that, especially if he only thinks for a moment that in addition one was seeing the world or a good part of it, meeting as good men as ever one could wish to meet, being lodged and fed at least as well as the most fastidious could require and (here most men will bear me out) doing work that, as a rule, might have been a good deal heavier without unduly taxing one's energies.

The average man who, looking back on the days when he was ship surgeon, can honestly say that he is sorry he ever went to sea or that he did not have a good time when there has only himself to thank for the character of his reflections. In isolated instances events have occurred at sea which have coloured a man s whole life unfavourably, but these are exceptions and taking the general run of things the ship surgeon who does not thoroughly enjoy his time has to thank either his physical or social disposition

Dr Burres calls ' steamship doctors a 'most abject class of practitioners. If a man is abject at sea he will be equally or more so ashore so there would seem little chance of the profession benefiting by the return of those gentlemen to civil or shore life if Dr Burres is right, which I venture to deny in his estimate of their character My memory of happy times as a ship surgeon and my possession of good friends gained while acting in that capacity will perhaps excuse my troubling you with this letter

I am, Sirs, yours faithfully
ANDREW B BLAIR, M.B C M Edin.,
late P & O S N Co
Eversleigh Banwell Somerset, July 5th 1902.

PRECOCIOUS CONCEPTION

To the Editors of THE LANCET

SIRS,—With reference to an article on the above subject which appeared in THE LANCET of June 7th, page 1601, I may say that in October 1883, I attended in labour a girl who was born at the end of the year 1868 and delivered her of a living mature male child The case occurred in a hamlet some miles from here, the patient being in charge of the local *sage femme* The age of the child mother was 14 years 10 months. She made a good recovery and for aught I know the child may still be living While writing I may state that in May 1897 I delivered a married woman who gave her age as 50 years, of a living child having however to use the forceps to do so These two cases demonstrate the youngest and oldest mothers in my obstetric experience By reference to Guy s Forensic Medicine I find several cases recorded in which the mothers were younger and older than those I have mentioned.

I am Sirs, yours faithfully,
O. H. L. JOHNSTON M D L R C S. & L.M Edin.
St. John N B Canada June 24th 1902.

A NEW METHOD OF KEEPING IN APPOSITION THE EDGES OF SURGICAL INCISIONS AND WOUNDS IN ORDER TO PROMOTE UNION

To the Editors of THE LANCET

SIRS,—In reply to Mr J MacMunn s letter respecting A New Method of Keeping in Apposition the Edges of Surgical Incisions and Wounds in order to Promote Union " I beg to suggest that he cannot have read carefully the description of the appliance which I gave in THE LANCET of June 28th, p 1839 nor can he have noted particularly the method of inserting it. There is just that difference between my appliance of to-day and the one introduced by Mr MacMunn 18 years ago that makes all the difference " The structure of the former enables it to be driven into the flesh with astonishing ease, *not as one would push in two parallel and ordinary curved needles but by a rotatory movement upon the centres of the semicircular prongs* and thus the points should never protrude through the flesh.

Unfortunately no illustration or letterpress can give anything like an adequate idea of the facility with which my appliance can be introduced and withdrawn once the knack has been acquired. More than one of the distinguished surgeons who have done me the honour of manipulating it have at once perceived that a certain knack is necessary which is instantly acquired when seen Mr MacMunn may at first sight see some resemblance between his design and mine, for all clamps may be more or less alike But his requires a cork to be placed over the protruding points after insertion—a clumsy, unscientific, and impossible method, as the past 18 years have eloquently demonstrated. However, I shall shortly have some results of trials that are now being conducted in some of our largest London hospitals to submit to those who may be sceptical, and in the meantime I shall be most happy to demonstrate the application of the new clamp by the side of Mr MacMunn's before any unquestionable surgical authority he may select.

I am, Sirs, yours faithfully,

HAYDN BROWN, L R.C P Edin

Surbiton, July 6th, 1902.

THE SEED AND THE SOIL

To the Editors or THE LANCET

SIRS,—The admirable and instructive lecture and leading article which appeared in THE LANCET a few weeks ago[1] have brought the "seed and the soil" subject before your readers in a way calculated to impress the memory with some sound and useful facts No doubt in the growth, spread, and fatality of disease, especially of epidemic diseases, the soil or the bodily state has more to do with the untoward results than the quality of the seed sown If the body or soil is in a healthy, robust state the seed sown fails, but if the body is in a state of cachexy or low vitality the soil may bring forth some a hundredfold, some sixtyfold, some thirtyfold But the resisting or receptive power of the body or soil depends for the most part on the climate or locality in which it is situated If the climate or locality is all that can be desired from a sanitary point of view the soil is healthy and resists contagion, but if otherwise the body or soil lies open to receive the seed or microbe of disease wherever it comes from And of all the preventives of disease there is none that can be compared to a good and perfect drainage of the environments of the soil or body

Before the main drainage of Lincoln was effected its sanitary state was as bad as it could be The sewage ran into cesspools and there was allowed to ferment and to putrefy and to fill the air with noxious effluvia. Dysentery, diarrhœa, and typhoid fever prevailed and consumption was so common that Dr Thompson of the Brompton Hospital for Consumption, in his Clinical Lectures on Pulmonary Consumption, remarked on it. The disease was most frequent among women who remained at home in their houses, but their husbands who spent their days away from home in the fields generally escaped contagion. When the main drainage was accomplished a rapid improvement in the health of the city took place and now in this "coronation year" typhoid fever and consumption seem to be dying out, and although we have recently had a slight outbreak of scarlet fever, still the death rate is only about 14 in 1000, and I hope that when the sower goes forth to sow the seeds will fall by the wayside and the fowls of the air will come and devour them up —I am, Sirs, yours faithfully,

WILLIAM O NEILL, M D Aberd , M.R.C P Lond.

Lincoln July 5th 1902.

INSANITY AND THE DEATH PENALTY

To the Editors of THE LANCET

SIRS,—My attention has just been drawn to an article in THE LANCET of June 21st, p 1782, with reference to the trial for murder of the unhappy man Simmons at the recent Dorset assizes, and I shall be glad if you will allow me to say a word in reply upon the facts of the case which may be of interest to your readers from a scientific point of view, as well as a matter of fairness to the prisoner The writer has picked out the salient facts without reference to any of the minor events which qualified them, and upon these facts he has assumed that the theory of the prosecution that this was a deliberate crime "committed by an angry man upon a woman who had refused (apparently) to respond to his passion" was proved, but this is exactly what the prosecution utterly failed to prove, and it was obvious to everyone who heard the evidence that the suggested motive for the crime was absolutely broken down and for ever gone long before the close of the prosecution, and I have the authority of Dr Weatherly and Dr Morton for saying that unless they had been previously satisfied of the untruth of the theory of the prosecution and of the consequent want of motive for the crime they could not have expressed the confident opinion on the case which they did in the witness-box.

I am, Sirs, yours faithfully,

A. WENTWORTH MALIM,
Solicitor for the Defence.

Weymouth, July 2nd, 1902.

THE PUBLIC HEALTH SERVICE AND THE CORONATION HONOURS LIST

To the Editors of THE LANCET

SIRS,—While agreeing generally with your admirable leading article on the Coronation Honours in THE LANCET of July 5th, p 31, and while also fully endorsing your statement that "the general design of the Crown, and of the advisers of the Crown, appears to have been to do ample justice to workers in the cause of humanity at large," may I venture to draw attention to the altogether remarkable omission from the honours list of that great service of the State which is responsible for the health of the people? This service through its untiring efforts is instrumental in saving annually thousands of lives It is gradually prolonging the average duration of life on the planet, and, by improving the physical conditions under which the poor live, it is carrying on a work which has no parallel in history This service exercises a leavening and altogether non-political influence throughout all grades of society, and the force which it represents is, perhaps, if read aright, the most far-reaching anti revolutionary power of modern times Nevertheless, this service has received no recognition whatever in the recent honours list

Perchance, had the victories of preventive medicine in Great Britain been less complete, and had bubonic plague invaded our shores, and small pox spread broadcast over the land, the conditions would have approximated more to those of the field of battle, and decorations might have been bestowed upon the service on almost military lines It may possibly be that the martial spirit of the moment has led the advisers of the Crown to attach less importance to the saving of human life and to the improvement of its conditions But whatever the explanation the omission is none the less remarkable

It would be obviously absurd to suppose that the monarch who happily still reigns over us, and with whose name the pregnant query, "If preventable, why not prevented?" will always be associated, would have allowed this omission had the claims of this service been adequately put before him. The deep interest taken by His Majesty in the housing of his poorer subjects and in the prevention of tuberculosis and cancer is sufficient in itself to negative any such view Moreover, I read the signs erroneously if I do not detect in the list of honours the keenest sympathy of King Edward VII for the worker whatever such work may be. In this sense the honours list is in my opinion, altogether unique. Nor can I believe that the able and vigorous Cabinet Minister who is responsible for the sanitary service of this country has failed to lay before the proper authorities the claim of those who, in the prevention of plague and small-pox, and in the routine work of public health have so well supported his efforts Mr Walter Long must, above all others, be aware of the signal services rendered to public health by the labours of his own medical department, and by those numerous medical officers of health who in our ports and towns have borne the brunt of the attack.

But there is something strangely anomalous in the fact that honours should have been showered, and justly so, upon those who have defended the honour of the Empire in the battle field while those who in the paths of peace have kept disease from our shores, and have made the name of England synonymous with sanitation should upon a historic occasion such as this have been passed over in silence. If, Sirs, it were possible that on each New Year's Eve, as the ebbing year flows into the ocean of time, there should be a march past of all those men, women, and children whose lives preventive medicine had saved during that year, a spectacle would be witnessed which would cast martial displays into relative insignificance, and which would awaken in the minds of the onlookers some conception of the work done quietly and unostentatiously by the medical officers of health throughout the country

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[1] THE LANCET May 10th (p 1297) and June 28th (p 1843) 1902

I am, Sirs, yours faithfully,

July 7th, 1902.　ANTITOXIN

To the *Editors of* THE LANCET

SIRS,—In the concluding sentence of the leading article in THE LANCET of July 5th, p. 31 you refer to the list of naval and military honours, so far as they affect medical departments as completing a gratifying total of distinctions accorded for public services to the profession But surely exception may be taken to that view inasmuch as not a single honour has been bestowed on "the service" which is specially devoted to civil sanitation administration, and public health

It will be remembered that His Gracious Majesty in his famous speech at the International Congress in 1891 showed how desirous he was of encouraging not only the scientific study of the causes of diseases but also what is at least equally important, the application of existing knowledge to the public benefit through improved methods of administration The last 25 years may be said to have been very conspicuous in the annals of preventive medicine by the development of this work and the gradual formation of a department which in a wide sense may be said to be of great practical value distinct from that of the Local Government service generally If we only consider the services rendered in connexion with some of the epidemic diseases most dreaded in this country—cholera, small pox, and plague for example—there is surely enough to justify the claims to distinctions and rewards of a body of professional men who have sacrificed many opportunities of pecuniary advantage besides incurring special risks and who bring to their work literary and scientific attainments together with official zeal, tact and discretion It should, however be insisted that it is not on exceptional occasions only but in the daily life of every great municipality or district, that the above-mentioned services are of great and immediate practical importance. It needs a long and intimate knowledge of our Local Government system to appreciate fully the essential value to the public of fairly well placed medical and sanitary officials. Vast sums of money are year by year loaned to and expended by sanitary authorities In the direction and control of this expenditure the important assistance already rendered by able and experienced medical officials ought in simple justice to be recognised. For this reason alone, and purely as a matter of public policy it is time to protest against the Service being continually ignored. It is, indeed hardly conceivable that His Majesty would not have considered the claims of the civil sanitary medical service had they been properly explained.

It is now more than half a century since medical officials began to serve the State, municipalities, and local authorities generally and yet during the whole period of ceaseless and growing activity not more than five or six titular distinctions have been conferred for public service of this kind.

I am Sirs yours faithfully

July 7th 1902.　ADMINISTRATOR.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Subsidence of the Plague Epidemic —Training ship for Eurasian Lads —Sewage Schemes for Bombay —Suburban Drainage for Calcutta

DURING the past fortnight there has been a marked decline in the plague mortality throughout India. On June 4th 4214 deaths were recorded but on June 18th only 1316. It is a long time now since the plague mortality touched such a low point. Although greatly lessened the disease still clings to the same infected districts The detailed figures for the past week are Bombay City 82 deaths Bombay Presidency 169 Karachi 35, Madras Presidency 12 Calcutta 65 Bengal Presidency 37, United Province 33 the Punjab 776 and Mysore, 103. The plague has never been very severe in the Madras Presidency but it sticks there as tenaciously as in other places.

A very excellent scheme is on hand promoted largely by Dr J R. Wallace of Calcutta, for establishing a training ship for Eurasian lads. This if successful will provide an outlet for a considerable number of the boys of this community who are now handicapped in many ways in getting employment, and moreover it will provide a training for them which will correct some of their Indian native habits. It will be still further useful as an ultimate recruiting ground for the mercantile marine.

Some very important sewage schemes are likely to be carried out in Bombay These concern the Malabar Hill district on the south and west, and some villages on the north and east of the island. It will be remembered that for part of Bombay City the Shone system is in force and it was at first proposed to extend this system to the Malabar Hill district It is now proposed to divide the district into three portions. One is to have the Shone system a second is to have the sewage treated biologically and the third will be drained partly by an arrangement of lifting the sewage into a gravitating station Most interest centres in the proposed septic tank which will be located near the foreshore. It will serve a population of nearly 6000 and 300 000 gallons daily of sewage flow are calculated for The sewage will first discharge into a closed septic tank and will flow through at the rate of a few feet per hour The effluent from the septic tanks, in which 80 per cent. purification is expected, will flow on to a series of six bacteria beds for final purification. The effluent will remain in these beds for from two to six hours according to the daily level of the tide. The resulting final effluent is expected to be free from any suspicion of sewage contamination. The gas from the septic tank will be used for lighting the installation at night. It is estimated to cost about £20,000 Some of the villages will be drained by open sewers as gradients for closed pipes are not possible and the sewage will be treated first by an open septic tank and afterwards on a sewage farm. It has previously been found at the Matunga sewage farms that one acre of land can successfully dispose of 5000 gallons a day Crops will be grown of lucerne and all kinds of vegetables. It is considered probable that the proposed farm will prove a paying concern. These schemes are the work of Mr C C. James who has been so successful with the biological treatment of sewage from the Matunga Asylum. The municipality of Calcutta is also very busy with its suburban drainage This was designed in 1896 and was made of larger diameter than if required for the drainage of sewage only There is a great conflict of opinion. The sewage is to be discharged from the high-level sewer into a tidal channel at a point about a mile distant from the inhabited parts of the town whence it will be discharged into the river by tidal action alone. The whole scheme is admittedly experimental and some authorities do not hesitate to foretell disaster A point hardly sufficiently considered appears to lie in the strong tides and great changes of level in the river Hoogly and I am not at all sure that this will not prove a danger to the sanitary condition of the river opposite Calcutta.

June 20th

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

The Coronation Honour to Professor Oliver J Lodge

THE liberal recognition of the medical profession in the list of Coronation honours has been received with much gratification while the rewards of merit which have fallen to distinguished men of science associated with medicine in many ways have also given the profession pleasure. The knighthood of Dr Oliver J Lodge, the Principal of the University of Birmingham is a case in point. Dr Lodge came to us two years ago from Liverpool where his splendid work for 10 years at the University College in that city had gained for him exceptional reputation as a pioneer in electrical research. In Birmingham his distinction is welcomed as a just tribute to his attainments as a contributor to scientific progress and as an able organiser and administrator in the new university

The Deaf and Dumb Institution

Among the valuable institutions in our midst few commend themselves more strongly to the benevolent public than those connected with the training of the deaf and dumb Yet even here the need for greater pecuniary support is felt. The annual meeting of the Deaf and Dumb Institution was held on June 19th, when the report stated that the ordinary expenditure was £7321 and the income £6200 The education of the children is provided for as a necessity under the Deaf and Dumb Education Act which has been in force for about eight years, it compels every child to be educated and in this institution the training is efficient and complete. By means of the apprentice system suitable training is provided and work is found for the pupils, so that their abilities can have full play The King has kindly consented to be a patron of this institution and every effort is being made to increase the income

Accidents in Birmingham

The rejoicing at the time appointed for the Coronation was in many cases not discontinued, though it might be chastened, on account of the serious illness of the King The occasion had been set apart as a time for jubilation, work had been discontinued, and there was an evident intention on the part of many to behave as if the holiday had been undisturbed. As a result there were numerous accidents to record in Birmingham At the General Hospital during 24 hours there were 75 casualties dealt with on Coronation Day and the same number on the previous day At the Queen's Hospital some 60 cases were dealt with during a similar period of 24 hours, all being more or less serious accidents and injuries The placing of lines for decorations so low down in the smaller streets that drivers and passengers on vehicles were caught by them in driving through the districts was responsible for several unpleasant injuries, leading to a protest by the coroner during the sitting of his court.

Hospital Sunday Fund in Birmingham

The annual meeting of the promoters of this fund was recently held to appoint a committee and arrange for this year's collection The date was fixed for Oct. 26th It was pointed out that since the fund was instituted £203,000 have been handed over to the medical institutions and charities of Birmingham, and a desire was expressed that no efforts should be spared to make the collection worthy of the occasion this year

Hospital Saturday Fund in Birmingham

The collection by this organisation is a splendid example of what may be done by well directed and systematic efforts In the principal workshops and factories of the city a collection is made week by week from the employés on behalf of the medical charities of Birmingham and the four convalescent homes belonging to the contributors to the fund. Saturday, June 14th, was set apart for the total amount to be handed in to the fund The street collection this year was wisely discontinued. A sum of £15,930 7*s* 8*d* has been received and it is expected that when the accounts are made up the year will be a record one

July 8th

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Liverpool Stanley Hospital Critical Condition

THE finances of the Stanley Hospital are considered to be in a very critical condition At the end of 1901 the debt on the institution was £5000 The worst feature of the matter consists in the fact that the expenditure exceeded the income by £1700 It would probably not be difficult to clear off the existing debt by a special effort on the part of the committee, but there is no concealing the fear that, unless the annual subscription list be considerably enlarged the hospital, or the greater part of it, may have to be compulsorily closed. At present 20 beds out of 80 are unoccupied, not because there is no demand for them, but because of the poverty of the charity The Stanley Hospital is situated in the poorest part of the city and is doing admirable work Last year the number of attendances of out-patients was 56,952. Only a statement of these facts is needed to bring out a liberal response to the appeal of the committee for funds in order to avert the catastrophe of closing an institution which has done so much good for the poor of the north end of the city The hospital has had a very good surgical record, and no less than five members of its honorary staff have been promoted to honorary posts at the Royal Infirmary

The African Association and the School of Tropical Medicine

The African Association, Limited, has given a further grant of £100 to the Liverpool School of Tropical Medicine

The Home for Epileptics at Maghull

At the annual meeting of the Home for Epileptics at Maghull it was stated that £800 were still required to enable the committee to claim the £1000 promised by Sir Alfred L Jones, conditionally on a further £9000 being raised, for the purpose of providing land to give employment to patients who had been trained to work and of extending the accommodation generally Towards this deficiency Sir Thomas Brocklebank has liberally supplemented his previous generous benefaction by contributing £250 The amount required is thus reduced to £550, and the committee is making a strenuous effort to prevent Sir Alfred Jones's generous offer from proving abortive.

The Coronation Honours

Dr Oliver J Lodge, F R S, one of the recipients of the honour of knighthood in the Coronation honours list, was appointed Professor of Physics at University College, Liverpool, in 1881 He held that position until 1900, when he became the principal of Birmingham University Dr Lodge has made important researches into the nature and properties of ether These contributions to science gained for him the honour of a Fellowship of the Royal Society —Major Ronald Ross, F R.S, late I M S, upon whom the distinction of a Companionship of the Bath (Civil) has been conferred, was for some time director of the Liverpool School of Tropical Medicine He conducted an important series of expeditions in the West Coast of Africa to investigate the origin of malaria. Major Ross is chiefly responsible for the investigations which established the association between malarial fever and mosquitoes In 1881 he entered the Indian Medical Service The special study of the life-history of malarial parasites was begun by him in 1892.

Proposed Sanatorium for Tuberculosis for Cheshire

The health committee of the Cheshire County Council has reported favourably on the desirability of establishing a sanatorium in Cheshire for the treatment of patients suffering from tuberculosis resident in that county Liverpool possesses a splendid institution of the kind at Delamere Forest, but Cheshire patients have scanty prospects of admission to that institution owing to its crowded condition

National Union of Sanitary Inspectors

The sixth annual conference of the National Union of Sanitary Inspectors was held in Southport last week Mr William Daley, chief sanitary inspector of Bootle, read a paper entitled, "Are the methods of disinfection as usually carried out by sanitary authorities efficient?" He asserted at the outset that the way in which disinfection was carried out rendered the work of dealing with infection abortive, and that men engaged in the prevention of the spread of disease were sometimes active disseminators of infection by transmitting the disease through their infected clothing Mr Bland (Urmston) Mr Pears (Wolverhampton), and Mr J J Weaver, the medical officer of health of Southport, took part in the discussion which followed, the latter advocated the old fashioned sulphur disinfectant

July 8th

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS)

Cottage Hospitals for Monmouthshire

THE question of establishing a cottage hospital at Tredegar in Monmouthshire has been under discussion for many months, and the workmen employed at the Tredegar collieries and ironworks have at length decided by ballot to contribute one halfpenny a week each towards the maintenance of the institution. By this means nearly £400 yearly will be raised. Lord Tredegar has given a site adjoining a large public park, and it is proposed to erect a building to cost about £2000 —At New Tredegar a hospital is to be erected and the whole cost of the building will be defrayed by the Powell Duffryn Colliery Company, while the maintenance and management will be in the hands of the workmen in this instance also the site has been presented by Lord Tredegar

Habitual Vagrants

As long ago as 1895 the master of the Ledbury workhouse suggested to a conference of Poor law guardians assembled at Malvern that farm colonies should be established to which habitual vagrants could be sent and detained and set to work. The Poor law Unions Association has now suggested a scheme embodying this principle and on June 20th the Bristol board of guardians supported the proposal of the association but expressed the opinion that the cost should be borne by the State rather than by combinations of unions. The scheme is briefly this—a vagrant found for the third time in a particular casual ward would be sent by a magistrate to a labour colony and detained there for a period of not less than one year and not more than three years; the vagrant would be given a percentage of his earnings at the time of his discharge and if there was evidence of his having acquired regular and industrious habits he could be let out on licence prior to the expiration of the period of his detention, able-bodied inmates of workhouses could be sent on the order of a magistrate to a labour colony, and the colonies would be classified according to trades and a labour bureau would be established in connexion with each colony The Bristol board of guardians considers that the 'way ticket system adopted in Gloucestershire and for some time in Berkshire should be made universal, so that *bonâ fide* working men travelling from one centre to another in search of work could be identified and separated from idle wanderers in the workhouses at which they called.

Brentry Home for Inebriates

At the meeting of the Somersetshire County Council held on July 1st it was decided on the casting vote of the chairman to contribute an additional sum of £250 to the Brentry Home for Inebriates. During the discussion of the question there was considerable difference of opinion as to the usefulness of the institution in which there is now accommodation for 200 patients and which has for the past six months been able to pay its way Mr Warry K.C said that his experience of 30 years in the administration of criminal justice of every form led him to think that inebriates homes were not worthy of their contribution. while Sir Edward Fry on the other hand advised the council to continue to support the home the reports from which showed that it was doing good work.

Mr Andrew Carnegie's Libraries.

Mr Andrew Carnegie has presented £2000 to Bridgend for the erection of a free library £6000 to Merthyr for a central library and six branch libraries, and £8000 to Barry for a central library In the case of Barry it has been the intention of the district council for some years past to expend £2000 upon a library building and if this sum is now utilised in the erection of a much needed small pox hospital Mr Carnegie's gift will have an added value. Is there no millionaire who could be persuaded to scatter isolation hospitals over the country as Mr Carnegie is distributing free libraries?

Health of Cornwall.

The sanitary committee of the Cornwall county council in its annual report for 1901 which has just been issued states that the population of the county is estimated at 322,808. The births numbered 7902, corresponding to a rate of 24 47 per 1000 The deaths amounted to 5154 giving a death rate of 15 96 per 1000 291 deaths were caused by cancer being 28 in excess of those in 1900 The mortality from consumption was stated to be 1 49 per 1000 as compared with 1 38 in the preceding year

Vaccination Expenditure

At the meeting of the Chepstow board of guardians held on July 3rd the vaccination committee presented its report upon the fees paid to the public vaccinators. The amount of these fees being considered excessive a committee was appointed to go into the matter but instead of being able to suggest any reduction in the fees it recommended increasing them in four districts The committee stated that in two districts the public vaccinator had been only charging 6*s* 6*d* per case whereas he was entitled to 8*s* The committee pointed out that the public vaccinators had often to go three, four and even six times to the people's houses, for it was most unusual for two visits to suffice, and there was also a large amount of clerical work. The guardians, after some discussion during which the Vaccination Act was much condemned by some of those present, decided to follow the recommendation of the committee and also to pay the public vaccinator the difference of the fees which he had undercharged.—At the meeting of the Devonport board of guardians held on July 4th a considerable discussion took place with regard to the question of revaccination fees It was pointed out that in the opinion of counsel those who published the names of persons who had been revaccinated might get themselves into trouble for the Vaccination Act was intended to apply to all alike both rich and poor Eventually the following motion was carried —

> That requests be made for repayment of fees by those who in the judgment of the Finance Committee, are in a position to pay

At the meeting of the Penzance board of guardians held on July 3rd it was reported that the cost of revaccination during the past six months amounted to £83. One of the guardians moved that all the guardians should do all in their power to get the Vaccination Act amended. After some discussion this was carried.

July 8th

PARIS

(FROM OUR OWN CORRESPONDENT)

The Treatment of Addison's Disease by Injections of Suprarenal Extract

AT the meeting of the Therapeutical Society held on June 25th M Hirtz read notes of two cases of Addison's disease in which recovery had followed the use of suprarenal extract. One patient in addition exhibited definite tuberculous pulmonary lesions and these healed rapidly under the treatment. Encouraged by these results M. Hirtz has tried the drug in other tuberculous affections and these cases also appear to be doing well.

Medical Institutions in Madagascar

At the meeting of the Academy of Medicine held on July 1st M. Kermorgan read a report upon recent medical organisation in Madagascar General Galliéni started a medical school 16 hospitals five lazar houses a maternity hospital and four infirmaries. By the end of 1902 there also will be in working order 10 hospitals, one lazar house, a lunatic asylum, and a sanatorium for tuberculous patients The Malagasys's notions of hygiene leave much to be desired for they neglect the most elementary rules on the subject and personal cleanliness is almost unknown among them Some of their customs are deplorable—for instance they keep their dead three or four days before burial during which time they hold a regular wake accompanied by a gorge of food and alcohol. Once a year too they visit the tomb take out the corpse and change the grave clothes The houses are badly built and badly ventilated the ground floor being shared in common by cattle and men. Among the most frequent diseases are malaria, tuberculosis leprosy, and alcoholism. In order to fight against this last scourge General Galliéni begs all officials and soldiers to set an example of moderation.

The Residents at the Lariboisière Hospital

Last March relations between the Assistance Publique and the resident hospital officers (*internes*) became very strained. The latter whose pay varies from 50 to 80 francs per month asked the faculty that they should not be compelled to live in the hospital but should receive instead the allowance of 50 francs per month to which they are entitled by the regulations of the Assistance A special committee was appointed to inquire into the matter and this committee reported that the old system should be adhered to seeing that the interests of the patient demanded that some one should always be on duty in the hospital. Fresh difficulties have now arisen between the resident officers of the Lariboisière Hospital and the authorities of that institution. The residents have just given up attending in the duty room They have moreover written a long letter to M. Mourier the Director of the Assistance Publique in which they set forth certain grievances which they have against M. Faure the director of the hospital. They maintain that the only way out of these difficulties is that they should be allowed to live outside, coming in with the surgeon or physician of the day and also making the usual round of the wards in the evening They also ask M Mourier to see that the men on duty in the hospital should have *déjeuner* or dinner according to their period of office. M. Faure declares that all this to do is owing to females having been forbidden entrance to the duty rooms. This rule was recently made obligatory on all the hospitals, but M Faure was the first to carry it out.

July 9th

CANADA

(FROM OUR OWN CORRESPONDENT)

Ontario Medical Association

ONE of the most successful annual meetings of the Ontario Medical Association was that which was held in the city of Toronto on June 4th and 5th. Nearly 200 medical practitioners were present, all sections of the province being represented, and as evidence of the interest taken in this association fully two-thirds of the papers were contributed by physicians residing outside of Toronto Dr Newton Albert Powell, the president of the association, occupied the chair, while Dr Harold C Parsons, also of Toronto, discharged the duties of secretary Dr John T Fotheringham had charge of the committee on papers and business and Dr J Milton Cotton, also of Toronto, of the committee on arrangements

Six excellent papers were read at the morning session of the opening day Deformities Consequent upon Injury, either Traumatic or Pathological, to the Epiphyseal Cartilages, in Long Bones, by B E McKenzie of Toronto, Some Points in Life Insurance, by John L. Davison of Toronto, Transplantation of the Omentum into the Abdominal Wall for the Relief of Ascites due to Cirrhosis of the Liver, by George A. Peters of Toronto, The Cure of Chronic Bright's Disease by Operation, by Alexander Primrose of Toronto, Tonsillar Hypertrophy, its Operative Treatment, and the Comparative Value of the Different Methods, by Perry G Goldsmith of Belleville, and Some Comparative Results of the Medical and Surgical Treatment of Appendicitis, by J P Armour of St. Catherines All these papers were provocative of interesting and valuable discussions, especially that on life assurance by Mr Davison. As medical director of a large Canadian life assurance company Mr Davison emphasised the importance of medical examiners making accurate returns of their examinations, pointing out at the same time that it would be of very great service to the medical director of any company if examiners would send them a private letter on the condition of the applicant, which letter would always be held strictly confidential Mr Davison gave some interesting statistics showing the amount of money which insurance companies were paying annually to the medical men in the United States and also in Canada. The discussion turned mainly upon the fee paid for such examinations, the consensus of opinion being that three dollars for a minimum policy was too small, it ought to be at least five dollars. Another paper which was listened to with a good deal of attention was that by Dr Peters on the transplantation of the omentum Dr Peters exhibited this patient, a man, apparently 50 years of age, who was now seemingly in sound health Photographs were exhibited showing the enormous abdominal distension prior to operation, and in illustrating this still further Dr Peters got his patient to draw on a pair of pantaloons which he had worn when his abdomen was distended. The waist-band of these trousers measured 64 inches

On the assembling of the meeting in the afternoon Dr Powell delivered the annual presidential address The points mainly touched upon had relation to the medical legislation before the Ontario Legislature and the Dominion Parliament at their last sessions respectively Regarding the attempt made to reform the Ontario Medical Council by the elimination of the homœopathic and college representatives from that body, the President stated that he had considered it his duty as chief executive officer of the association to oppose that legislation because it was not fair, having once made an honourable bargain with the homœopaths, to cancel it *in toto* without as much as saying "by your leave." Referring to the measure for a Dominion Medical Council, so successfully promoted and carried through the Dominion Parliament by Dr Thomas G Roddick, M P, he thought the Bill had been so emasculated that it was now practically a measure for neither very much good nor very much evil. The amendment to the Canada Evidence Act providing in medico legal cases for a board of expert witnesses from three to five in number he considered a move in the right direction.

The regular business being again resumed, Dr J Algernon Temple, Professor of Obstetrics in the Trinity Medical College, Toronto, presented a paper on Ventro Fixation, its Value and Results. Dr Temple condemned this operation which he considered both impracticable and unscientific The meeting here divided into sections. In the Obstetrical section the following papers were read and discussed Placenta Prævia, by H D Livingston of Roacwood, How Best to Meet Obstetric Emergencies, by C J C O Hastings of Toronto, Notes on Five Cases of Ectopic Gestation, by R B Webster of Ottawa, and the Treatment of Septic Abortion, by Kennedy McIlwraith of Toronto In the Medical section the following were the papers Pneumonia, by David Hoig of Oshawa, The Treatment of Pneumonia, by J C Mitchell of Enniskillen, A Recent Epidemic of Cerebro-Spinal Meningitis, by Alexander McPhedran of Toronto, Primary Tracheal Diphtheria, by R. D Rudolf of Toronto, Where can our Consumptives Best be Treated? by J H Elliott of Gravenhurst Sanatorium, and Pleurisy with Effusion, by D. Gilbert Gordon of Toronto

"Medical Testimony in Courts of Law" was the title of an interesting and timely address delivered at the opening of the evening session by His Honour Judge MacDougall of the County Court, Toronto His Honour pointed out how conflicting medical and other expert testimony often was, which he considered arose chiefly out of the method of securing and employing such witnesses For this he suggested the remedy which would make the expert an assistant or adviser to the court And their reward should not depend upon the parties in the suit but should be provided by the State He considered that the new Act limiting experts to three, or five if asked for before the trial began, was a move in the right direction He urged medical men to give their testimony in popular and not in technical language Mr I H Cameron, M.B Toronto, discussed the paper Mr Cameron has had a great experience as a medical expert and his opinions were listened to with great interest. He thought that the popular criticism of the experts was a harsh one, because the public did not understand the difficulties under which the experts worked, as they were not testifying upon facts but simply giving opinions on facts He considered that unanimity could not be expected in the present state of medical science, which rendered two views possible and likely in every case All medical men would welcome any such change in the law as that suggested by Judge MacDougall Then followed a paper on the Status of the Hospital Interne in Ontario, by Dr H. S Hutchinson, himself a resident of the Toronto General Hospital. He favoured a change from the present system prevailing in the hospitals of the province Now they were appointed all at once at a stated time for a year's service. An eighteen months' service would be better—appointments to take place every six months "Dry Labours" was the title of an able paper contributed by Dr Adam H. Wright, Professor of Obstetrics in the Medical Faculty of Toronto University Dr Wright described his method of dealing with these cases and recorded observations on 22 cases. Two lantern demonstrations concluded the evening's programme. The first was conducted by H A. McCallum of London and was on Functional and Organic Diseases of the Nervous System, and the second was by C A. Hodgetts of Toronto, inspector to the Ontario Board of Health, and was on Anomalous Forms of Small-pox. Both of these demonstrations were highly educating and eminently practical

The morning of Thursday was very largely given up to the presentation of clinical cases This proved a new and interesting feature, an improvement on the addresses in medicine and surgery which were wholly eliminated from this annual meeting The following were some of the cases presented, reported, and discussed Situs Inversus in a Child, Leontiasis Ossea, Scleroderma, Charcot's Disease of the Hip (in a young man aged 30 years), Pseudo Hypertrophic Muscular Paralysis, Muscular Dystrophy, Lateral Sclerosis, Adenoma Sebaceum (in a young woman aged 23 years), showing the little tumours well at the side of the nose and on the cheeks (by Graham Chambers of Toronto), An Unusual case of Varicose Veins, Extensive Necrosis of the Skull, Chronic Hereditary Trophœdema of the Lower Extremities, Fracture of the Pelvis in a Child, with Complete Laceration of the Perineum by the Ramus of the Pubic Bone, Subsequent Repair of the Perineum and Bowels and Recovery, Removal of

Stones from the Common Bile Duct Notes of a Patient whose Abdomen had been opened Eight Times, Three cases of Transplantation of the Ureters into the Rectum for Exstrophy of the Bladder, one in an infant girl one in a boy aged six years, and the other in a lad aged 12 years (by George A. Péters of Toronto), An Unusual Case of Multiple Peripheral Neuritis Urticaria Pigmentosa, Marked Disability Arising from Fracture of the Coccyx, Recovery by Amputation of the Coccyx, Chronic Intestinal Obstruction Cured by Operation Three cases of Pyothorax, and a case of Splenic Leukæmia. After the presentation of these very interesting cases the meeting divided into surgical and medical sections

In the surgical section papers were contributed on the x rays and patients shown as follows The Uses of the X Rays other than Diagnostic, by C R. Dickson of Toronto, The Use of the X Rays in Cancer Lupus, and Hodgkin s Disease, by J E. Hett of Berlin and Results that are being Obtained by the Use of the X Rays by John MacMaster of Toronto Three other papers were also contributed to this section Stricture of the Œsophagus by Beverley Welford of Woodstock, Hydrobromic Ether Notes upon its Use as an Anæsthetic in Adenoid and Tonsil Operations by J Gibb-Wishart of Toronto and The Use of Indiarubber Splints in the Deflected Nasal Septa, by J Price Brown of Toronto

The following papers divided the attention of the audience in the Medical Section Climate and Health Resorts of the South Western States of America, by Dr C. D Parfitt, superintendent of the Free Hospital for Consumptives at Gravenhurst, Some Unusual Cases of Syphilis of the Brain and Lungs by Graham Chambers of Toronto Cerebral Embolism, by John Gillies of Teeswater How Much Ophthalmology should the General Practitioner know with Special Reference to the Discovery of the Cause of Headaches by J T Duncan of Toronto Tabes Dorsalis with Involvement of the Cranial Nerves (with presentation of the patient, a man aged 55 years) by H B. Anderson of Toronto, A Case of Brain Tumour with Interesting Localisation Symptoms (with Specimen), by W B Thistle of Toronto, and a Case of Acute Nephritis, by John Hunter of Toronto

The members adjourned at the close of the morning session to a luncheon provided by the committee of arrangements. Dr Powell presided and on his right was Dr Roswell Park, the eminent American surgeon from Buffalo as a guest of the association To the many toasts there were bright and happy responses particularly from perhaps, the oldest practitioner in the province, Dr Harrison of Selkirk who has been practising over 50 years and still continues to practise. He recalled the Coronation of Her late Majesty Queen Victoria and gave many quaint and interesting reminiscences of practice in Canada 50 years ago. On returning after luncheon to the amphitheatre Dr Roswell Park read a short paper on the Surgery of the Gall bladder particularly describing Finney s method of dealing with the gall bladder similar to that for a diseased appendix Dr Ingersoll Olmsted of Hamilton discussed the paper He had performed this operation three times with distinct success. The reading of the following papers closed the session —Fractures of the Shaft of the Femur by Hadley Williams of London Removal of the Gasserian Ganglion for Trigeminal Neuralgia, with exhibition of patient, by H. A. Bruce of Toronto Cancer of the Breast, by T K. Holmes of Chatham, Technique of the Removal of Tuberculous Cervical Glands by L. W Cookburn of Hamilton Abdominal Neuroses by D Campbell Meyers of Toronto and Remarks upon Some Eye Cases by George H. Burnham of Toronto Dr A. R. Robinson and Dr S. A. Knopf were present from New York the latter delivered a short address The following officers were elected President, J O Mitchell, Enniskillen Vice-President, George A Bingham Toronto Treasurer Andrew R. Gordon, Toronto and General Secretary Harold C. Parsons Toronto.

June 23th

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

Public Baths for New York

AT the present time New York proper with a population of 2,000 000 has one public permanent bath building It is now proposed to construct three more for which the city has appropriated $105 000 These are to be opened in July 1903—that is if the contractors do the work in time The buildings will occupy lots measuring 50 by 100 feet and will be suitably furnished for the class of persons who will frequent them. Of the 14 floating baths which the city maintained last year seven are to be closed for sanitary reasons These baths have been on several occasions suspected of being the means of conveying contagion and were the subject of a report by Mr Tucker to the tenement house committee.

Cholera among American Troops in the Philippines

The news from the Philippines with regard to the spread of cholera has of late been extremely disquieting The disease for a considerable time has been prevalent in and about Manila, but has always been reported as being confined to the natives. Latterly, however the reports have stated that the malady has broken out among the soldiers General Chaffee advised the War Department at Washington recently that the army in the Philippines is seriously affected by cholera. Despatches sent out from Manila on June 21st stated that cholera was spreading in the islands. The total number of deaths up to June 21st were 1197 in Manila and 5098 in the provinces, while later reports say that nearly 100 men of the United States Army have succumbed to the disease. The United States Military Medical Department of the Philippines fully recognises the gravity of the situation and is taking energetic measures to stamp out the disease.

Annual Meeting of the American Medical Association.

The annual meeting of the American Medical Association which took place at Saratoga Springs on June 10th, 11th and 12th was on the whole a success. Dr John Allan Wyeth of New York made an efficient president and delivered a practical address The meeting was the first held under the new scheme of reorganisation, the House of Delegates being in charge of the business not directly medical or scientific, thus relieving the pressure of work on the general sessions. The attendance was not nearly so large as had been expected only about 1500 members being present. It is believed that next year when the Committee on Revision of Code of Ethics has proceeded to work, complete harmony will be established between the New York State Medical Society and the National Medical Association.

Hospitals for Contagious Diseases in New York City

The inadequacy of the facilities for dealing with contagious diseases in New York city has long been recognised and many scandals have occurred during the prevalence of smallpox within the past two years owing to the insufficiency of such means The condition of affairs in this respect in the boroughs is far worse than in New York itself for while the city has a contagious hospital of a kind the boroughs provide no means whatever for dealing with patients who need to be segregated The board of health recently applied for an appropriation of $1,025 000 (£205,000) to initiate the necessary reforms, but the board of aldermen was of opinion that such an amount was excessive and voted $500 000 (£100 000) for the purpose—a sum on the face of it wholly inadequate. Not only is the North Brother Island Contagion Hospital much too small badly built, and in every way ill suited to the requirements of a city of the size of New York but there is a corresponding lack of proper means for the conveyance of patients to the isolation hospital. The president of the board of health referring to the situation says The department is not able to care for all the cases of scarlet fever diphtheria and measles as it should properly do. It is also admitted that the hospital plants in Manhattan and in the borough of the Bronx have for many years been in need of additions and alterations.

Social Purity in the Army

Surgeon General Sternberg reported some time since that the Board of Health of Manila had instituted measures for the control of the spread of venereal diseases by infected women of the town by segregating them in certain parts of the city and by a careful system of medical supervision of prostitutes. Thereupon the President caused an official order to be issued by the Secretary of War directing the attention of officers and enlisted men in the army especially of those serving in the tropics, to the following facts. The only really efficient way in which to control diseases due to immorality is to diminish the vice which is the cause of these diseases. It is the duty of regimental and particularly of company officers to try by precept and example, to point out to the men under their control, and particularly to the younger men, the inevitable misery and disaster which follow upon intemperance and upon moral uncleanliness and vicious living The officers should, of course, remember always that the effect of what they say must largely depend upon the lives which they themselves lead. It is in the highest degree necessary that each officer should be an example to his men in the way of temperate and cleanly living He should point out, using the utmost tact, discretion, and good sense, to the men that venereal disease is almost sure to follow licentious living, that it is never a trivial affair, and that it is criminal folly to believe that sexual indulgence is necessary to health Every effort should be made to promote throughout the army a cleanly and moral tone, in word no less than in deed As a nation we feel keen pride in the valour, discipline, and steadfast endurance of our soldiers, and hand-in hand with these qualities must go the virtues of self-restraint, self-respect, and self control

July 1st.

Obituary.

ALEXANDER E MARSDEN, M D St And, F R C S. Edin

The death of Dr Alexander E. Marsden, chairman of the general committee of the Cancer Hospital, Brompton, London, S.W, took place on Wednesday, July 2nd He was born in 1832 and was the son of William Marsden, the founder of the Royal Free and Cancer Hospitals. In 1854 he entered the army as a staff assistant surgeon, served at the General Hospital, Scutari, for three months with Miss Nightingale, then in the trenches before Sebastopol with the 38th regiment, and later as surgeon to the ambulance corps. He was one of the first to enter the city of Sebastopol. For more than 50 years he worked in the interests of the Royal Free and Cancer Hospitals and greatly contributed to their success, particularly of the latter institution He long occupied the position of consulting surgeon to these institutions and was also one of the trustees and member of the committees of each At the Royal Free Hospital he also occupied the position of curator of the museum and for some time was general medical superintendent. At the Cancer Hospital he likewise acted in this capacity, besides devoting a large amount of his time to the management and general welfare of the charity In 1898 he was elected Master of the Worshipful Company of Cordwainers.

Deaths of Eminent Foreign Medical Men —The deaths of the following eminent foreign medical men are announced —Dr Nawrocki professor of physiology in Warsaw, aged 64 years.—Dr Eduard Schider, a well-known physician of Gastein.—Dr *Bizarelli*, *senator of the* Drôme —Dr Dheilly, formerly professor of medical pathology in the Amiens Medical School.

Medical News.

Society of Apothecaries of London —At the primary examination the following candidates have passed in the subjects indicated —

Part I

Biology—L. W Bradshaw Leeds

Chemistry—F M. Cunningham Royal Free Hospital; C A. Mortlock Brown, University College and C E Pring Royal Free Hospital

Materia Medica and Pharmacy—H. F Briggs, University of Michigan J M. Burke, Cork and Middlesex Hospital, W H A Elliott, Leeds and A. R. McEnnery St. Mary's Hospital.

Part II

Anatomy—H. H. R Bayley Charing Cross Hospital E. H G Duncan, St. Bartholomew's Hospital W H A. Elliott, Leeds W F H Ives, Charing Cross Hospital G B Messenger, Westminster Hospital N H Oliver, Guy's Hospital E. D Richardson, St. Mary's Hospital G Rollason, Birmingham C A. Sampson, Charing Cross Hospital; and I. T Walker, St. Thomas's Hospital

Physiology—H. H R. Bayley, *Charing Cross Hospital*, E H. G. Duncan, St. Bartholomew's Hospital, W H. A Elliott Gamble, Leeds; G. Heathcote, Manchester; W. B. W. F H. Ives, Charing Cross Hospital; H. M [illegible]

[illegible]

[illegible] B[illegible]NGHAM —The following is a [illegible] Me[illegible]

I [illegible]

II [illegible]

Lunn, Robert Arthur Lyster, James Ronald Poison, and Ebbage Utting

III *Fourth Examination for the degrees of M.B.*, Keay Gettings and Robert Beatson Dennis Hird (Scholarship)

IV *Third Examination for the degrees of M.B., Ch.B*—Class William Cook, Cuthbert Keay Gettings, and Alfred [illegible] Remmett Weaver Class II: William George Aviss, Fred Hollway Davies, Robert Beatson Dennis Hird, Leonard Joseph Mackey, Fred Newton Walsh, Herbert Henry Warren, Edmund Wilkinson

V *Second Examination for the Degrees of M B, Ch B*—Class II Joseph Bernard Dawson (Scholarship [illegible] Glissan and Norman John Lancelot [illegible] Wallace Aitken, Reginald Hudson [illegible] Bunting, Helen Gertrude Greener, Wil[illegible] Cuthbert Houghton, Henry Percy [illegible] Ravenhill, and Claude Edward Tangye

VI *First Examination for the Degrees* [illegible] Mary Clarke (Scholarship) Class II: A[illegible] Johnson, Arthur Addison Sanders, [illegible] Francis Brett Young

VII *Degree of Master of Dental Surgery* [illegible]

VIII *Degree of B Sc in Public Health* [illegible]

IX *Diploma of Public Health*—Part [illegible] Beards

University of Dublin [illegible] —At examinations held at the School [illegible] the following candidates were succe[illegible]

Previous Medical Examination. A [illegible] *Medicine*—William J Powell, Mor[illegible] George Mac G Millar, John A. Pring[illegible] T Thunder, Benjamin Johnson, Ho[illegible] Nesbitt, Thomas Creaser, Carlile Kelly [illegible] R Coppinger Robert Magill, Vincent [illegible] Charles R Morris John W Burns, [illegible] Geoffrey Friel and William Hassard

Final Examination Section B—Thomas H. Gibbon, William [illegible] M Neight, Seaton S Pringle, Alexander H. Marks, John H. Torney Robert J Fleming Anthony H Corley, Reginald H. Lee, Thomas W Crowley, Charles A. Stone, David C Pearson, and Maurice Fitz Gibbon

Royal College of Surgeons in Ireland —The following candidates have passed the primary part of the Fellowship examination —G P A. Bracken, J J Connolly A. N Crawford, C A Cusack, R. W D Leslie, T. G C Leslie, W F B Loughnan, J C Murphy; J Pratt, and J S Sheild

Foreign University Intelligence.—*Barcelona* Dr Vallejo of Lobón has been appointed to the chair of Clinical Medicine in succession to the late Dr Robert [illegible] *Berlin* Dr Leopold Landau, *privat-docent* of Midwifery and Gynæcology, has been promoted to an extraordinary professorship Dr Rudolf Jürgens, who *already enjoys* the title of Professor, has been recognised as *privat-docent* of Pathological Anatomy. Dr Magnus-Levy has been recognised as *privat-docent* of Medicine.—*Bordeaux* Dr Bergonié has been appointed to the chair of Biological Physics and Medical Electricity —*Cr*[illegible] Dr [illegible] Godlewski has been recognised as [illegible] Descriptive Anatomy and Embryology [illegible] Alfred Hoche of Strasburg has been [illegible] chair of Psychiatry in succession to Dr Emminghaus.—*Halle* Dr Karl Heilbronner, *privat-docent* of Psychiatry has been promoted to an extraordinary professorship—*Heidelberg* Professor von Rosthorn of Prague has been offered the chair of Midwifery which Dr Kehrer is about to resign.—*Kiel* Dr Karl von Korff has been recognised as *privat docent* of Anatomy —*Königsberg* Dr Victor Hinsberg of Breslau has been recognised as *privat-docent* of Otology and Laryngology —*Lausanne* Dr S Rabow, Professor of Pharmacology, is retiring Dr Roud has been appointed Extraordinary Professor of Anatomy —*Lemberg* Dr P. Kuczera has been recognised as *privat-docent*

MR CHAMBERLAIN'S ACCIDENT —Mr Chamberlain left Charing Cross Hospital on July 9th On July 7th he passed a good night and during July 8th had some refreshing sleep. He has had no rise of temperature, but it was considered as well that he should remain in the hospital for a time. The bone in one place was laid bare, the pericranium being stripped up for a short distance but the hæmorrhage was easily controlled on the wound being dressed by the house surgeon on duty and the resident medical officer

INTELLIGENCE.—Messrs vorth
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exhibition at the Drill hall and Barnfield Hall will be opened by the Earl of Iddesleigh President of the congress On the 21st addresses will be delivered at the Royal Albert Memorial College by the President of Section 1 at 10 30 A.M and by the President of Section 3 at 2.30 P M at 7 30 P M the Earl of Iddesleigh will deliver an address at the Victoria Hall. On the 22nd addresses will be delivered at the Royal Albert Memorial College by the President of Section 2 at 10 30 A.M and by the President of Section 5 at 2.30 P M from 8 to 11 P M there will be a conversazione at the same place. On the 23rd an address will be delivered at the Royal Albert Memorial College by the President of Section 4 The annual dinner will take place on the 25th at 7 30 P M On the 26th Dr W R. Smith who is President of the institute, will deliver a popular lecture and the closing meeting will be held on the 27th. Arrangements will be made for visits to Torquay during the annual Royal Regatta and for daily visits to the new septic tank sewage installations and also to the new extensions of the city water supply A subscription of one guinea entitles the subscriber to all the local advantages of the congress Over 450 delegates to the congress have up to the present date been appointed by various town councils, county councils and other local authorities It is stated that the principal railway companies have agreed to issue return tickets at a fare and a quarter to persons attending the congress on production of a certificate which will be supplied by the joint honorary secretaries in Exeter Mr Edward J Domville, Mr Edwin Henrin and Dr Ransom Pickard.

DONATIONS AND BEQUESTS —By the will of Mr Charles Barraclough of Rochdale £1000 are bequeathed to the Rochdale Infirmary £1000 to the Bradford Yorkshire Infirmary £1000 to the Royal Albert Asylum for Idiots Lunatics and Imbeciles at Lancaster and £100 to the
Society for Visiting and Instructing
of Miss Matilda Emily Baddams of
he Victoria Hospital Southend
ospital Shadwell £2000 to the
al road, £1000 to the Consump-
£1000 to the Cancer Hospital
ary's Hospital Paddington, and
al East India Dock road. The
beds to be called the 'Matilda
ome beds.—Colonel the Right
rde P C., of Seaforde, Clough
Down who died on Feb. 8th by
to the Stewart Institution for
almerston and £1000 in trust for
nary Downpatrick.—Miss Swasbrook
ter by her will bequeathed £100 to
nd the Ear and Throat Institution.

RDIANS AND VACCINATION —
St. Germans (Cornwall) board of
ly 3rd, a communication was read
rnment Board asking for observa
rom the public vaccinators. The
alluded to in THE LANCET of
, that in consequence of the vacci
required at the workhouse on five
public vaccinators were unable to
ments of the Vaccination Act One
that the vaccination fees for 1901
s this year they already amounted
lered this a sufficient reason for
A long discussion followed and
instructed to inquire of the Local
nother private patients were allowed
ors if they were so disposed, (2)
inators were justified in refusing to
a from patients, and (3) whether
iring revaccination should not be
he surgery instead of the public
r homes.

COLLEGE —The annual report
2 states that at the beginning of
there were 38 pupils at the college
to Bombay Presidency and 10 to
ber of military medical pupils on the
time is 46.—Dr N F Surveyor has
n his research work in pharmacology
Petit Laboratory At first he made
a few experiments with sodium saccharate with a view to determine its maximum dose. He has now commenced a series of metabolism experiments and has also been carrying on some observations on the excretion of urobilin in urine of phthisical and septic cases and also on leucocytosis in diseased conditions with Dr R. Row Dr R. Row is continuing his work of original investigations on typhoid fever in the same laboratory The difficulties arising from want of space for anatomical teachings have been to a certain extent overcome by the erection of a temporary shed for dissection in the College Compound and Government has sanctioned the plans and estimates amounting to Rs.78 671 for new anatomical buildings which are now being erected. The report also states that the donation of H. H the Gaikwar of R. 5000 has been thankfully accepted by Government and as a temporary arrangement in this connexion a lectureship on Diseases of the Ear and Throat has been established for five years.

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power in the alimentary canal and that if a food escapes from the stomach without being digested it will almost certainly be satisfactorily dealt with in the duodenum, and if not there then in the small intestine So that the mere fact that the stomach has struck work does not constitute a necessity for recourse to artificial pre-digested foods unless the *motor* power of the stomach is also deficient. I mean by this that so long as the stomach can drive its contents into the bowel there will be no restriction of digestion worthy of the name. As a fact in pathological chemistry pepsin is almost never absent from the gastric juice unless hydrochloric acid is also absent. If you can find hydrochloric acid in the stomach pepsin is sure to be there too. Of course you know that the cases in which hydrochloric acid is absent from the stomach are very *few* it is often in excess, in the condition known as hyperchlorhydria, but it is rarely absent or so reduced as to make any necessity for pre-digested foods

4 If one considers next the question of increasing any particular constituent of the diet one may ask is it not beneficial to have recourse to artificial foods for this purpose? Here again, one must admit that we do not know enough about nutrition to say what is the value of enriching the diet in these respects. If you are asked in what direction you want to enrich the diet in a particular case and why if you are honest I feel sure that you will say that you do not know There are some diseases, such as diabetes, in which you want to enrich the diet in fat. The diabetic who makes little use of carbohydrates must find some substitute for them, and that substitute is forthcoming in the shape of fat. With regard to carbohydrates there are very few conditions in which you wish to enrich the diet in that respect. What we want to do quite often is to enrich the diet all round we want to feed the patient up, especially in the case of convalescents In that case the best thing is to increase all the constituents—the proteids, the carbohydrates, and the fats. To accomplish that there is no easier way than to get the
at to drink such a food as milk with

story of the leper who was told to bathe in the ri
the treatment was too simple for him. If you t
drink milk or to take any ordinary food he will
no heed to your advice but if you tell him th
so s patent food which he has some trouble
which he has to pay a good deal then he will
large quantities of it and boast that he is d
that aspect which justifies the introduction o
into practice But all the more on that accou
us to know at least something of the chemic
of those foods and not to delude ourselves i
that we are feeding a patient up and giving
amount of nourishment when we are only de
prejudices.

Now we come to consider the composition of
foods, and to enable you to follow better what
on that point I have put into your hands a rou
tion of most of the patent foods at present in
I do not pretend to say that this classification
or logical it is impossible with illogical
patent foods to get a really logical classif
divided them into five great groups.

CLASSIFICATION OF P

I *Foods intended to supply special nu*
  1. Proteid foods.
    (i.) derived from meat—meat powd
    (ii.) " milk—e.g. Nutro
    (iii.) vegetable sources
    (iv.) mixed sources—e.
  2. Carbohydrate foods—e.g. malt ex
  3. Fatty foods.
    (i.) Cod liver Oil Emulsion.
    (ii.) Petroleum Emulsion.
    (iii.) Pancreatic Emulsion
  4 Mixed fatty and carbohydrate foo
II *Beef Extracts* (see Table I.)
III *Beef Juices* (see Table II.)
Peptonised Foods (see Table III.)
  (a) solid—e.g., Somatose, Pepton
  (b) liquid—e.g. Panopepton W
ool (see Table IV

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Housing of the Working Classes

THE Select Committee of the House of Commons on the repayment of loans by local authorities has issued its report and on the subject of schemes for the housing of the working classes it recommends that the maximum period for the repayment of loans should be extended to 80 years The following two paragraphs appear in the report viz :—

> 60 It has not appeared to the committee to be within the terms of their reference to express an opinion upon the question whether the supply of such houses by private enterprise or benevolence has been checked in any case by municipal competition, either actual or anticipated They consider that the sole question with which they are called upon to deal is whether local authorities are unduly hampered by the periods allowed for repayment of loans for the construction of dwelling houses in cases in which such construction is forced upon them either by the legal necessity for re-housing persons displaced by their demolition works or by the proved inadequacy of the supply of houses for the working classes in their district
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> 61 The reluctance of ratepayers to allow any part of the cost of works to be thrown upon the rates appears to be particularly strong in the case of housing works which, if open market rents are not enforced, confer special advantages on certain individuals This feeling, so far as it exists with regard to the re-housing of displaced persons, is probably founded upon a misapprehension both as to the moral and sanitary benefits which all existing ratepayers derive from the demolition of unhealthy dwellings and as to the real annual cost which is thrown upon the rates by the actual re housing part of municipal schemes

The Midwives Bill

The passage of the Midwives Bill during the present session of Parliament may now be regarded as absolutely certain No changes of substance were made in it in the House of Lords either in Committee of the whole House or before the Standing Committee and there is no prospect of conflict between the two branches of the Legislature As a matter of form the amendments made in the House of Lords will be presented to the House of Commons for its approval Only one division was taken during the Committee stage in the House of Lords and that was upon the section providing a penalty for women who after 1910 habitually and for gain attend confinements without being certified under the Act The Lord Chancellor raised the old question of the friendly neighbour in the rural parishes and spoke in very much the same sense as Mr Jesse Collings did in the House of Commons Though the Duke of Devonshire, President of the Privy Council, made no speech he voted with the Lord Chancellor in the lobby against the section The position of the General Medical Council with regard to the approval of the rules framed by the Central Midwives Board has not been substantially altered As Clause 3 now stands the rules will be valid only if approved by the Privy Council, and the Privy Council before approving them must take into consideration any representations made by the General Medical Council. The words saying that the rules must be submitted to the General Medical Council have disappeared from the clause but it is obvious that the Council must have the rules before it if it is to make any representations with regard to them

Long Hours in the Fruit preserving Trade

This subject was discussed in the House of Lords on Tuesday, July 8th It was introduced by Earl BEAUCHAMP who contended that if jam makers used thoroughly fresh and sound fruit and took proper precautions for its handling they would not require to keep their employés at work for excessive hours For the Home Office Lord Belper explained that new regulations for this trade have been issued under the Factory and Workshops Act of 1901 and he asked for them a fair trial

HOUSE OF COMMONS

WEDNESDAY, JULY 2ND

Hospital Provision for Belfast

Mr WOOD asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been drawn to the application by the Belfast corporation for a loan for the erection of a small pox hospital at Purdysburn, county Down and whether having regard to the practice in England, an inquiry would be held at which the ratepayers would be heard and the rules of the Local Government Board in England as to the striking distance of small pox contagion be adopted —Mr WYNDHAM replied: No application has been received for a loan for the erection of a small pox hospital at Purdysburn consequently no inquiry will be held in the matter In February last an inquiry was held in respect of an application by the Belfast corporation for a loan of £50 000 for the erection of a permanent infectious diseases hospital on the lands of Purdysburn acquired by the corporation for hospital purposes At the inquiry all persons interested had an opportunity of being heard and no objections to the proposal were made This loan was sanctioned in May The question of providing a temporary small pox hospital was not raised when the inquiry into the application for the loan was held

Plague at Hong Kong

Mr WEIR asked the Secretary of State for the Colonies in view of the prevalence of plague at Hong Kong would he consider the expediency of calling for a report as to whether it was practicable to remove some of the slum property in the Chinese quarter of the city with a view to secure improved drainage and sufficient ventilation; and seeing that besides 10,000 foreigners, the city contains upwards of 280,000 Chinese, the majority of whom were located in insanitary dwellings would he consider the advisability of increasing the sanitary staff at the disposal of the Government —Mr CHAMBERLAIN replied I must await the full reports of the medical and sanitary experts Professor Simpson and Mr Osbert Chadwick, who have specially visited Hong Kong in connexion with the plague —Mr WEIR asked when the reports were likely to be forthcoming —Mr CHAMBERLAIN replied: I cannot give any limit for an inquiry of this kind I hope the experts will take all the time they consider necessary

THURSDAY, JULY 3RD

Veterinary Surgeons and the War Office

Captain NORTON asked the Secretary of State for War whether it had been brought to his notice that the Council of the Royal College of Veterinary Surgeons had determined that unless certain concessions were made in the new warrant for the Army Veterinary Department to advise their graduates not to enter the army —Mr BRODRICK replied that he had received a letter to this effect from the Royal College and the President had been informed that the questions involved were under consideration but he could not promise that the concessions demanded could all be made —Captain NORTON said that the principal grievance was the question of army rank and asked whether that would be carefully considered —Mr BRODRICK replied that consideration had been given to this question before, but it had not been found practicable to give the concession desired

MONDAY, JULY 7TH

Scottish Poor-law Medical Officers

Mr CATHCART WASON asked the Lord Advocate if his attention had been directed to the fact that in the highlands and islands of Scotland Poor law medical officers had repeatedly brought under the attention of the Government the circumstances of their position as compared with medical officers holding similar appointments in England and Ireland and if the Government would propose any legislation to improve their position —The LORD ADVOCATE replied: The Secretary for Scotland is not at present prepared to legislate in the direction suggested by the honourable Member

Drink for Habitual Drunkards in Ireland.

Mr M'GOVERN asked the Chief Secretary to the Lord Lieutenant of Ireland whether having regard to the fact that licensed persons who supplied habitual drunkards with drink were rarely prosecuted in Ireland, would he direct the attention of the Royal Irish Constabulary to the Licensing Act with a view to the provisions being put into operation?—Mr WYNDHAM replied: During the past year 215 persons were prosecuted throughout Ireland for breaches of the law in this respect Of these 139 were convicted The attention of the constabulary is about to be directed specially in the matter

TUESDAY, JULY 8TH

Army Medical Establishments Vote

Sir JOHN BATTY TUKE asked the First Lord of the Treasury when he proposed to give the House an opportunity of discussing the vote for medical establishments in the army —Mr BALFOUR replied that when War Office votes were taken the vote for the salary of the Secretary of State for War must be taken first and he was afraid that he could give no promise of a special date for the vote for medical establishments

Ear Troubles in the Hanwell Schools

Sir WALTER FOSTER asked the President of the Local Government Board whether his attention had been called to a medical report issued in February, 1902, in which it was shown that 520 out of 1000 children in the barrack schools of Hanwell could not pass the whisper test for hearing that 335 were or had been the subjects of discharge from one or both ears that 88 of them were suffering from chronic suppuration, and that 434 children out of the 1000 examined had adenoids and what steps had been taken to improve the condition of these children —Mr WALTER LONG replied: I have seen the report referred to from which it appears that the results of the examination of 1000 children at the Hanwell schools were as stated in the question The examination was made by Mr Cheatle by request of the managers of the schools I am informed that the children suffering from adenoids are now receiving surgical treatment and that a committee of the managers, after consultation with Mr Cheatle, are considering the best means of dealing with cases of diseases of the ears It may be mentioned that a similar examination which was made by Dr Willcocks in 1898 revealed a large proportion of adenoid disease As a result of that investigation 107 children from the schools were successfully treated for adenoids at St Bartholomew s Hospital between October 1898, and January 1901 In his report Dr Willcocks stated that the school life and the surroundings of the children could not be held responsible in any sense for adenoid troubles the disease being prevalent among children in all classes of society A similar opinion has been expressed by Mr Cheatle and other medical men interested in the matter

MIDWIVES BILL

DEBATES IN THE HOUSE OF LORDS

FULL REPORT

The Committee stage of the Midwives Bill was taken in the House of Lords on Friday July 4th

The Duke of NORTHUMBERLAND moved to strike out Sections 1 and 2 of Clause 1—namely (1) From and after the first day of January 1910 no woman shall habitually and for gain attend women in childbirth or shall, after the first day of January, 1905 be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words) or any name, title, addition, or description implying that she is certified under this Act, or is a person specially qualified to practise midwifery or is recognised by law as a midwife, unless she be certified under this Act (2) Any woman who after the first day of January, 1905 not being certified under this Act, shall take or use the name of midwife or any other such name title, addition, or description as aforesaid shall be liable on summary conviction to a fine not exceeding £5 and to insert in their places the following sections—viz : "(1) From and after the first day of January, 1905, any woman who not being certified under this Act shall take or use the name or title of midwife (either alone or in combination with any other word or words) or any name, title addition or description implying that she is certified under this Act or is a person specially qualified to practise midwifery or is recognised by law as a midwife shall be liable on summary conviction to a fine not exceeding £5; (2) from and after the first day of January 1910, no woman shall habitually and for gain attend women in childbirth unless she be certified under this Act; any woman so acting without being certified under this Act shall be liable on summary conviction to a fine not exceeding £10, provided this section shall not apply to legally qualified medical practitioners or to anyone called in to render assistance in a case of emergency

The Earl of Portsmouth said that he did not know much about the general merits of the Bill but he thought the particular provision inserted in the House of Commons late in the proceedings there very objectionable. The fact was that in a great many country districts it would be impossible for poor people to get the assistance of what might be called a trained nurse. In some parishes no doubt the proprietors subscribed for the services of one, but that was not the case in all parishes and he was afraid that great hardship would be inflicted if the Bill were passed in its present shape. He could not help thinking that the words to which he took exception were inserted not for the benefit of the working-classes but simply for the benefit of the country doctors. The practice of the country doctor was not a very lucrative one at any time and no doubt much of it consisted in attending the confinements of poor people He did not know that the country doctor was always particularly expert and efficacious but he did know that in many cases poor people preferred the assistance of a midwife to that of the doctor and he thought it would be very hard if they were obliged to go to the latter Altogether he thought this new provision a mistake and, indeed altogether beyond the purpose of this legislation. He would ask, too, whether it was proposed to put the charge for a trained nurse upon the rates If it was not proposed then there must be many parishes without a trained nurse. He hoped their lordships would see their way to strike out the words which seemed to him mischievous and exceedingly vexatious

Lord Clonbrook said that in Ireland there was a trained nurse in connexion with each dispensary district and he did not see why the same state of things should not exist in England

The Lord Chancellor said that if there was in England the same system as in Ireland he should have no objection to this provision but unfortunately there was no such system Indeed, if they had the Irish system in England he imagined that the need for this legislation would be got rid of altogether The question their lordships had to deal with was after all very much a question of fact—whether or not in the rural districts of England this provision would affect many of the poorer classes in a very harsh manner and cause a great deal of suffering The evidence which had been put before him went to show that it would and that the mischief would go on increasing It appeared to him that the matter had not been sufficiently investigated in order to ascertain the effect of the provision. He should have thought that a great many of their lordships themselves would know what was the condition of rural life in England He rather thought that the noble duke himself (the Duke of Northumberland) must have some knowledge upon the subject, and he should have deferred very much to his knowledge and experience This was a matter which had not been properly threshed out in the other House. As the Bill was originally framed it said that no one should assume the name and character of a midwife who had not got a certificate. No one would object to that. It passed through the Grand Committee and still was without this compulsory clause. Then at the last moment this clause was inserted penalising a whole class of persons without the least inquiry This alteration changed the whole character of the Bill and it seemed to him therefore that it was a matter which should be considered Could anybody suppose that there would be a rush for education and qualification on the part of midwives without any further inducement than was offered by this Bill? He thought that the whole question should be inquired into It was said that the provision would not come into operation for eight years In that event there would be no suffering through inquiry It could not be said that it was an urgent question if they were to wait eight years for the operation of the provision Before committing themselves he thought their lordships would do well to have the facts of the case clearly ascertained

The Duke of Northumberland said that there were one or two fallacies which he should like to point out Over and over again the expression trained nurse" had been used It was not proposed to insist upon a midwife being a trained nurse." The expression "trained nurse" included a very much more complete education than was contemplated under this Bill There was no question of any charge upon the rates As for the provision to which so much exception had been taken, he must confess that the more he considered it the more was he convinced of its being essential for the proper working of the Bill. They had been asked what did they know about the necessity for such legislation? That was an argument against the whole Bill. This Bill was no new thing; it had been brought on year after year It was held by those who supported it that there was a great necessity for it, that there was a great deal of harm done in the country by untrained midwives and if that were to be stopped there must be a penalty of some kind The penalty proposed was only for the women who habitually and for gain attended women in childbirth—that was to say did something for which she was not certified Whether there was any hardship in rural districts would depend entirely upon the rules laid down by the Privy Council He quite admitted that they were placing in the hands of the Privy Council very large responsibilities. It would be for the Privy Council to decide the rules and regulations under which women would be certified to act as midwives Though he was afraid he could not assure the Lord Chancellor that his experience in these matters was very profound yet he thought most of their lordships with experience of the rural districts did not see any cause to apprehend any serious difficulty in obtaining the services of midwives who would be certified under this Act He saw an enormous difficulty in rural districts in always obtaining the services of a certified midwife but then that had been carefully guarded in the Bill. There must be many cases in which the neighbour came in not without receiving remuneration and there was nothing in the Bill to prevent the neighbour coming in and giving that assistance which was of so much value. In all the circumstances he could not believe that any real hardship would be caused by the Bill Another point to bear in mind was that all the existing midwives who gave evidence of respectability and of *bona fide* practice would be certified as matter of course. All that was proposed was at the end of eight years any woman who wished to enter the profession should qualify herself by proper training

Earl Spencer said that he did not quite understand his noble friend (Lord Portsmouth) as to whether he meant to move the omission of the words to which he had called attention Nor did he quite understand what the Lord Chancellor intended to do; his lordship spoke, as it seemed to him against the whole clause. As far as he (Lord Spencer) could see this clause contained almost the pith and essence of the Bill and if it were omitted it would be better to leave the Bill alone altogether He had had some very considerable doubt about the policy of this Bill and he had made it his business to study the question with some care and he differed entirely from the Lord Chancellor in his view as to their having been no inquiry There was a full report by a Committee of the House of Commons showing that there had been most exhaustive inquiry while the Bill itself appeared to belong to the class of measures known as hardy annuals. It was only after 12 years or more of constant work that the Bill had been brought to a pitch which had enabled it to pass in the other House If the Bill prevented women in small villages from calling in their neighbour who might have great experience in the birth of children it would no doubt be a very hard thing but it did nothing of the sort. All the Bill did was to prevent a woman who gave this aid from advertising herself as a midwife From the evidence he found that there were in England and Wales 4500 women who perished annually in childbirth or one woman to every 200 confinements. In the hospitals where there were trained nurses the mortality was only one in 600 That meant that if outside these hospitals there were the same trained assistance as inside there would be a saving of 3000 lives per annum. Surely that was a matter that ought to be weighed and considered and dealt with by the Legislature; it had convinced him of the absolute necessity of dealing with the evil in some way

The Lord Chancellor said that he had not said one word against the superiority of trained nurses or about the absence of medical attendance. He had not the smallest doubt that it would be very much better if every poor woman were attended by a trained surgeon His point was, Were they quite sure that in their effort to do what he believed a very good thing they might not be doing more harm than good and that by preventing what the poor had they might prevent them from having anything at all? He repeated that this provision had been inserted at the last moment. The noble lord had spoken of the Bill as a hardy annual, but did he suggest that this penal clause had ever before been in the Bill?

The Earl of Cork said that anyone who had lived in the country and knew how children were brought into the world knew that very often mothers had to depend entirely upon the help of their neighbours, and he believed that on the whole the children were brought into the world in a good and healthy condition. He insisted that the clause in its present shape would deter neighbours from giving assistance.

Lord Balfour of Burleigh said that in his opinion much of the discussion that had taken place was beside the point. The question their lordships had to decide was whether this was a wise and satisfactory provision to have in the Bill If he were to go into the history of the matter he could point out that the provision was not a new one before Parliament. It was in the Bill of 1900 What was proposed was that a woman should not habitually and for gain attend women in childbirth without being certified the operation of the provision being postponed for a period of eight years Now there could be no doubt that in this sort of legislation they must take care of anything which by any stretch of language could be called a vested interest. If a woman was now actually and in good faith in the prosecution of this profession then he thought it would be unfair arbitrarily to come down and interfere with her Under the Bill she was entitled to be recognised provided she was of good character On the other hand it must be admitted that there was a great evil in connexion with this matter and that many of those who called themselves midwives were utterly regardless of the lives of those whom they attended It had been proved over and over again at coroners inquests that those who called themselves midwives and habitually and for gain took up the profession did not sufficiently regard their responsibilities and it was necessary that some sort of check should be put upon them What was hoped was that by this form of training there would be greater skill which was obviously desirable, and at the same time by postponing the condition for eight years there would be no hardship to those who were likely to enter the calling in the future He would not go so far as to say that if this sub-section were omitted the whole value of the Bill would be lost; he believed that it would still be a very valuable Bill, but he believed that it would be a less valuable Bill than as it stood at present and for this reason It was all very well to say that a woman who was a midwife should be trained but unless there was some practical supervision some handicap upon those who were not trained there would be no great zeal in taking the certificate and proving competence for the work He did not believe that the provision would cause any real hardship and he hoped their lordships would accept it.

The Earl of Portsmouth said that he felt the provision had been inserted to further professional interests. It savoured too much of grandmotherly interference with the working classes which he was sure was not acceptable to them

The two sections standing in the Bill were then struck out and the first section proposed by the Duke of Northumberland was inserted without a division

The Duke of Northumberland then formally moved the insertion of the second section he had proposed

Lord Tweedmouth said that if Parliament made this declaration in favour of certification and did not provide a penalty the whole thing would be a farce. There must be a provision for enforcing the views of Parliament.

A division was then taken when the new section was adopted by 66 votes against 19

The peers who voted against the section were the Lord Chancellor the Duke of Devonshire Earl Carrington, the Earl of Morley the Earl of Portsmouth, Viscount Sidmouth Lord Belper the Earl of Cork, Lord Colchester, Lord Hatherton Lord Hawkesbury, Lord Heneage, Lord Howard of Glossop Lord Lamington Lord Leigh Lord Monkswell Lord Mowbray Lord Thring and Lord Wimborne

Among the 66 peers who voted for the section were the Duke of

Grafton the Duke of Northumberland, the Duke of Portland, the Duke of Rutland the Marquis of Lansdowne the Marquis of Ripon, the Earl of Camperdown the Earl of Derby, the Earl of Jersey, Earl Spencer, the Marquis of Londonderry, Viscount Cross Viscount Knutsford Viscount Llandaff the Bishop of Winchester Lord Balfour of Burleigh, Lord James of Hereford, Lord Reay, the Earl of Rosebery Lord Sandhurst Lord Tweedmouth, and Lord Welby

Lord THRING moved to strike out of Section 5 the reference to the undertaking of cases of abnormality or disease in connexion with parturition and to insert the following as a separate section, viz :—

"It shall be the duty of a midwife not to undertake without the assistance of a registered medical practitioner any case which she knows or might with reasonable care have known, to be one of abnormality or disease in connexion with parturition if she does so she shall be liable to a penalty not exceeding £5 unless she proves to the court that she was unable to procure the attendance of a registered medical practitioner"

The Duke of DEVONSHIRE said that the words to which exception was taken by the noble Lord were inserted at the instance of the Privy Council in order to meet the views of the General Medical Council and he hoped they would be retained in the Bill

Lord THRING thought the clause most unjust and that it would make the places of these women almost untenable if it were enforced

The amendment was negatived without a division

On the motion of the Duke of NORTHUMBERLAND words were inserted in Clause 3 giving a seat on the Central Midwives Board to a representative of the Queen Victoria s Jubilee Institute for Nurses

Lord WELBY moved an amendment to subject the Central Midwives Board in matters of expenditure to the previous approval of the Privy Council

The Duke of DEVONSHIRE resisted the amendment saying that it was unnecessary and that the Privy Council could not efficiently undertake the proposed responsibility

The amendment was negatived without a division

Consideration was then given to the provision in Clause 3 that "Rules framed under this section shall be valid only if approved by the Privy Council and the Privy Council before approving any such rules shall submit them to the General Medical Council and shall take into consideration any representations which that Council may make with respect thereto"

Lord THRING moved to strike out everything after the first "the Privy Council" saying that it was unprecedented to give such an order as this to the Privy Council

Lord BALFOUR of BURLEIGH said that the General Medical Council had been anxious for more control and he could see no harm in allowing the Privy Council to take the opinion of the General Medical Council. All that was provided for was that the Privy Council before approving the rules should submit them to the General Medical Council and take into consideration any representations it might make, but there was nothing in the clause binding the Privy Council to adopt the views of the General Medical Council He thought the General Medical Council had sufficient knowledge and experience to entitle it to know what was being done by the Government department before that department made its rules effective He felt sure that the clause did not ask the Privy Council to do more than it would do in any circumstances

Earl RUSSELL said that he quite agreed that this was what the Privy Council would probably do in any case but the provision in the Bill was mandatory and that was quite a different matter

Lord THRING said that while he did not propose to press his amendment to a division he still thought this a very extraordinary provision to find in an Act of Parliament

The Earl of CAMPERDOWN took the view that it was not giving the Privy Council the position to which it was entitled to order it to submit the rules to the General Medical Council He felt confident that the Privy Council would never think of issuing the rules without being assured that they were in conformity with what was right and that with that object it would consult the General Medical Council The words in the clause however, suggested that the General Medical Council had too much power in connexion with the Bill and he was sure their presence there would not increase the popularity of the legislation throughout the country

Lord BALFOUR of BURLEIGH said that as there appeared to be strong objection to the words as they stood he would suggest that the words 'shall submit them to the General Medical Council be struck out so that the Privy Council should only be required to take into consideration any representations which that body might make

The Earl of CAMPERDOWN thought that would not help matters much because if the Privy Council were to take into consideration any representations of the General Medical Council that would imply that the rules should be submitted to the latter body

The suggestion of Lord Balfour of Burleigh was adopted on the understanding that the matter would be subject to revision when the Bill was considered in the Standing Committee

The Earl of MAYO moved to insert at the end of the clause these words viz — Provided always that any woman holding a certificate in midwifery from the Hospital for the Relief of Poor Lying in Women in Dublin (commonly known as the *Rotunda* Hospital') shall, upon production of such certificate be admitted to the roll of midwives without any further course of training or examination and shall be entitled to be certified under this Act

The Duke of NORTHUMBERLAND opposing the amendment said that the great duty of the Central Midwives Board would be to see that only properly qualified women were admitted and he could not help thinking that it would be invidious to name any particular institution in the manner proposed

The amendment was not pressed

On Clause 4 dealing with fees and expenses,

The Marquis of RIPON protested against the proposed apportionment among county and county borough councils of any deficiency that might occur in the balance of the accounts of the Central Midwives Board It was bad in principle, he said, and he could not give it his approval

On the motion of the Duke of NORTHUMBERLAND Clause 5 was made to read: There shall be a *roll of midwives* containing (1) the names of those midwives who have been certified under Clause 2 of this Act (2) the names of all other midwives who have been certified under this Act

On the motion of Lord WELBY words were inserted in Clause 6 requiring the approval of the Privy Council for the appointment certain of the officers of the Central Midwives Board

In Clause 8 dealing with the local supervision of midwives it said that it shall be the duty of the local supervising authority suspend any midwife from practice in accordance with the rules und the Act, if such suspension appears necessary, and on the motion of t Duke of NORTHUMBERLAND it was agreed to add "in order to prev the spread of infection'

Also on the motion of his lordship it was agreed to insert in Clause these words—viz "Any woman thinking herself aggrieved by a decision of the Midwives Board, removing her name from the roll midwives, may appeal therefrom to the High Court of Justice with three months after the *notification of such decision to her* but further appeal shall be allowed

This concluded the consideration of the Bill by Committee of whole House

On Tuesday, July 8th, the Bill was considered by the Stand Committee of the House of Lords

On the motion of the Duke of NORTHUMBERLAND it was agreed alter the date in the first section of Clause 1 to April 1st, 1905, and the second section to April 1st 1910

The Bishop of HEREFORD moved that the second section which p vides a penalty for uncertified practice come into force on April 1905 His Lordship pointed out that Clause 2 enabled women now practice to get certification on production of evidence of good charac Presumably, therefore every respectable woman would apply to certified, and women who were not respectable would be free to go practising until April 1st, 1910 without any restriction

The Duke of NORTHUMBERLAND said that he was afraid that he co not accept the amendment It was really a case of endeavouring to meet divergent views and the provision in the clause represented a compromise to which he must adhere By deferring the operation of the section for eight years the Central Midwives Board and the Privy Council would be able to see how the Act generally worked and to modify their rules in the light of experience or even to propose amending legislation

Lord BELPER said that he was instructed by the Home Office to oppose the amendment, the view of that department being that it would be well to have this interval of time before the penal provision came into force.

The amendment was rejected without a division

On the motion of the Duke of NORTHUMBERLAND words were inserted in Clause 3 making certain members of the Central Midwives Board eligible for reappointment

The words introduced in Committee of the whole House in Clause 14 giving an appeal from the General Midwives Board to the High Court of Justice were struck out of that clause and made a separate clause When the Earl of CORK suggested that a midwife in some distant part of the country was not likely to be able to afford the cost of an appeal to the High Court the Duke of NORTHUMBERLAND explained to his lordship that the provision had been introduced at the instance of Lord Lindley and said that it could not possibly do any harm

On the motion of Lord WELBY Clause 6 was made to read that the Central Midwives Board shall, with the *previous sanction* of the Privy Council, appoint a secretary and such other officers as may be required and every person so appointed shall be paid such salary as the Privy Council may approve and shall be removeable at the pleasure of the Board

Lord BELPER moved the omission of Clause 7 which said that "Where a person whose name is entered on the roll of midwives has, either before or after the passing of this Act, and either before or after her name is so entered on the roll, been convicted either in His Majesty s dominions or elsewhere of an offence which, if committed in England would be a felony or misdemeanour or been guilty of any disgraceful conduct in her practice as a midwife that person shall be liable to have her name erased from the roll The Midwives Board shall cause inquiry to be made into the case of a person alleged to be liable to have her name erased under this section and on proof of such conviction or of such disgraceful conduct shall cause the name of such person to be erased from the roll' His lordship described the clause as most objectionable and absolutely unnecessary, having regard to the disciplinary powers of the Board in Clause 3

The Duke of NORTHUMBERLAND said that this was an agreed clause in the House of Commons and he understood that the Government made no objection to its insertion in that House If it were struck out now he hoped that the Government would see that the Bill did not suffer in consequence when it was returned to the House of Commons without it

The clause was struck out of the Bill

Some discussion took place as to the character of the notice of the Act to be given by county councils to midwives but no change was made in the Bill it being understood that Lord Belper would bring up a new set of words on the report stage

This completed the consideration of the Bill which was ordered to be reported to the House

BOOKS, ETC , RECEIVED

BAUERMEISTER, F , 49, Gordon street Glasgow (J F BERGMANN, Wiesbaden)

- Einführung in die Physikalische Anatomie Von Dr Hermann Triepel, Privatdocent und Prosektor am Anatomischen Institut in Greifswald I Teil: Allegemeine Elasticitäts und Festigkeitslehre in Elementarer Darstellung II Teil: Die Elasticität und Festigkeit der Menschlichen Gewebe und Organe Price 6s , or M 6
- Verhandlungen der Achtzehnten Versammlung der Gesellschaft für Kinderheilkunde in der Abtheilung für Kinderheilkunde der 73 Versammlung der Gesellschaft Deutscher Naturforscher und Aerzte in Hamburg 1901 Herausgegeben von Geheime Sanitätsrath Dr Emil Pfeiffer Pract Arzt in Wiesbaden Price 8s. 6*d* or M 8 40
- Die Otitischen Erkrankungen des Hirns der Hirnhäute und der Blutleiter Von Dr Otto Körner, O Ö Professor d r Medicin

Direktor der Klinik und Poliklinik für Ohren- und Kehlkopf kranke in Rostock. Mit einem Vorwort von Ernst von Bergmann. Dritte, vollständig umgearbeitete und vermehrte Auflage. Price 7s., or M. 7

Bericht über die Neunundzwanzigste Versammlung der Ophthalmologischen Gesellschaft. Heidelberg, 1901. Unter Mitwirkung von W Hess, sen., E. von Hippel, und Th Leber; redigirt durch A. Wagenmann Price 8s 9d., or M. 8.60.

Schwindel. Von Dr Rudolf Panse, Ohrenarzt und Oberarzt am Diakonissenhaus Dresden-Neustadt. Sonder Abdruck aus Zeit schrift für Ohrenheilkunde Band xli. Price 1s 6d. or M 1.20.

Grundriss zum Studium der Geburtshülfe. In Achtundzwanzig Vorlesungen und Fünfhundert-fünfundsiebenzig Bildlichen Darstellungen Von Dr Ernst Bumm, Ord. Professor und Direktor der Universitäts Frauenklinik in Halle A.S Price 14s or M 14

CHURCHILL, J & A. 7 Great Marlborough-street, W

St. Thomas's Hospital Reports New series Edited by Dr Hector Mackenzie and Mr G H Makins C B Vol. xxix Price 8s 6d.

GLAISHER HENRY J 57 Wigmore-street, Cavendish-square, W

Clinical Illustrations of Diseases of the Fallopian Tubes and of Early Tubal Gestation. A series of drawings with descriptive text and histories of the cases By Charles J Cullingworth, M.D., Hon D C.L. Durh, F.R.C P Obstetric Physician to St. Thomas's Hospital London. Third edition, revised. Price 10s 6d net.

HOOD CHARLES AND COMPANY Burleigh street Strand W C

Religio Medici: Religio Scientiæ, Religio Vitæ 1901 By a Student of Science and Medicine 1849–1899 Price 3s 6d.

HIRSCHWALD AUGUST Unter den Linden 68, Berlin N W

Beobachtungen und Untersuchungen über die Ruhr (Dysenterie) Die Ruhrepidemie auf dem Truppenübungsplatz Döberitz im Jahre 1901 und die Ruhr im Ostasiatischen Expeditionskorps Zusammengestellt in der Medizinal Abtheilung des Königlich Preussischen Kriegsministeriums Price M 10,

KIMPTON HENRY 13, Furnival-street Holborn E.C

The Diagnosis of Surgical Diseases By Dr E. Albert late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorised translation of the eighth enlarged and revised edition by Robert T Frank, A.M M.D Price 18s. net.

A Practical Treatise on Diseases of the Skin. By John V Shoemaker M.D, LL.D Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia. Fourth edition revised and enlarged. Price 21s net.

LANE, JOHN The Bodley Head London and New York.

The Book of Vegetables By George Wythes V.M.H Head Gardener to the Duke of Northumberland, K.G Together with chapters on the History and Cookery of Vegetables. By the editor (Harry Roberts) Price 2s 6d net

MASSON ET CIE, 120 Boulevard Saint-Germain Paris

Les Tics et leur Traitement. Par Henry Meige et E. Feindel Préface de M le Professeur Brissaud Price 6 *francs*.

REALE ACCADEMIA DEI LINCEI, Rome

Patologia Embrionale Infettiva. Intorno alla Fisiopatologia dell Embrione di Pollo. Memoria I del Corrispondente Angelo Maffucci Price not stated

SAUNDERS W B AND CO Philadelphia and London.

Atlas and Epitome of Operative Surgery By Dr Otto Zuckerkandl, Privat-docent in the University of Vienna. Second edition, revised and enlarged. Authorised translation from the German Edited by J Chalmers Da Costa, M.D Professor of the Principles of Surgery and of Clinical Surgery in Jefferson Medical College Philadelphia. Price 15s net.

Diseases of the Nose, Pharynx and Ear By Henry Gradle, M D., Professor of Ophthalmology and Otology in the North western University Medical School Chicago Price 15s. net.

Nothnagel's Encyclopedia of Practical Medicine. Diphtheria by William P Northrup M D; Measles, Scarlatina, German Measles by Theodor von Jürgensen, M D, Professor of Medicine at the University of Tübingen Edited with additions, by William P Northrup M D., Professor of Pediatrics in the University and Bellevue Hospital Medical College New York Authorised translation from the German, under the editorial supervision of Alfred Stengel, M D of Pennsylvania. Price 21s net

SCOTTISH MEDICAL AND SURGICAL JOURNAL, THE LIMITED Edinburgh.

The Scottish Medical and Surgical Journal Edited by Norman Walker, M.D., F R.C P Edin and Harold J Stiles M.B F.R.C.S Edin. Vol. x. (January to June) Price not stated

STOCK ELLIOT 62, Paternoster-row E C

A Lady Nurse of the Times. By Frederick James Gant F R.C.S Consulting Surgeon to the Royal Free Hospital, Vice-President of the Royal British Nurses Association Price 1s net

TAYLOR J AND H 64 *Tenby-street North Birmingham*

The Key to Sight testing: A Supplement to the Practical Optician's Guide. By Harry L Taylor (author of the Practical Optician's Guide) and William S Baxter Price not stated.

WILLIAMS AND NORGATE, 14 Henrietta street Covent-garden W C

Studies in Heterogenesis. By H Charlton Bastian, M.A., M.D., F.R.S. Emeritus Professor of the Principles and Practice of Medicine and of Clinical Medicine in University College, London Second Part Price 7s 6d

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward it to THE LANCET *Office directed to the Sub-Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number*

ANDERSON A. J, M.B C.M Edin., has been re-appointed Medical Officer of Health to the Wortley Rural District Council.

BARLET, JEHAN M. M.R C.S Eng., L.R.C.P Lond has been appointed Resident Medical Officer to the French Hospital, 172, Shaftesbury avenue W C

BROWN WILLIAM M.D., C.M. Glasg has been appointed Medical Officer to the Children's Home of the Bristol Board of Guardians at Staple Hill

BUTLER, G H. M.R.C S., L.R.C.P Lond., has been appointed Health and Medical Officer for Montagu, Tasmania.

MCCARROLL, J M.B, B Ch R.U I., has been appointed Casualty Medical Officer of the Middlesex Hospital

PEATLING A. V B.A M.B B C. Cantab. has been appointed Honorary Medical Officer to the Carshalton Cottage Hospital

PIKE, C. J M.B Lond. has been appointed Vaccinator for the Registration District of Launceston, Tasmania.

PURCHAS, FREDERICK MAURICE, M.B Edin, has been appointed a Port Health Officer for the Port of Kaipara, New Zealand

RIGBY F W., M.B C.M Edin has been appointed Certifying Surgeon under the Factory Act for the Bacup District of Lancashire.

ROWNTREE, C W., M.R.C.S L R.C P Lond., has been appointed Casualty Surgical Officer to the Middlesex Hospital

STEWART, J, L.R.C S Irel., has been appointed Public Vaccinator for the Municipal Districts of Hamilton and Bothwell Tasmania and Medical Officer of Health at Hamilton

VOWELL, CHARLES MARTIN, M R C.S. L.R C P Edin has been appointed a Public Vaccinator for the District of Opunake, New Zealand

WRIGHT JOHN ALDHAM M.A. M.D Cantab., has been appointed Assistant Physician to Addenbrooke's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

BATH ROYAL UNITED HOSPITAL.—House Surgeon Salary £80 per annum with board lodging and washing

BEVERLEY EAST RIDING LUNATIC ASYLUM —Assistant Medical Officer unmarried Salary £165, increasing to £195 per annum with board, lodging and washing

BIRKENHEAD UNION INFIRMARY, WORKHOUSE, AND SANITORIUM — Resident Assistant Medical Officer Salary £120 per annum with board washing and apartments.

BIRMINGHAM GENERAL HOSPITAL.—Three House Physicians, each for six months, renewable. Salary at rate of £50 per annum with residence board and washing Also House Surgeon for six months. Salary at rate of £50 per annum with residence board and washing

BIRMINGHAM QUEEN'S HOSPITAL.—House Surgeon Salary at rate of £50 per annum with board lodging and washing

BRIGHTON HOVE AND PRESTON DISPENSARY —Two House Surgeons Salary £160 per annum with apartments washing and attendance

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN —House *Surgeon. Salary £120 per annum with rooms and attendance.*

CAMBRIDGE ADDENBROOKE'S HOSPITAL.—Senior House Surgeon for six months Salary at rate of £60 a year with board, lodging and washing

CHICHESTER INFIRMARY —House Surgeon. Salary £100 per annum with board, lodging and washing

DEVONPORT ROYAL ALBERT HOSPITAL.—Resident Medical Officer unmarried Salary £110 per annum with board and lodgings.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN Glamis road Shadwell E.—Medical Officer for the Casualty Department for six months Salary at rate of £100 per annum and luncheon. Also Assistant Surgeon

GRAVESEND HOSPITAL.—House Surgeon Salary £90 per annum, with board and residence.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway N —Senior House Surgeon for six months Salary at rate of £60 per annum, with board, lodging and washing Also Junior House Physician for three months. Salary at rate of £30 per annum with board lodging, and washing.

HAMPSTEAD HOSPITAL.—Resident Medical Officer for six months Salary at rate of £120 per annum, with rooms coal and gas

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water Surrey —Junior Assistant Medical Officer Salary £150 per annum rising to £200 with board lodging and attendance.

HOSPITAL OF ST FRANCIS New Kent road S E.—Two Casualty Medical Officers.

HOSPITAL FOR SICK CHILDREN Great Ormond street, London W C — House Surgeon unmarried for six months. Salary £20 washing allowance £2 10s., with board and residence.

HULL ROYAL INFIRMARY —Casualty House Surgeon for not less than six months. Salary £80, with board and lodging

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £50 or £60 per annum (according to stay) lodging, and allowances.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY — Junior House Surgeon. Salary £75 per annum with residence board and washing

Leeds General Infirmary —Resident Ophthalmic Officer Salary £50 a year with board and lodging

Liverpool, City of Infectious Diseases Hospitals —Two Assistant Resident Medical Officers unmarried. Salary £120 per annum each with board, washing, and lodging

Liverpool David Lewis Northern Hospital.—Assistant House Surgeon Salary £70 per annum, with residence and maintenance Also Honorary Anæsthetist.

Liverpool Dispensaries —Assistant Surgeon, unmarried Salary £100 per annum with board and apartments

London Fever Hospital, Liverpool road, Islington, N —Physician Also Assistant Physician

London Hospital, Whitechapel E —Assistant Physician

London Temperance Hospital —Assistant Resident Medical Officer for six months Honorarium at rate of 50 guineas per annum with board, residence and washing

Manchester Children's Hospital, Pendlebury —Medical Officer Salary £180 per annum

National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury —Pathologist Honorarium 50 guineas per annum

Newport and Monmouthshire Hospital.—House Surgeon Salary £100 per annum with board and residence.

North Eastern Hospital for Children, Hackney road N.E —House Surgeon for six months Salary at rate of £80 per annum, with board residence, and laundry

North Staffordshire Infirmary and Eye Hospital, Harthill, Stoke-upon Trent —Assistant House Surgeon for six months Board apartments and washing and at least £25 as honorarium

North West London Hospital Kentish Town road — Assistant Surgeon

Nottingham General Dispensary —Senior Resident Surgeon unmarried Salary £200 per annum increasing by £15 every year Also Assistant Resident Surgeon, unmarried Salary £160 per annum, increasing by £10 every year, with apartments attendance light, and fuel in each case

St Giles (Camberwell) Infirmary Havil street Camberwell, and **Workhouse** at Gordon road Peckham —Assistant Superintendent Salary £150 per annum with apartments board and washing Also Third Assistant Medical Officer Salary £50, with apartments, board and washing

St Mary's Hospital, Paddington, W —Assistant Ophthalmic Surgeon

Salop Infirmary —Assistant House Surgeon for six months Salary at rate of £50 per annum with board and apartments

Somerset and Bath Asylum, Cotford, Taunton —Assistant Medical Officer unmarried Salary £160 per annum rising to £200, with apartments, board, &c

South Hants and Southampton (Royal) Hospital.—Junior House Surgeon for six months Salary £60 per annum, with rooms, board and washing

Stockport Infirmary —Junior Assistant House Surgeon for six months Salary at rate of £40 per annum, with board, washing, and residence

Stroud General Hospital —House Surgeon. Salary £80 per annum, with board lodging and washing

Sussex County Hospital, Brighton —Second House Surgeon and Anæsthetist unmarried Salary £80 per annum, with board and residence

Swansea General and Eye Hospital —Resident Medical Officer, Salary £75 with board apartments washing and attendance

Weston-super Mare Hospital —House Surgeon Salary £100 per annum, with board and residence

Births, Marriages, and Deaths.

BIRTHS

Austin Robinson —On June 8th at The Sanatorium Durban, Natal, Dr Lilian, wife of F Austin Robinson M R C S , L R C.P , &c., of a daughter

Greenwood —On July 2nd at Corby, Grantham the wife of A C Greenwood M R C S L R C P Lond , of a daughter

Mackintosh —On July 6th at Corner House, Platts lane Hampstead the wife of J S Mackintosh M R C S Eng L R C P Lond , of a son

Main —On June 25th, at Brook House Bollington Cheshire, the wife of D W Main M.B Ch B Vict of a son

Ross —On June 30th at Edith road West Kensington, the wife of Alfred Ross L R C.P L R C S Edin of a son

Stabb —On July 2nd at 57 Queen Anne street, W , the wife of Ewen C Stabb F R C S of a son

MARRIAGES

Booker—May —On July 5th at St. Mary's Kelvedon Essex Charles William Booker F.R C S Eng of Witley Surrey to Ada Constance third daughter of the late George May, Tiptree Hall

Hathaway—Bunyard —On July 2nd, at St. Mary Magdalene's Church St Leonards-on Sea by the Rev Edward Clowes rector assisted by the Rev Morris Roberts vicar of St. Matthias, Poplar, Frank John Hathaway M B , Ch.B Edin of Mottingham Kent, youngest son of the late J Hathaway Esq , of Allahabad, to Rose Mabel, third daughter of Thomas Bunyard, Esq , of St Leonards on Sea

Rusby—Wright —On the 3rd inst, at St. John the Divine Kennington E L M Rusby, M.B Lond , to Katherine Helen daughter of Mr G Wright

DEATH

Curnow —On July 5th, at Wimpole-street, Cavendish square, W C after a short illness (acute pneumonia), John Curnow, M D Lond , F.R C P Lond., in his 57th year, of King's College Hospital

N.B —A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

A PLEA FOR THE FINAL YEAR STUDENT

To the Editors of The Lancet

Sirs,—It was with a feeling of disappointment that I read th criticisms on my former letter by Dr N F Stallard I had hope that if an adverse expression of opinion were necessary som senior member of our profession would have given it, but thi maintained silence leads me to believe, possibly with presumptio that part if not the whole, of my letter has found favour in thei eyes With your kind permission I shall endeavour to reply t those criticisms As regards pharmacy I still adhere to my opinio that two hours work in that subject could make a student average ability prescribe with facility any necessary drug as the a of combining medicines belongs more to materia medica tha to pharmacy and a knowledge of their properties must be acquire prior to their use If, as Dr Stallard asserts, we would be at t mercy of the dispensing chemist, I fail to see any humility appealing to the judgment of men who are, and have to be, bett versed in the art of pharmacy and materia medica than the avera medical man, and in this country more attention is, as a rule, paid prescribing what will relieve and cure a patient than to elegance writing prescriptions, which latter accomplishment involves very slig brain exertion on the part of the writer His argument and cor parisons as to biology and pathology constituting the A B C of o professional training are really too absurd, as pathology, which rendered compulsory in the final of most curricula, could hardly that reason lay claim to a position in the medical alphabet, and t too numerous divergent opinions arising from its subject matter mu always prohibit it from being standardised In the same way biolog which only within the past few years has become a part of t curriculum, and did not enter into the studies of most of our present d teachers, cannot, with justice, lay claim to being part of the car foundation of a science which has been known and practised centuries In my opinion anatomy should rightly be called the alpha of the profession I admit that I have indeed heard of the seru treatment of diphtheria but, personally, I have little faith in it, as one hears of pneumonia, pertussis, and follicular tonsillitis, &c., bei diagnosed and treated with the now familiar ' needle in the back' a serum injection, and with, needless to observe, brilliant results, o can hardly wonder at the astonishing numerous statistics adduced its favour For the benefit of Dr Stallard's future experience let say that real genuine diphtheria is a comparatively rare disease, and in my opinion fatal in children of tender years after puberty the anatomical changes in the throat render a more favourable prognosis for the sufferer The recognition of the bacillus of tuberculosis in a phthisical patient is, to my mind, of practically no importance for the following reasons—viz., the bacillus can do no harm unless the host has an hereditary predisposition to the disease and, also, once phthisis has developed under the same conditions, very little except of a palliative nature can be done for the patient It has yet to be proved to my satisfaction that phthisis is curable and that the bacillus is the direct cause of the disease, which some pathologists imagine it to be As regards sending a consumptive to a sanatorium fully as much benefit, in my opinion, can be derived from sending him or her to the seaside, or on a long sea voyage, as it is a well known fact that phthisical subjects under those conditions regain a certain amount of health and may live for a score of years and that being so, why make a speciality of the "open air treatment' ? I venture to predict that after a few years busy practice Dr Stallard will considerably modify his views on certain points and begin to think that, after all, certain diseases are not, in practice, so formidable as they are depicted in theory, and if he views and treats his cases more from a clinical than from a microbic standpoint he will have better results in his practice With reference to the use of antiseptics I may add, *en passant*, that I would use them under no conditions as they are entirely unnecessary where there is an abundance of clean water and soap present Apologising for this lengthy letter

I am Sirs yours faithfully
R H D Popf, L R C S Irel

Belfast, June 16th, 1902.

THE HOLIDAYS OF IRISH POOR LAW MEDICAL OFFICERS

To the Editors of The Lancet

Sirs —I see in your issue of June 28th, p 1868, a notice of the correspondence &c., which I forwarded to you relative to my difficulty in obtaining annual leave from the Abbeyleix board of guardians and the Local Government Board, which I beg leave to thank you for having inserted in your journal At the same time I must draw your attention to some points on which you appear to be under misapprehension First, the heading under which your notice appears is misleading So far from being merely a personal or trivial matter it is one which seriously affects the majority of Irish dispensary medical officers at present and it is only by giving publicity to the grievances under which they suffer individual cases that they can hope for universal redress Your statement at there appears to have been some informality on my part in aking my application for leave is quite inaccurate. If you refer to the orrespondence and copy of minutes of the Abbeyleix board you will see at I carefully fulfilled every condition of the dispensary rules and at my application came before the board in due course. It would also em from your article in THE LANCET that the Abbeyleix board had me just grounds of "displeasure against me. Their sole reason for fusing my leave was that some time previously they having refused pay me my fees under the Labourers Inquiry Act, I was obliged to ecover same from them in the county court, which the verdict proved was legally entitled to

I am Sirs yours faithfully

July 3rd 1902. R. H D OLIER DUCKWORTH

THE Y" FUND

URGEON-GENERAL H S MUIR begs thankfully to acknowledge additional donations towards the above Fund from Mrs. Fardon (and friends) Mr Edgar Stevenson (who sends a donation from Anon") Civilian Surgeons S Forslike and J A. Howard and the following officers of the Royal Army Medical Corps: Colonel W L. Gubbins Lieutenant-Colonels F W Trevor J C. Dorman C.M.G G H Sylvester W J Macnamara, A. G Kay and T P Woodhouse Majors C H. Melville, J W Bullen R I Power F S Le Quesne V C. C H Hale D.S O., W T Swan W Dowman A. A. Sutton D.S O M. P Holt M W H. Russell, H. C. Thurston C.M G B Davis M Kelly J M. F Shine T Daly J G Black, C R. A. Julian C.M.G., W Turner D Stiell, and A. Y Reilly; Captains C A Stone, S. F St. D Green H S Thurston C J O'Gorman D S O., J R. McMunn E. H Condon G S Crawford G H. F Stammers, W W O Beveridge, H. C. Anderson D S O C W H Whitestone, B Forde, N Tyacke and H M Morphew; Lieutenants G M. Goldsmith, B R Dinnis, H H Norman, A. J W Wells S Adye-Curran, J A. Hartigan and A. W A. Irwin; and the officers with the columns under Colonel Little and Colonel Fanshawe. The fund now amounts to £416. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy* a copy of the letter will be forwarded on application to Surgeon-General Muir 28, Kensington gardens-terrace, Hyde Park London, W

A POINT IN ETHICS

To the Editors of THE LANCET

SIRS —May I ask what is usual in the following case? I attended a idwifery case for a fellow practitioner on an emergency I had to drive ve miles out into the country and was away from home four hours hould I act in accordance with custom if I accepted a whole or part of he fee from the practitioner whose case it was, or is it usual for one edical man to act for another in such a case without fee at all?

I am Sirs yours faithfully

July 4th 1902. M D

*** The fairest course in such a case is to divide the fee —ED L.

HOLIDAY COURSES IN BERLIN

J S L. will feel obliged for information as to the holiday courses for medical studies in Berlin.

THREAD WORMS AND APPENDICITIS

To the Editors of THE LANCET

SIRS,—In THE LANCET of July 5th p. 58, a correspondent who signs imself Harlesden asks whether appendicitis in a child is likely to e caused by thread-worms and whether the case to which he refers n which the association was observed is unusual I venture to refer our correspondent to an article in the *British Medical Journal* of pril 15th 1899 in which the presence of thread-worms in the vermi orm appendix was shown to be a frequent occurrence in children In ne case recorded there 111 thread worms were found in the appendix hich was swollen and thickened. In this particular case the boy aged ine years, had complained of pain in the right iliac fossa which had iven rise to suspicion of appendicitis That a catarrhal condition of he appendix may occur from such a cause was clear from the series f observations there recorded the appendix was found to be swollen nd thickened in several cases. Indeed it was sometimes possible o predict the presence of thread worms in the appendix before pening it from its swollen appearance" Obviously if the vermiform ppendix is a common habitat of the thread worm—out of 38 cases n which the oxyuris vermicularis was present in children the worm was found in the appendix in no less than 25—the presence of thread orms in that situation in any case of appendicitis may be a ere coincidence, but the frequency of swelling of the wall of the ppendix when the worms are there suggests, at least that a more cute inflammation may result in some cases. Whether the presence f thread worms is in itself sufficient to cause such inflammation s a difficult point to determine but it hardly affects the question of tiological significance for there can be little doubt that any irritation which produces such a catarrhal condition of the appendix as was resent in these cases will almost certainly diminish the resistance of the wall of the appendix to invasion by micro-organisms and so redispose to a more extensive ute inflammation. Since this paper was published at least one case of appendicitis associated with thread worms in the appendix has been recorded A boy aged about eight years underwent operation for catarrhal appendicitis at the Presbyterian Hospital in New York and section of the organ showed several specimens of oxyuris in the lumen (Pediatrics May 15th 1900, p 411) The very similar case mentioned by your correspondent is of considerable interest in relation to the observa tions mentioned above. I have used the term appendicitis" here advisedly as apart from its ugly hybridism it is evidently more accurate for these particular cases than the word perityphlitis."

I am Sirs yours faithfully

July 5th 1902. GEORGE F STILL.

To the Editors of THE LANCET

SIRS —It may interest your correspondent Harlesden" to know that on the 2nd of this month a lad was operated upon here for what appeared to be recurrent slight attacks of appendicitis The appendix was rem ved although it appeared to be normal but on cutting into it afterwards a live thread worm was found at its apex

I am Sirs, yours faithfully

The Infirmary Leicester July 5th 1902. F BOLTON CARTER.

*** We refer our correspondents to an annotation which appeared in THE LANCET as recently as February of this year (THE LANCET Feb. 22nd, 1902 p 539) entitled Appendicular Colic from Thread worms in the Vermiform Appendix."—ED L.

THE LAW FUND

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON

THE following additional subscriptions have been received by Dr Paramore 2, Gordon-square W C :—

	£	s	d
Mr James Dibble Staple	0	5	0
Dr Arthur Blundell Stevens (with offer of further help if necessary)	3	3	0
Mr Alfred Berthier Oslen	0	5	0
Mr Henry Frederick Semple	0	5	0
Mr Joseph Harvey Sutcliffe	1	1	0
Dr T Rudolph Smith	1	1	6
Mr J Goodwin Shea	0	5	0
Mr Robert Megginson	0	5	0
Mr Arthur Wilson Shea	0	5	0
Mr Harry James Spon	0	10	0
Mr Nugent Edward Smyth	0	2	6
Dr Edward Percival Dickin	0	5	0
Mr Hector Leak	0	5	0
Mr James Irving Lace	0	10	6
Mr Alfred Keppel Barrett	0	5	0
Dr Percy Boulton	1	1	0
Dr George Lindsay Turnbull	1	1	0
Mr Richard William Tomlinson Brooks	1	4	0
Mr Samuel Biggar Giffen McKinney	1	1	0
Mr Albert Charles Butler Smyth	1	0	0
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Mr Herbert Lucas	0	10	6
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Mr William Scoble Mackenzie	0	5	0
Mr George Brown	0	10	6
Mr John Marshall (second donation)	0	5	0
Dr Samuel McBean	0	10	0
Dr Peter William Macdonald	0	10	0
Dr Sydney Henning Belfrage	0	10	6
Dr Theodore Maxwell	0	5	0
Mr Frederick Hone Moore	1	0	0
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Mr Robert Simpson	1	1	0
Dr Robert Mitchell	1	1	0
Mr Thomas Jackson J.P	0	4	0
Dr E W Diver	0	5	0
Mr J H. Waddington	0	5	0

THE ASSOCIATION OF GERMAN PRACTITIONERS AND NATURALISTS

To the Editors of THE LANCET

SIRS —In answer to the question of your correspondent (W S) in THE LANCET of June 28th p 1863, relative to the Society of German Scientists and Doctors" he will obtain the information he requires by applying to Herrn Primarius Dr Finck, Geschäftsführer der Gesellschaft Deutscher Naturforscher und Aerzte" (für 1902) Karlsbad

I am, Sirs yours faithfully

Tiefenau Zürich, July 2nd 1902. A PAULS

ADVERTISEMENT

THE rules governing medical etiquette are in some ways different in the colonies from what they are in this country Thus in Australia and New Zealand it is the custom for medical men to advertise their names, addresses and the hours at which they may be seen in the public press. This we have no doubt is necessary in a somewhat sparsely inhabited country and in one where patients have to come from great distances There are however limits beyond which advertisement should not go and a pamphlet which we have received to our thinking transcends these limits It is entitled "Testimonials to Dr E G Leger Erson, Physician and Surgeon (Registered in Great Britain and Australasia) ' We cannot find Mr Erson's name in the Medical Register for 1902 but in the Australasian Medical Directory for 1896 we find that he is entered as "L. et L Mid R C.P Edin 1876." From the testimonials, copies of which, we hear are distributed broadcast we presume that Mr Erson is at present—for by internal evidence the pamphlet appeared during last year—surgeon to the Peak Hill Hospital He has 'late' and "formerly" held a number of appointments ranging from that of honorary physician to the Auckland Hospital to that of Vice president of the Manly Bowling Club From his testimonials we also learn that people listen with rapture "to the well rounded quality of his superb tenor voice and the effectiveness of rendition" A superb tenor voice is an enviable possession, but we think that Mr Erson would be well advised not to scatter the pamphlet to which we have referred among either his own or other practitioners patients

THE KING AND THE QUACK

A CORRESPONDENT has sent us a copy of the *Weekly Times and Echo* published on Sunday, July 6th, and has marked an article from the pen of Mr T R Allinson entitled 'How the King might have been Cured without Operation" The article contains such useful pathology as the attributing of perityphlitis to the use of tea, coffee, and tobacco and recommends as treatment warm sponging once or twice a day in a bed in a room with the window open—"no drugs are given and no operation is advised The person we are quoting is of course, well known to the medical profession as one who lives by abusing that profession to which he once belonged In an answer to correspondents on the same page he says: 'If I had seen the King on the Monday by the following Monday he would have been up and about and that without operation The drug doctors know nothing of what nature will do I have cured at least two dozen cases like his without an operation or a drop of medicine We suppose this sort of audacious balderdash results in poor dupes going to see Mr Allinson The newspaper which publishes such rubbish incurs a grave responsibility Unfortunately, the responsibility is only a moral one

FUND FOR MEMORIAL TO LATE SURGEON GENERAL NASH

THE following additional subscriptions to the above fund have been received The fund will be closed on August 2nd

	£	s	d		£	s	d
Lieutenant-Colonel R H Nicholson	0	10	6	Major M O Halloran	0	5	0
Surgeon General T Tarrant	1	0	0	Lieutenant-Colonel J W Brazier Creagh, C M G	0	10	6
Major E S Marder	0	15	0	Lieutenant-Colonel E R Cree	1	0	0
Lieutenant Colonel A M Davies	0	10	6	Major G Scott (short acknowledged)	0	5	0
Deputy Surgeon General H F Smith I P	1	1	0	Previously acknowledged	104	2	6
Brigade-Surgeon E A. Gibbon	1	1	0	Total	£111	1	0

WANTED—A HOME

To the Editors of THE LANCET

SIRS,—I should be much obliged if any of your readers could help me in the matter of a phthisical patient. She spent last winter in a sanatorium in the south and was much benefited and I think the prospect of cure is fairly good if she could continue the treatment This she is unable to do for want of funds but would gladly accept a position as nurse or helper in such an institution, either for a very small salary or in return for board and treatment She is a good amateur nurse and has nursed several cases of phthisis (from which, no doubt she contracted the disease) and her condition is at present quite good enough to enable her to do light work She is of a very bright and cheery disposition I should be glad if anyone interested would communicate with me

I am, Sirs yours faithfully

Wylam on Tyne, July 4th, 1902. W H BISHOP

To the Editors of THE LANCET

SIRS —I shall be obliged if someone will kindly inform me through the medium of your Answers to Correspondents" column whether there exists a suitable home for a young lady of small means suffering from hysteria in rather a severe form A place where Weir Mitchell s treatment is in vogue would be preferable

I am, Sirs yours faithfully,

D LL. K PRICHARD M R C S Eng L R C P Lond

The Ferns, Bettws y Coed, N W July 7th, 1902.

THE BACKBONE OF ANTI VACCINATION

IN an annotation upon the Imperial Vaccination League which appeared in our issue of July 5th p 33 we mentioned that most of the detractors of vaccination were men and women of no intellectual calibre Unfortunately persons of this description are just those who gain the ear of the masses In the issue of the *Northern Echo* of June 27th there are two typical advertisements emanating from an anti vaccinationist His name is J Clayton and he lives at Middlesbrough He calls himself a medical herbalist and tumour specialist, but he gives advice and treatment with regard to all complaints During the last nine years he has taken off over 200 tumours without cutting from almost every part of the body—"Cause, Vaccination. Mr Clayton' views on pathology are simple He professes to believe that vaccination causes tumours "because when the tumour comes off you ca see the same number of holes in the part where the tumour come off, oozing with matter that correspond to the same number of mark that are on the arm, so that it leaves no doubt on the subject" Mr Clayton further states that when the calf lymph travels to the live it breeds small pox, when it travels to the throat diphtheria Whe the lymph travels to the brain we have diseases of the mind W are compelled to think from this remark that Mr Clayton ha evidently been vaccinated

INDEPENDENCE DAY AND TOY PISTOLS

THE most universal method of celebrating a joyous occasion is t make a noise The youthful Britisher blows horns and squeakers o howls in the street The youthful American lets off toy pistols Sometimes these inflict wounds and in the year 1900 there were 2 persons who died from tetanus in Chicago from wounds received o Independence Day This set the health authorities thinking and this year the mayor issued a proclamation against the discharge o dynamite, firearms, and cannon crackers, and especially against the sale of toy pistols or metal caps to children The result of this wa that only four persons died from tetanus owing to injuries receive on Independence Day this year Over here the toy pistol is fatal not so much from tetanus as from direct injury Various attempts have been made in Parliament to pass a Pistols Bill which should prevent the sale of these lethal toys but the last Bill brought in wa thrown out mainly, so far as we remember, owing to the opposition o a Radical Member

◆

Sybil —The treatment is rubbish The indecent questions that ar asked have no bearing on the condition The advertisers ar dangerous quacks

R G T—Full information will be found in "Neale s Digest ' Th original lectures were published in THE LANCET

L P proposes to take exactly the right course

COMMUNICATIONS not noticed in our present issue will receive attention in our next

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS

MONDAY (14th)—London (2 P.M.), St Bartholomew's (1 30 P.M), St Thomas's (3 30 P M), St. George s (2 P M), St Mary's (2.30 P M), Middlesex (1 30 P.M), Westminster (2 P.M), Chelsea (2 P.M), Samaritan (Gynæcological, by Physicians, 2 P M), Soho-square (2 P.M), Royal Orthopædic (2 P M), City Orthopædic (4 P M), Gt Northern Central (2.30 P M) West London (2.30 P M), London Throat (9 30 A M), Royal Free (2 P.M), Guy s (1 30 P M)

TUESDAY (15th)—London (2 P M.), St Bartholomew's (1 30 P M), St Thomas s (3 30 P.M) Guy s (1.30 P M), Middlesex (1.30 P M) Westminster (2 P M) West London (2.30 P M), University College (2 P M), St George s (1 P M), St Mary s (1 P M), St. Mark's (2.30 P.M) Cancer (2 P.M), Metropolitan (2.30 P M), London Throat (9 30 A M.), Royal Ear (3 P M), Samaritan (9.30 A M. and 2 30 P M), Throat, Golden square (9 30 A M), Soho-square (2 P M)

WEDNESDAY (16th)—St Bartholomew's (1.30 P.M), University College (2 P M), Royal Free (2 P M), Middlesex (1 30 P M), Charing-cross (3 P M), St Thomas's (2 P.M), London (2 P M), King s College (2 P M), St George s (Ophthalmic 1 P M), St. Mary's (2 P.M), National Orthopædic (10 A M), St. Peter's (2 P.M), Samaritan (9.30 A M and 2.30 P.M) Gt Ormond street (9.30 A M), Gt Northern Central (2 30 P M) Westminster (2 P.M), Metropolitan (2 30 P M), London Throat (9.30 A.M.) Cancer (2 P.M.), Throat, Golden square (9 30 A M), Guy's (1 30 P M)

THURSDAY (17th)—St Bartholomew's (1.30 P.M), St Thomas's (3 30 P.M), University College (2 P M), Charing-cross (3 P M), St George s (1 P.M), London (2 P.M), King's College (2 P.M) Middlese (1 30 P M) St Mary's (2.30 P M) Soho-square (2 P M), North Wes London (2 P M) Chelsea (2 P.M), Gt Northern Central (Gynæcological, 2.30 P M) Metropolitan (2 30 P M), London Throa (9 30 A.M), St. Mark's (2 P M) Samaritan (9 30 A.M and 2.30 P.M) Throat, Golden-square (9 30 A.M), Guy s (1 30 P M)

FRIDAY (18th)—London (2 P M.), St. Bartholomew's (1.30 P.M), St Thomas's (3 30 P.M), Guy's (1 30 P M.), Middlesex (1 30 P M) Charing cross (3 P M), St George s (1 P M), King's College (2 P.M), St Mary's (2 P M), Ophthalmic (10 A M), Cancer (2 P M), Chelsea (2 P.M), Gt Northern Central (2.30 P M), West London (2.30 P M), Londo Throat (9 30 A M) Samaritan (9 30 A M and 2.30 P M) Throat Golden-square, (9.30 A.M), City Orthopædic (2 30 P.M), Soho-squar (2 P.M)

SATURDAY (19th)—Royal Free (9 A.M) London (2 P.M), Middlese (1.30 P.M), St Thomas s (2 P M), University College (9 15 A.M), Charing-cross (2 P M), St George's (1 P M) St Mary's (10 P M), Throat, Golden-square (9 30 A.M), Guy s (1 30 P M)

At the Royal Eye Hospital (2 P M), the Royal London Ophthalmic (10 A.M) the Royal Westminster Ophthalmic (1 30 P.M), and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES.

TUESDAY (15th).—Society for the Study of Inebriety (London Temperance Hospital Hampstead road) —3.30 p.m. Council Meeting 4 p.m. Paper:—Dr R Jones: Mental Dissolution the Result of Alcohol.

WEDNESDAY (16th).—Society for the Study of Disease in Children (Hotel Cecil Strand, W C).—6.30 p.m Annual General Meeting 7.30 p.m. Annual Dinner Dr. H. Ashby in the chair

LECTURES ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—Medical Graduates College and Polyclinic (22, Chenies-street W C.) —4 p.m Dr J Galloway: Clinique. (Skin.)

Post-Graduate College (West London Hospital Hammersmith road W) —5 p.m Dr Davis: Medical Anatomy and Physical Diagnosis.

National Hospital for the Paralysed and Epileptic (Queen square, Bloomsbury) —3.30 p.m. Dr Turner

TUESDAY (15th).—Medical Graduates College and Polyclinic (22, Chenies-street, W C) —4 p.m. Dr J E. Squire: Clinique (Medical)

Post-Graduate College (West London Hospital, Hammersmith road, W) —5 p.m. Dr Beddard: Methods and Significance of Examination of the Blood.

Post Graduate Clinical Demonstration (Westminster Hospital) —4.30 p m. Dr Hebb Cases from the Out-patient Department.

WEDNESDAY (16th).—Medical Graduates College and Polyclinic (22, Chenies-street W C) —4 p.m Mr J Cantlie: Clinique. (Surgical.)

Post-Graduate College (West London Hospital Hammersmith road W) —5 p m Mr Dunn: The Varieties and Treatment of Ocular Injuries.

Hospital for Consumption and Diseases of the Chest (Brompton) —4 p.m. Dr Schorstein: Emphysema.

THURSDAY (17th).—Medical Graduates College and Polyclinic (22, Chenies-street, W C) —4 p m Mr Hutchinson: Clinique. (Surgical.)

Post-Graduate College (West London Hospital, Hammersmith road, W) —5 p.m Mr Baldwin Treatment of Injuries.

The Hospital for Sick Children (Gt Ormond-street, W C.) —4 p.m. Dr Still: Diseases of the Kidneys in Children

Charing Cross Hospital.—4 p.m. Dr W Hunter: Pathological Demonstration (Post-Graduate Course.)

FRIDAY (18th).—Medical Graduates' College and Polyclinic (22, Chenies-street, W C.) —4 p m. Dr StClair Thomson: Clinique. (Throat.)

Post-Graduate College (West London Hospital, Hammersmith road, W).—5 p.m. Mr Keetley Acute Intestinal Obstruction.

EDITORIAL NOTICES

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* 'To the Editors, and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed To the Sub-Editor

Letters relating to the publication, sale and advertising departments of The Lancet *should be addressed To the Manager*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES

THE INDEX TO THE LANCET

The Index to Vol. I. of 1902, which was completed with the issue of June 28th and the Title-page to the Volume, were given in The Lancet of July 5th.

VOLUMES AND CASES.

Volumes for the first half of the year 1902 are now ready Bound in cloth gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are now ready Cloth, gilt lettered, price 2*s.* by post 2*s.* 3*d*

To be obtained on application to the Manager, accompanied by remittance.

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Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of The Lancet at their Offices, 423, Strand, W C , are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach The Lancet Offices, and consequently inquiries concerning missing copies, &c. should be sent to the Agent to whom the subscription is paid and *not* to The Lancet Offices.

Subscribers, by sending their subscriptions direct to The Lancet Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from The Lancet Offices or from Agents, are —

For the United Kingdom		To the Colonies and Abroad	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager Mr Charles Good, The Lancet Offices, 423, Strand, London, W C

Subscribers abroad are particularly requested to note the rates of subscriptions given above. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of The Lancet necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of The Lancet have for many years paid, and continue to pay the whole of the heavy cost of postage on overweight foreign issues , and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—The Manager, The Lancet Offices, 423, Strand London England

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

The Lancet Office, July 10th 1902.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
July 4	30 07	S.W	...	120	80	63	65	60	Cloudy
5	30·17	N W	...	122	82	59	63	67	Cloudy
" 6	30 23	S.E	...	116	78	63	63	71	Hazy
7	30·07	N	...	127	80	63	66	71	Hazy
" 8	30·14	W	...	125	69	62	60	68	Hazy
9	29 94	W	...	110	75	63	62	66	Cloudy
" 10	29 66	W	0 23	94	63	65	65	61	Cloudy

During the week marked copies of the following newspapers have been received —*Pioneer Mail Devon and Exeter Express Dublin Evening Telegraph Southampton Echo, Lancaster Guardian Echo Daily Express Standard Bristol Mercury Windsor and Eton Express Globe Westminster Gazette Sunday Times Derbyshire Times Torquay Directory Reading Mercury Herts Advertiser Times of India, Aberdeen Free Press Lancashire Post, Plymouth Morning News Western Mercury Yorkshire Mercury &c*

Communications, Letters, &c, have been received from—

A.—M J Astier Asnières France, Alexander Manufacturing Co, Lond, Apollinaris Co Lond Messrs Allen and Hanburys, Lond Mr H E Armstrong Newcastle on - Tyne A G Dr J Arkwright Halesowen, Association for Promoting Compulsory Registration of Midwives Secretary of, Ealing Dr Edward Adamson, Rye; Sister Amy, Maidstone

B—Dr Guiseppe Bellei Bologna Dr George Brown Colchester Mr C H Brown Philadelphia, U S.A., Dr D Bower, Bedford T B Browne Ltd, Lond Messrs J H Booty and Son, Lond Surgeon General A. F Bradshaw C B, Oxford Messrs J and H Bell, Nottingham; Birmingham General Hospital House Governor of Professor C H Bidford, Calcutta Dr G Sandison Brock Lond Birmingham University, Registrar of Dr W Tyrrell Brooks, Oxford Dr Bond Gloucester Messrs C Barker and Sons Lond, Messrs C Birchall, Liverpool, Mr J Boot, Nottingham Dr George Brown, Brighton Dr H. Biss, Lond *Building News*, Editor of

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Two Lectures

ON

INJURIES OF NERVES

Delivered at St. Bartholomew's Hospital on March 19th and 21st 1902

By ANTHONY A BOWLBY, C M G,
F R C S Eng,
JOINT LECTURER ON SURGERY

LECTURE I.

Delivered on March 19th.

Gentlemen —In commencing a brief description of injuries of nerves and their results I must remind you first of all that the effects of an injury of a nerve are out of all proportion to its size, and that, consequently, although only a very small punctured wound may have been inflicted on a patient's arm yet as a consequence of that the hand or a great part of it may be practically paralysed and useless. Hence it is that injuries of nerves assume a very much greater importance than the size of the wounds which inflict those injuries would give you cause to consider probable. I propose to begin by describing to you briefly what happens in the upper end of a divided nerve. In the first place, it is certain that after a nerve has been cut across the changes which take place in the upper end are primarily limited to that part of the nerve immediately above the point of section and the results of these changes are best seen in the nerves of a stump. When a person has had an amputation performed and you have an opportunity of examining the stump after the lapse of months, or possibly years, you find that the ends of the nerves are bulbous That condition which you see in stumps is found in the upper end of every divided nerve If you look at these specimens they will give you a correct idea of this condition of the proximal end These bulbs were always supposed to be formed of fibrous tissue until 20 years or more ago it was pointed out that in them there are a large number of nerve fibres and further investigation showed that these nerve fibres are young and that they have been formed in the distal end of this portion of cut nerve. They are not old fibres which are in a state of atrophy The first effect, however of cutting a nerve is that the extreme peripheral portion of the proximal end undergoes degeneration and it is only after this degeneration has been completed that a regeneration occurs exactly similar to that in the distal end, of which I shall say more directly It is, then, after this degeneration that regeneration of the nerve fibres takes place, new nerve fibres being developed from the nuclei of the sheath or neurilemma. No other change takes place in the proximal end of a divided nerve if within a reasonable length of time an opportunity be given for the two ends to join together But if, on the other hand the nerve ends are not united if they do not have the opportunity of coming together and if the divided nerve fibres which are cut off from the distal muscles and skin do not have the opportunity of resuming their function, they afterwards undergo changes which at the present time are largely lost sight of but which are of the utmost importance in considering the question of secondary nerve suture. You know that it is a rule in pathology that a part which is not used undergoes atrophy And this is true of nerves as well as of any other structure. The consequence is that the proximal end of the divided nerve undergoes atrophy in proportion as the fibres are cut off from the parts which they have hitherto innervated. The result is that after the lapse of years the proximal portions of the divided nerves gradually shrink in size and it is probable that this shrinkage is associated with actual destruction of a certain amount of the nerve fibres and of the axis cylinders which are their essential parts. But something more than that happens, and it was pointed out many years ago that after amputation there ensue in the spinal cord changes which result in destruction and atrophy of some of the large motor cells in the anterior cornua. It is only to be expected that if these cells are separated from the muscles which they have been in the habit of innervating they also should undergo atrophy But it is of much importance to recognise that changes take place as far up as the spinal cord, and changes such as the destruction of the large nerve cells in cases in which amputation has been performed are of the greatest importance to recognise And it is believed and is thought to have been proved by experiment, that exactly the same changes take place when merely a nerve has been divided and not only when the limb has been amputated. This has been proved in the case of animals by experiment, but as far as I know it has not been proved in the case of man though it is probable that this atrophy of large nerve cells which undoubtedly occurs after amputations occurs also after mere section of a nerve, in cases where years have elapsed and the nerve has not rejoined

We will now pass to a consideration of the lower end of the nerve. The immediate effect of section of a nerve is that the whole of the lower end undergoes both rapid degeneration and atrophy so that ultimately the whole of the peripheral part of the nerve is destroyed The immediate effect is, that within a very few days there is a destruction or breaking up of the myeline, which is commonly talked of as "segmentation of the myeline." The myeline, instead of forming a continuous sheath around the axis cylinder collects in droplets here and there in the sheath At the end of about three weeks the greater part of the myeline is broken up and taken away and at the end of five or six weeks there is practically no myeline to be seen. Before this destruction of myeline is complete the axis cylinders also have begun to disintegrate and to break up and in the course of a short time they are completely destroyed so that at the end of five or six weeks the nerve in the whole of its peripheral part is reduced to its original fibrous tissue elements. There is the neurilemma sheath intact, there is the sheath of the nerve without the essential nerve elements and that condition is one which you will find in every completely divided nerve within five or six weeks. What is not so clear is the next step after this. I have told you that in the lowest part of the proximal end of a divided nerve there is first of all this same degeneration and that very soon there is the growth of a bulb and that this bulb contains newly formed nerve fibres. Is there ever a bulb on the lower end of the nerve? No, there is not. There is no separate formation of nerve fibres at the cut end of the peripheral portion such as occurs in the proximal end Next, is there a restoration of nerve fibres in the peripheral end of the nerve apart from union with the upper end of the nerve? For many years it was believed after Waller had shown that the section of a nerve was followed by its degeneration that the only way in which new nerve fibres could grow in this peripheral end of a divided nerve was by an extension of pre-existing fibres from the upper end, which worked their way down in a corkscrew fashion and grew until they occupied the sheaths which previously had been occupied by normal nerve fibres but which were now empty in the peripheral end. That was mostly a theoretical explanation and was never really demonstrated. Afterwards when the peripheral ends of these nerves came to be more carefully examined it was shown that, at any rate in many animals, there was the formation of nerve fibres of an imperfect character in the peripheral end and something like 20 years ago I found this same condition in the nerve fibres of man. I will read you a brief extract of some lectures I delivered at the Royal College of Surgeons in the year 1887 and which I published in The Lancet[1] and afterwards in a book on "Injuries of Nerves" as follows —

> Chief in importance amongst the changes in the peripheral end is the regeneration which occurs even when no union has taken place with the proximal end. ... .. In the case of a lad of 18 in whom an operation for re-union of a divided ulnar nerve was undertaken seven months after injury an examination of the peripheral end showed that scattered about a transverse section were several small imperfectly developed nerve fibres—smaller than natural and their myeline sheath scarcely perceptible ...... In the case of a woman, aged 53, who had divided the median nerve nine months previously I found the circular spaces in the neurilemma occupied by nerve fibres in various stages of regeneration. The steps in the formation of these fibres could moreover be most clearly traced Their first appearance was in the form of oval and spindle-celled nuclei which seemed to be identical in structure with the nuclei of the sheath. The next step was the elongation of the nuclei and their gradual transformation into fibres around which subsequently a myeline sheath was formed ..... I have been unable to find that similar changes had been noticed by other investigators in cases of nerve section in man. The conclusions that may be drawn from the most recent investigations are: (1) The nuclei of the sheath of Schwann form the new axis by union; (2) the myeline is subsequently formed; (3) the peripheral end may become regenerated without forming any union with the proximal extremity but that it again tends to regenerate if union fails

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[1] The Lancet April 30th, 1887 p 863.

It is 16 years since these extracts were published, and ever since then the doctrine of the peripheral regeneration of nerves has been taught in this school It has also been gradually adopted by almost all surgeons, for clinical experience of injuries in man was evidently in such a matter as this of much greater importance than any observations on animals could possibly be, and it was noticed, soon after nerve suture became part of surgical practice, that if you sewed together the two ends of a nerve which had been separated for several months, then, almost directly after the two ends had been brought together, and often within a few hours, sensation was restored Now, it was evidently impossible that sensation could be restored by the joining together of an upper end which contained normal fibres and a lower end which contained no fibres at all. Therefore it was evident that the regeneration of the peripheral end must have proceeded to some extent in order that there might be fibres sufficient to carry any sensation within a few hours after nerve suture, for nobody could suggest that within those few hours newly formed nerve fibres had extended along the whole length of the peripheral portion of the divided nerve. So that surgeons very soon came to accept as a truth, and almost as a truism, that the peripheral end of a divided nerve did regenerate independently of its union to the upper end

The next thing to consider is, To what extent does it regenerate? It regenerates to a great extent, but never to the full extent without union with the proximal end. The new nerve fibres which I have mentioned as being found in the peripheral ends of divided nerves never attain maturity, they never grow to their fullest size, and I question if they ever grow to their fullest numbers without being joined to the upper end, and union with the latter also results in a much more rapid as well as a more complete regeneration.

The next point which we will consider is, Do these new nerve fibres also, as do the nerve fibres in the proximal end, undergo a second atrophy if they do not join the upper end, and if for years they are not used? I have no doubt that they do I have no doubt that after regeneration, if union with the upper end does not take place, atrophy necessarily ensues, for it has been found that years after complete want of union the distal ends of divided nerves are extremely shrunken, and it has been proved that there is a time after which secondary suture of a divided nerve does not result in a great deal of gain. But I will say more about that point when we consider the question of treatment.

Lastly, we have to consider what happens between the two ends of the nerve I have told you what happens in the proximal end and I have described in general terms what happens in the distal end. You have now to consider what occurs between the two ends If the two ends are in close apposition there are formed new axis cylinders and new nerve tissues which unite the two ends, much as the permanent callus unites a fracture. And it is also possible for the ends to be united even though they are a little distance apart. I take it that if they are a considerable distance apart no useful union ever results If they are an inch or more apart certainly no useful union ever ensues But if they are at a distance of a quarter of an inch from each other a good deal of union may result, and surgeons know that in cases where they have divided sensory nerves upon the face with the intention that they shall not unite unfortunately there is a great tendency for them to unite, even although the ends are fairly widely separated There is a tendency for sensory fibres, at any rate, to creep across an intervening space. I am afraid that there is no such tendency for motor fibres to do so to a useful extent, and consequently in many cases where mixed nerves have been cut, although there is some return of sensation even though the ends are not in close contact, there is, on the other hand, seldom any return of muscular power unless the ends are closely coapted.

Next let us turn to the further effects of injury of nerves Let us go to the tissues which they supply, and first of all to the muscles As soon as a nerve is divided the muscles which it supplies are immediately paralysed and they remain permanently paralysed if the nerve is not reunited at some time before complete atrophy and changes in the cord have taken place. The muscles that are paralysed undergo changes which are very similar to, and may be compared with, those which occur in the peripheral end of a divided nerve They undergo rapid degeneration as well as atrophy, it is not merely that the muscular fibres, on account of not being used, atrophy, but that the muscular fibres, being cut off from their centres of innervation, rapidly degenerate, with th result that in a comparatively few weeks muscles which wer formerly of good bulk are reduced pretty much to fibrou tissue. I will not trouble you with the details of the microscopical changes which take place in cases of section or motor nerves But the result is very well seen in such a cast of the hand as I show you It is still better seen in this photograph of the hand the ulnar nerve of which has been divided. Within a few weeks all healthy muscular tissue is gone It is not merely that the muscle fibres get less numerous but that all the muscle fibres undergo degenerative change. True atrophy is really a diminution in size without alteration in structure, but here there are both atrophy and degeneration, an alteration in structure for the worse Now, these muscles will not be re made unless the continuity of the nerve is re established There can be no doubt about that. The independent regeneration, to a certain extent, of the distal end of a divided nerve may be considered to be a fact. But it is also a fact that a similar regeneration of the muscle does not take place. The next thing one is tempted to ask is this, Are those nerve fibres which you see regenerated in the peripheral end of a divided nerve, sensory fibres, or are they motor fibres? It is certain that the sensory fibres are regenerated in the peripheral end of a divided nerve independently of union with the upper end To what extent are motor fibres regenerated? This question is forced upon us by the fact that, although there is a formation of new nerve fibre in the peripheral end of the divided nerve there are no corresponding regeneration and restoration of muscle. And it is impossible to prove whether these regenerated fibres seen in the distal end of a mixed nerve which has been divided are motor or sensory fibres, for there is no way of distinguishing a motor from a sensory fibre in process of formation, even under the microscope My own opinion is that it is probable that the motor fibres do not undergo anything like the same complete, or nearly complete, regeneration that the sensory fibres do, and I think that clinical evidence supports this view

Supposing that a nerve is divided and the muscles are paralysed and wasted, what clinical evidence is there of this condition? In the first place, there is loss of power, or paralysis Next, there result in time certain deformities, and these deformities are due to one of two things—either to the weakness of the muscles which are paralysed, resulting in the parts being displaced by healthy muscles, as in the characteristic deformity after division of the ulnar nerve, or there may be actual shrinkage of the muscle, not only in its bulk and thickness but in its length If it is allowed to shrink so that its ends are approximated and if a part like the hand or the wrist is kept in a position of flexion whilst the flexor muscles waste there will be deformity due to contracture of the wasted muscles and not deformity from displacement of the part by the healthy muscles So that deformities may result either by the action of healthy muscles not being opposed by the paralysed ones or by the contraction and shrinkage of the atrophied muscles And this condition is particularly liable to occur if a part is kept in such a position that the origins and insertions of muscles are approximated during this process of contracture

Next, what evidence is there, clinically that these changes are taking place? Further evidence is supplied by the reactions to electricity Within two or three days of a nerve being divided the muscles that it supplies begin to lose their faradic contractility, from four to six days after division the muscles have actually lost their faradic contractility Then with regard to galvanism the galvanic contractility is retained for a very much greater length of time It may remain as long as from four to six weeks—in rare cases it remains for about two or three months, but after that lapse of time galvanic irritability is entirely absent and the muscles no longer react to galvanism You have to be careful in estimating this condition, because if you are testing muscles in a part like the hand it is a little difficult to separate, by noting the electrical reactions, the muscles supplied by the ulnar from the muscles supplied by the median nerve, and consequently if you are not careful you find that the reactions are not as clear and definite as I have said they are. But what I have told you is a result of examinations of the muscles in cases of section of nerves a good many hundreds of times, and in all of them the muscles have been examined either by Dr H. Lewis Jones or by his predecessor Dr W Steavenson, both of them skilled electricians. I think, therefore you may take it as certain that the statements which I have made are correct.

The next thing to consider is, Supposing that the divided nerve does unite reasonably soon, which returns first—motor power or faradic irritability or galvanic irritability? There is no doubt about that point. It is of importance to remember that voluntary power returns weeks, months, or even a year before faradic and galvanic irritability return at all. That is a matter of considerable importance when you are examining a patient, for the first sign of restoration of muscular power and of the formation of new motor nerve fibres is not to be found by examining the muscle with faradism or galvanism. You will find that voluntary power will return first of all and that not until after the man has had the use of the muscle and it has been restored in bulk to a considerable extent will *electrical reactions* even begin to be restored. Faradic contractility generally returns before galvanic. That electrical reactions are so delayed is very curious, but still it is a fact and it is one of clinical importance. So whilst the electrical reactions are of great interest and use in estimating the extent of injury of a nerve and the amount of paralysis of muscle they are not of a corresponding use in estimating the return of power because the return of power can be observed clinically and the patient himself is conscious of it long before electricity will give any indication that nerves have been restored or muscles re made. I shall have something more to say about that in connexion with suture, but what I have given you are the elementary *facts* which you must grasp in order to understand the clinical application of them.

In addition to changes in the muscle there are changes which take place in other tissues supplied by nerves, for of course nerves supply all the different tissues. *Let us* take the hand The nerves of the hand are so commonly injured and the hand is a part of the body of such immense importance that it is as well to study these conditions in this part of the body Let us look at the skin. Here are paintings of the skin of both of the hands of the same patient. In the one the median nerve has been divided, in the other there is a normal skin. In the hand in which the nerve has been divided the fingers are thin and glossy shiny and tapering Notice that all the markings on the skin of the fingers are gone. The skin looks as if it had shrunk, as if it were tied down tightly and stretched upon the subjacent structures. This, indeed, is so. The skin is as shrunken and *atrophied as it looks*. Here is another hand which shows the same thing to a less extent. This next picture shows a patient in whom the left median nerve was divided some time previously Here you see the characteristic tapering shiny fingers and the other condition of skin which was described years ago by Sir James Paget under the name glossy skin." This glossy shiny atrophied skin is very characteristic of many nerve sections. Sometimes the changes which take place in the skin are more pronounced even than that. Here are two pictures. In this left hand there is shown a change in the index finger after division of the median nerve at the wrist. You will notice that the skin is raw that there has been desquamation of epidermis and that as *a result* the whole of the finger is sore. Those are changes which are rare, but the shiny atrophied skin is common. Now look at the next picture and see to what extent these changes may go. This shows the result of division of the median nerve and you see that *the end of the* index finger has completely ulcerated away and there is left the exposed tip of the necrosed phalanx. Patients who have these divided nerves are liable to have painless whitlows, for the part is insensitive, and these whitlows tend to cause destruction of the end of the finger and may result in necrosis of the phalanx Not a few of these conditions are the results of injury to a part which is insensitive. A man came here with an open sore at the end of his index *finger* as a result of his having put it into the bowl of his pipe he had pressed the burning tobacco down without noticing that he burnt his skin Another man said that he burnt his finger by putting it against a stove but he did not know that he burnt it until after he had taken it away In the same way slight cuts or tears are often inflicted upon these anæsthetic fingers without the patient being aware of the injury Of course, a slight injury which causes no pain is liable to be neglected by the patient and the consequence is that a small sore place is not treated because it does not hurt, and so the result is that the sore place gets bigger instead of healing

Now the nails are really appendages of the skin and it is quite proper to consider them in connexion with the skin The nails in such cases as we are considering become very broken and fibrous they are ridged and furrowed, altered completely in their texture. It seldom happens that a nerve supplying the hand is divided without there being in the course of a few weeks or months, some changes in the structure and texture of the nails. In this case there had been division of the median nerve at the wrist some time previously, and you see that the nails are much more like birds talons than ordinary nails, they are large, thick, curved and fibrous.

The hair is another appendage of the skin. In many cases the hair atrophies like other structures, and so do the glandular tissues in the skin, the sebaceous glands and the sweat glands, and it is because of the atrophy of these *structures that the part assumes this shrunken shrivelled*, glossy appearance. I take it that that condition of the skin which is talked of as glossy skin" is not merely a result of change in the skin but of changes in the corresponding glands, indeed of all the constituent parts

Lastly, we will consider the joints. The joints undergo changes which result in their becoming more or less stiff. They often have fibrous adhesions formed in them and first of all they generally undergo an inflammatory change. If you look at the joints of the hand in a case where the ulnar or median nerve has been divided you will find soon after division that the joints are swollen and painful, and that afterwards, when the inflammation has passed by and the swelling has gone, they are left more or less stiff. This stiffening of joints is a matter of clinical importance, for if you do not recognise it and take care that the joints do not become stiffened then in many cases the condition of the *hand will be much worse than it need have been*, for you can anticipate these changes and can to a great extent, prevent deformities which might otherwise arise.

EFFECTS OF SUTURE.

And now we will consider what happens, supposing that as soon as a nerve is divided you suture the two ends together Do those two ends ever grow together immediately so that none of these degenerative changes which we have been describing occur? No, it never happens Unfortunately there is no such thing as the immediate and complete union of two ends of a divided nerve. I am not prepared to say that this may not take place to some slight extent, but that is a matter rather of theoretical than of *practical importance*. It is certain that after a nerve has been divided even if you suture it within an hour even if you divide it at the time of operation and suture it yourself within a few minutes of having divided it, you will not prevent most of the degeneration which takes place in the peripheral end. You may cause some diminution in that degeneration possibly and it may be that suture may prevent to a slight extent the degenerative changes which I have described, but unfortunately it certainly does not prevent the changes that take place in the muscles. They will still show the alterations of the electrical reactions, they will waste and they will degenerate. The same is true of the peripheral end of the nerve. It will atrophy and *degenerate* and *new nerve* fibres will have to be made The consequence is that when you have to do with a patient who has a recently divided nerve however carefully you suture it and however well the wound behaves you must expect, and your patient must be told to expect, that the motor function of the nerve will not be fully restored for about a year or more. Supposing that the nerve has been divided that it has been sutured as carefully as possible, that the wound has run an aseptic course, and that all has healed well which returns first, motion or sensation? Undoubtedly sensation returns first. Sensation returns, and may become comparatively complete, months before there is the slightest evidence of the restoration of motor power The muscles if they waste *necessarily* take time to be restored. The sensory structures do not take anything like the same time nor do they require the same amount of repair The destruction of tissue in the sensory apparatus does not correspond with that in the motor and the consequence is that the muscular tissue requires so much longer time to be re-made that motor power is always later in returning than is sensation.

PRIMARY SUTURE

Now a very few words about primary suture which is best carried out as soon after a nerve has been divided as possible. In most cases it is best, in suturing a nerve, to pass at least one suture, consisting of a material which will be absorbed, right through the nerve, above and below where it is divided Personally, I think that the best material you can use is a tendon suture, generally quite a fine one, such as a split kangaroo tendon. I object to silk, because it remains as a foreign body in the nerve and causes the formation of fibrous tissue and consequently a lumpiness and hardness and tenderness in the sutured nerve. A tendon suture will last a long time and is strong and yet ultimately it will be completely removed. One suture is in many cases sufficient and causes quite enough coaptation of the parts In a certain number of cases you may put one or two fine sutures in addition through the sheath of the nerve, but I think that, as a rule, these are not necessary Having done this and put the part at rest on a suitable splint you have done practically all that operation can do to bring about union of the upper and lower ends of the nerve. After that the important thing is to keep the parts sufficiently long at rest and not to put a strain too soon upon the nerve which has been joined. Then there should be warmth, slight use of the part, massage, and galvanism Warmth is undoubtedly useful. A paralysed part tends to remain cold and the more cold it is the more you may be sure that the processes of nutrition are impaired. Therefore warmth is distinctly indicated. Again, if a part is paralysed and cannot move of itself you will help its nutrition by massage, which will at any rate prevent some of the contracture of muscles and prevent stiffening of joints and will tend to move on the fluids in the tissues and in that way maintain to some extent their nutrition. Again, so long as there is muscle to galvanise the use of the galvanic current will at any rate give the muscle something to do and keep it moving and prevent a little its atrophying by disuse and will cause such muscular fibres as there are to contract. Warmth, massage, and galvanism are not indispensable, but they tend to keep the tissues supplied by the nerve in a more healthy condition.

Now, having cut across the nerve and sewn it together, what happens to individual fibres? Do they rejoin? Is it to be supposed that they re-unite so that the proximal end of a fibre rejoins the distal end of the same fibre? This is evidently impossible No one supposes that the fibres in the peripheral part of a nerve twig which goes to the ulnar side of the little finger are going to seek out and join to the same fibrils in the proximal part with which they were previously continuous. I take it that it is certain that the proximal end of a nerve which went to the middle finger may join the distal end of the nerve which went to the thumb and—speaking of sensory nerves—that the nerves must get very much mixed up As a matter of fact, the result is that at first, although the person can feel that he is being touched, yet he is not in the early stage able to localise exactly For instance, you may touch a man's index finger in front and he may tell you that you are touching the back of his middle finger Evidently the nerve fibres cannot be expected to join in the same position as that in which they were before the injury

What about the motor fibres? That is a much more complex matter The motor fibres also, no doubt, get mixed, and, when you come to consider it, it is evident that a good many motor fibres do not necessarily get properly joined up at all, and the result is, that though you may talk of successful union of a nerve, it is most likely that even in the most successful cases all the sensory fibres do not get joined up nor do all the motor fibres As a practical result, surgically speaking, as far as your patients are concerned, there is evidence that even in these successful cases there is not that complete restoration of nerve tissue which would be implied in the term "cured" The patient is not usually cured completely, for the part is often not innervated as it was before the injury But I shall have more to say about this in connexion with injuries of different nerves, for in certain nerves function is much more completely and rapidly restored than in others

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SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN —A quarterly court of the directors of this society was held on July 9th. The President, Mr Christopher Heath, took the chair Two new members were elected the deaths of three members were reported, and the resignation of a member was accepted Fresh applications for grants were read from two widows and grants of £50 per annum were made. It was resolved to distribute £1342 among the 55 widows, 11 orphans, and five recipients from the Copeland Fund now in receipt of grants. The expenses of the quarter were £47 19*s* 6*d*.

Five Clinical Lectures

ON

THE CAUSATION AND PREVENTION OF PHTHISIS.

BY BYROM BRAMWELL, M D, F R C P, F R S EDIN,

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LECTURE III.[1]

GENTLEMEN,—To-day I propose to direct your attention to (1) the precautions which the individual should take in order to protect himself against phthisis and other forms of tuberculous disease, and (2) the measures which, in my opinion, the municipal sanitary authorities and the Government should take with the object of trying to reduce the prevalence of phthisis and other forms of tuberculous disease to the lowest attainable limit

THE PRECAUTIONS WHICH THE INDIVIDUAL SHOULD TAKE IN ORDER TO PROTECT HIMSELF AGAINST PHTHISIS AND OTHER FORMS OF TUBERCULOUS DISEASE.

With this object in view the individual should endeavour (1) to increase his "vital resistance" by maintaining his general health in the best possible state of efficiency, (2) to avoid all conditions likely to produce in the body, and more especially in the respiratory and gastro intestinal tracts, the local alterations which form a suitable nidus for the development and growth or absorption of the tubercle bacillus and its spores, and *a fortiori*, if such alterations are present, to take means to allay and to remove them as speedily and as completely as possible, and (3) to prevent the introduction into the system of the tubercle bacillus and its spores—in particular (*a*) to avoid breathing air containing the tubercle bacillus or its spores, and (*b*) to avoid drinking milk containing living tubercle bacilli or their spores These precautions are especially necessary in the case of persons who inherit a strong hereditary tendency to phthisis and tubercle, and still more essential in the case of persons who are obliged to live in close contact with persons suffering from phthisis

During infancy and childhood special attention should be directed to the dietary and to the condition of the gastro-intestinal tract. Everything (such as unsuitable food, decomposing milk, dirty feeding-bottles, insanitary surroundings, or exposure to cold and damp) likely to produce irritation and catarrh of the gastro intestinal tract should be carefully guarded against since such lesions form a suitable nidus for the development and growth of the tubercle bacillus and favour its absorption. If catarrhal lesions or diseased conditions are developed in the gastro intestinal tract they should be allayed—treated and cured—as speedily as possible, for there seems reason to suppose that one of the reasons why the children of the poor suffer so much more frequently from tabes mesenterica and other tuberculous lesions, such as tuberculous meningitis, than the children of the rich is that (in consequence of their poverty, the insanitary nature of their surroundings, the careless way in which they are fed, and the unsuitable nature of their food) they are much more frequently the subjects of catarrhal and diseased conditions of the gastro-intestinal tract than children who are better circumstanced and looked after Special efforts should also be made to prevent the introduction into the gastro-intestinal tract of tuberculous milk. During later childhood the same precautions should be maintained and special attention should be directed to the condition of the mouth and throat, since diseased conditions of the mouth and throat are apt to lead to the production of tuberculous lesions in the cervical and sub-maxillary glands and more distant organs, both by causing irritation of the cervical glands (i.e., by producing a suitable nidus for the development of the tubercle bacillus) and by favouring the absorption of the tubercle bacillus or its spores During youth and adult life special precautions should be directed to the condition of the respiratory apparatus. If the respiratory capacity is, in consequence of defective chest development below par it should be increased by suitable gymnastic exercises and special care should be taken to prevent the development in the respiratory tract of unhealthy conditions and catarrhal lesions for it is during this period (youth and adult life) that phthisis is chiefly apt to develop

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[1] Lectures I and II were published in THE LANCET of July 5th (p 6) and July 12th, 1902 (p 61) respectively

Persons who inherit a strong tendency to phthisis should with the object of preventing the development of it and other forms of tuberculous disease, be well fed well clothed, and well housed, they should live, if possible, in a high, dry and pure atmosphere, and in a well built, airy and well-drained house, which is not built on a cold and damp subsoil, which is surrounded by plenty of fresh air and which is bathed in plenty of sunlight they should have plenty of exercise and sleep, their bedrooms should be airy and well ventilated they should make a practice in winter as well as in summer of sleeping with the window open (a few inches from the top is amply sufficient) they should avoid excesses of all kinds (alcoholic and other) they should choose an occupation or profession which does not necessitate the breathing of an irritating and dusty atmosphere (the mortality from phthisis amongst knife-grinders and stonemasons for example, is very high) an occupation which is outdoor and active rather than indoor and sedentary If their chest development is defective they should systematically practise lung gymnastics with the object of increasing their respiratory capacity and they should be regularly weighed, for there is no better indication of variations in the state of nutrition than variations in weight. They should pay special attention to the condition of their digestive functions they should drink plenty of (non tuberculous) milk they should eat if they are able to digest it a good deal of butter and fat-forming foods, and if their nutrition is below par they should take cod liver oil in cold weather

It is unnecessary to say that many of these prophylactic measures the object of which is to maintain the general health in the best possible state of efficiency to strengthen and increase the "vital resistance," and to prevent the development of those local alterations in the respiratory and gastro-intestinal tracts which form a suitable nidus for the development of the tubercle bacillus, or favour its absorption can only be satisfactorily carried out by rich and well to-do people. I have, however detailed and emphasised them, since they are of the utmost importance and since they should, so far as circumstances will permit be aimed at and carried out in the case of the poor as well as in the case of the rich.

THE SPECIAL PRECAUTIONS WHICH SHOULD BE TAKEN BY HEALTHY PERSONS LIVING IN CLOSE CONTACT WITH PHTHISICAL PATIENTS

Healthy persons who are obliged to live in contact with patients suffering from phthisis should be specially careful to carry out the individual precautions which have just been insisted upon. And it is important to emphasise the fact that many of the precautionary measures which are best fitted to prevent the extension of the disease to other (healthy) persons who are in close contact with the phthisical patient and also to the public at large (such as free ventilation abundance of fresh air the avoidance of overcrowding plenty of sunlight, scrupulous cleanliness both as regards their own persons and their surroundings, the absence of dust and dirt, the destruction or disinfection of all discharges containing the tubercle bacillus, &c.), are also of the first importance to the phthisical patient himself—i.e. are amongst some of the most important measures which he should adopt with the object of promoting the cure or arrest of his disease and to prevent the further development of secondary tuberculous lesions in his own body It is important to impress this fact upon the patients and upon the public for many persons who will not adopt precautionary measures merely for the benefit of the outside public will adopt precautionary measures if they realise that it is for their own benefit and for the benefit of their wives and children that they should do so.

Persons living in close contact with phthisical patients should be scrupulously careful to take every means to prevent the introduction of the tubercle bacillus or its spores into their own bodies. The chief risk is the inhalation of air containing the tubercle bacillus or its spores or infection by kissing using cups &c., contaminated with phthisical sputum or other discharges containing the tubercle bacillus The essential points are to destroy the sputa or other discharges which contain the tubercle bacillus and its spores while they are still moist—i e., as soon as possible after they are ejected by the patient—to prevent such discharges becoming dried and pulverised to see that the rooms in which phthisical patients live and sleep are kept scrupulously clean thoroughly well ventilated and if possible, bathed in sunlight, so that the poison, if it should get into the atmosphere, may be freely diluted and destroyed by oxygen and sunlight.

The destruction and disinfection of the sputum or other discharges which contain the tubercle bacillus.—The phthisical patient must be instructed not to swallow his sputum This is of great importance for the patient himself in order to prevent the development in the intestinal tract of secondary tuberculous lesions (tuberculous ulceration of the intestine) It is also of importance for his friends and relatives, for if diarrhœa the result of tuberculous ulceration of the intestine is developed the difficulty of destroying the poison is greatly increased and additional precautions against the extension of the disease to others are necessitated. In those cases of phthisis in which diarrhœa is developed the fæcal discharges should, immediately after their evacuation, be destroyed or disinfected and any linen bedclothes &c. which are soiled by such discharges should be immediately disinfected or destroyed In short, in cases of tuberculous diarrhœa, whether developed in the course of phthisis or any other form of tuberculous disease (tabes mesenterica acute tuberculosis &c.), the fæcal discharges should be treated in the same way as the fæcal discharges from a case of typhoid fever are treated—never allowed to become dry and pulverised always disinfected or destroyed immediately after their evacuation, the nurses and attendants being scrupulously careful to wash their hands after attendance on the patient, before eating &c. The phthisical patient should be instructed to expectorate into a vessel containing a disinfectant or into a pocket-handkerchief which can be destroyed (burnt) after being used (a handkerchief of Japanese paper answers well) and never on any account to expectorate on the floor bedclothes, in the public streets, on the floors of cabs omnibuses, tram cars, railway carriages, &c. In advanced cases of phthisis the patient and his friends should be instructed not to allow the sputum to remain dry on the lips, beard moustache, &c. The phthisical patient should be instructed never to kiss any healthy (unaffected) child or in fact any healthy person and *vice versâ* healthy persons should not allow themselves to be kissed by persons suffering from phthisis It is hardly necessary to say that this is one of the precautionary measures which will in many cases be evaded.

The rooms in which phthisical patients live should be kept scrupulously clean. No dust should be allowed to accumulate in them—the floors walls &c. should from time to time, be rubbed over with a damp cloth. We have seen that the inhalation of dust tends to produce in the respiratory tract catarrhal and other conditions which form a suitable nidus for the development of the tubercle bacillus and that the inhalation of dust which contains living tubercle bacilli or their spores is the chief means by which the tubercle bacillus is conveyed from one human being to another This is another of the precautionary measures which in practice it is in many cases very difficult to carry out. Free ventilation is of the greatest importance (1) for the health of the patient himself and of the other (healthy) occupants who live or work with him (2) in order that the poison if any pulverised sputum or other discharges should get into the atmosphere, may be freely diluted and (3) with the object of destroying any tubercle bacilli or their spores which may be present in the atmosphere or in the dust on the walls floor &c. since an abundant supply of oxygen is destructive to the vitality of the tubercle bacillus. For the same reasons (for the health of the phthisical patient and the other inmates and with the object of destroying the tubercle bacillus) as much sunlight as possible is desirable.

Healthy and unaffected persons should not (if it can be prevented) sleep in the same room,[2] and should never sleep in the same bed, with phthisical patients Overcrowding of the rooms, houses, and workshops in which phthisical patients live and work should, as far as is possible, be prevented. If a phthisical patient should cough into the face of a healthy person, his nurse, or medical attendant, the healthy person should immediately blow the nose, so as to clear out the nostrils and rinse out the mouth and throat with some disinfecting solution. All discharges from tuberculous cases (discharges from diseased bones, joints, glands, &c.) should be treated in the same way as the sputum—i.e., immediately disinfected or destroyed.

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[2] This statement does not of course apply to hospital wards, in which due precautions as regards ventilation cleanliness and the

THE ADMINISTRATIVE CONTROL OF PHTHISIS

The points to which the municipal and sanitary authorities should direct attention and the measures which they should employ with the object of reducing the prevalence of phthisis and other forms of tuberculous disease to the lowest possible limit obtainable with our present means of prevention are, in my opinion, as follows.[3]

General sanitary measures.—It may be laid down as a general proposition that anything which raises the tone and health of the individual, and of the community as a whole, increases the "vital resistance" against tubercle and therefore tends to protect the individual and the community against it, and *vice versâ* that anything which depresses the health of the individual or of the community as a whole decreases the "vital resistance" against tubercle and tends to favour the development and to promote the extension of the disease. Hence general sanitary measures are of the greatest importance in preventing the development of phthisis and other forms of tuberculous disease. The enormous decrease in the mortality from phthisis and other forms of tuberculous disease (tabes mesenterica apparently excepted) which has taken place during the past 45 or 50 years has without doubt been chiefly due to the great attention which has been paid to general sanitary measures and to the diminution of poverty, the cheapening of food, and the general advancement in the well being and whole surroundings of the poorer classes. I shall not attempt to enter into details with regard to the general sanitary measures included under this head, but the following may be enumerated: the laying out of the streets, the construction of dwellings, common stairs, workshops, &c., with special reference to providing sufficient air space both outside and inside, free ventilation, and, so far as it can be provided, a copious supply of sunlight, attention to drainage and the avoidance of damp, the cleansing of streets, alleys, courts, houses, workshops, &c., the removal of filth, dirt, dust, &c., the provision of an ample supply of pure water, the destruction and removal of insanitary houses, slums, &c., the suppression of nuisances, the prevention of overcrowding, &c.

As I have already pointed out, everything which tends to eliminate poverty, to promote the well being, and to raise the moral tone of the community necessarily has an important influence in the prevention of phthisis and other forms of tuberculous disease. Further, it should be remembered that many of the general sanitary measures which improve the health of the community, since they remove the conditions (such as darkness, dampness, a deficiency of sunlight, and a deficient supply of oxygen) which favour the continued vitality of the tubercle bacillus and its spores outside the body, may be regarded as measures specially directed against tubercle. I repeat that everything which tends to promote the health and well being of the community tends to prevent the development of phthisis, and *vice versâ* that everything which reduces the health and depresses the vitality of the community tends to favour the production of phthisis. Under the latter head the following conditions may be specified: poverty and destitution, deficient food, improper food, insufficient clothing, overcrowding, defective ventilation, rebreathing the expired air, darkness, absence of sunlight, dampness of dwellings, dampness of subsoil, defective drainage, the presence of dust, dirt, and filth, alcoholic or other excesses, and consequently a low moral tone of the community, &c. The removal of some of these conditions is not, of course, the duty of the municipal and sanitary authorities, but many of them hang more or less closely together, and the removal of the one—the sanitary defects—tends, at the same time, to the removal of the other—the moral defects, poverty, &c., and *vice versa*.

Special preventive measures.—I shall now speak of the special precautions in the localities, workshops, houses, and rooms in which phthisical patients live and work. If general sanitary measures applied over the whole sanitary area are important means of protecting the healthy members of the community against phthisis and of diminishing the prevalence of the disease it is hardly necessary to point out that the same sanitary measures are of still more importance when focussed, as it were, on the points where they are most required—i.e., on the rooms, houses, workshops, and localities in which patients affected with phthisis live and work. Consequently, it is, theoretically at least, the duty of the municipal and sanitary authorities to see that the rooms, houses, and workshops in which phthisical patients live and work are not in an insanitary condition and that any obvious and marked insanitary conditions (such as great overcrowding, highly defective ventilation, the accumulation of dirt and filth, &c.) which predispose the healthy inmates to phthisis are, so far as this can be effected by the action or advice of the municipal and sanitary authorities, removed. It is also the duty of the municipal and sanitary authorities to do what they can to instruct the public, and especially persons suffering from phthisis and the healthy people with whom they are in immediate contact (their wives, families, &c.), as to (1) the nature of phthisis and tubercle, the channels through which the tubercle bacillus is introduced into the system, the conditions which favour the development of phthisis and tubercle, and the conditions which retard or prevent their development, &c.; (2) the importance of diligently and strictly attending to general sanitary conditions (ventilation, both of their day rooms and bedrooms, cleanliness, avoidance of dust, the importance of an abundance of fresh air and sunlight, of good feeding, &c.), in order that persons affected with phthisis may, so far as their circumstances permit, place themselves in the best possible condition to promote a cure of their disease; and (3) the precautions which patients affected with phthisis should take to prevent the extension of the disease to the persons with whom they are in immediate contact and to the public generally. Under this head, in addition to the points which have already been indicated in the preceding headings, the following should be emphatically insisted upon: the paramount importance of disinfecting or destroying the sputum while it is still moist—i.e., as soon after it is ejected as possible; the inadvisability of a healthy person sleeping in the same room and the danger of a healthy person sleeping in the same bed with a patient affected with phthisis; the risk which a healthy person may incur from being kissed by a person affected with phthisis; the risk that a healthy person may run from drinking out of the same cup, using the same spoon (unless they should have been carefully and thoroughly cleansed or disinfected) as a phthisical patient; the advisability of boiling milk before it is drunk, &c.

There can be no question that the great interest which the public are taking in the whole subject of tuberculosis is a most hopeful sign and that the increased knowledge which they are rapidly gaining of the nature of phthisis will be of the greatest possible benefit in enabling the profession and the municipal and sanitary authorities to cope with the disease. Consequently it is the duty not only of the profession but of the municipal and sanitary authorities throughout the country to do everything that they can to instruct the public, and especially the poorer members of the community, as to the nature of the disease and as to the measures which should be taken in order to cure and to prevent it. The diffusion of such knowledge (by medical men, by nurses, by clergymen, by district visitors, and by means of printed instructions, leaflets, &c.) will enable the healthy (unaffected) members of the community to protect themselves against phthisis in the future in a way which, for want of this knowledge, they have not been able to do in the past; it will enable patients suffering from phthisis to put themselves in the best possible conditions, so far as their circumstances and surroundings will allow, for curing the disease and for preventing the development of secondary tuberculous lesions in the intestine, &c.; it will do much to enable patients suffering from phthisis to prevent the extension of the disease to their wives and families and to the public at large, and it will, in the course of a short time so educate the public opinion that they will, I believe, not only submit, but, provided that they are convinced that such measures are essential and necessary will cheerfully submit, to the measures and restrictions which the profession, the municipal and sanitary authorities, and the Government may think necessary to impose in order to reduce the prevalence of phthisis and other forms of tuberculous disease in man to the lowest attainable limit and it is also to be hoped, in order to eradicate completely and to stamp out tuberculous disease in cattle.

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[3] It must be distinctly understood that some of the measures which are suggested in the succeeding paragraphs, such as the compulsory notification of phthisis, the provision of laboratories for testing and reporting on the sputum, and the provision of hospital accommodation for dangerous cases of phthisis, are only suggested on the distinct proviso that a determined and vigorous effort is to be made to reduce the prevalence of the disease to the lowest attainable limit. Unless this is the object the large expenditure of money and the considerable sacrifices which they would necessarily entail both on the part of the healthy and on the part of many patients affected with phthisis would probably not be justified.

The importance of early diagnosis and treatment.—And here let me emphasise the facts (1) that, provided the proper measures of treatment are adopted phthisis is, in its early stages, curable in a much larger proportion of cases than was at one time supposed, (2) that in its later and advanced stages it is practically speaking an incurable disease, and consequently (3) that it is of the utmost importance that the disease should be recognised in its earliest stages in order that the appropriate means of treatment may be employed in the earliest and curable stage of the disease that effectual measures may be taken from the first to disinfect and to destroy the sputum, and that the places in which the disease is contracted may be located so that the rooms, houses and workshops which are sources of infection (phthisical centres) may be disinfected and put into a good sanitary condition. It is essential to remember that early diagnosis and treatment are of great importance not only for the patients themselves, but also for the healthy persons with whom they live and for the community at large. Every case of phthisis may (unless rigorous measures are taken to destroy and to disinfect the sputum) be a centre or source of infection to other people Every case which is not cured in its early stages is apt to run on and consequently may be a centre of infection for months and it may be for years. Hence the great importance, not only for the patient himself but for the healthy community (1) that the disease should be recognised in as early a stage as possible and (2) that all cases of the disease should be placed in the earliest possible stage of their development under the best possible conditions to promote a cure.

The provision at the public expense of means of testing and reporting on suspected sputum suspected milk, &c.—In the early stages of phthisis the diagnosis is often attended with considerable difficulty, and frequently the only means of deciding whether the case is one of phthisis or not is the detection of the tubercle bacillus in the sputum Now since the recognition of the disease in its earliest stages is of the greatest importance not only for the patient but also for the community it is in my opinion the duty of the municipal and sanitary authorities to provide means at the public cost for testing and reporting on the sputum of suspected cases of phthisis and on the discharges of other forms of suspected tuberculous disease. And since it is also in my opinion, the duty of the sanitary authorities to determine whether milk is tuberculous or not and to examine and report upon the discharges from suspected cases of typhoid fever diphtheria, cholera &c. every central municipal and sanitary authority throughout the country should provide a suitable laboratory under the charge of a skilled bacteriologist and an adequate staff of properly trained and skilled assistants for the examination of and reporting on such discharges (sputum, &c.) and food stuffs (milk, &c.) or should make arrangements with existing laboratories for this purpose.

The necessity of providing sanatoriums for the treatment of early cases of phthisis.—Modern experience has shown that fresh air sunlight good feeding and satisfactory surroundings are infinitely more important for the cure of phthisis than any form of medicinal treatment which has yet been introduced or devised hence the necessity of providing in every community sanatoriums in which cases of early phthisis can be treated and cured Now that the importance of the open-air treatment of phthisis is fully recognised rich people and those who are able to pay will take care to provide such sanatoriums for themselves, or rather I should perhaps say such sanatoriums will be provided in which phthisical patients who are able to pay will be received and treated. And it is highly desirable that such sanatoriums should also be provided for poor people. But in my opinion it is not the duty of the local sanitary authorities to provide such sanatoriums that, I conceive, is the duty of the charitable public and of the Poor law authorities. The sanitary authorities would not, in my opinion, be justified in spending the money of the ratepayers in providing hospital accommodation and sanatoriums for the treatment of cases of early phthisis, for provided that proper precautions are taken to destroy and to disinfect the sputum patients who are suffering from early phthisis are not dangerous to others The cost of providing sanatoriums and hospital accommodation for all cases of early phthisis would be enormous, while the cost of instructing phthisical patients as to the necessity of destroying the sputa (and if it is thought advisable of taking means, so far as this is practicable and possible, of seeing that these instructions are carried out) would be comparatively small As will be presently pointed out, phthisis differs from almost all of the other infectious and contagious diseases which are met with in this country in the important fact that the contagion can be thoroughly and easily controlled by the patient himself at all events in the earlier stages of the disease. All that he requires to do is to destroy or to disinfect the sputa, consequently it is not necessary so far as the prevention of the disease is concerned, to isolate cases of phthisis or to restrict the liberty of patients affected with phthisis at all events in the early stages of the disease, always provided that they (the patients) are willing to employ the necessary preventive measures—i.e. to destroy or to disinfect the sputa. But while it is not essential to isolate cases of early phthisis so far as the prevention of the disease is concerned it is very desirable, both for their own sakes—with the object of arresting and curing the disease—and for the prevention of the extension of the disease to others that cases of early phthisis occurring in the lower ranks of society at all events should for a time at least be placed in sanatoriums in order that the patients may be thoroughly taught the precautions which it is necessary to take with regard to the distribution of the sputum &c. to prevent the extension of the disease

The provision of hospital accommodation for dangerous cases.—But while in my opinion it is not the duty of the sanitary authority to provide sanatoriums for the reception of cases of early phthisis it is, I think, the duty of the sanitary authorities, either alone or in conjunction with the Poor law authorities to provide a certain amount of hospital accommodation for those patients affected with phthisis who, in consequence of their poverty the nature of their surroundings (defective house accommodation) and the advanced stage of their disease (great debility the presence of tuberculous diarrhoea for example) are quite unable to take the necessary precautions to prevent the extension of the disease to others and who may therefore be fairly regarded as distinct sources of danger to the community at large, and especially to the persons with whom they live in immediate contact.[4] Many poor patients who are suffering from advanced phthisis who are too ill to work, and who have no adequate means of support are only too glad to go to hospital and as a matter of fact many of these cases are at present of their own free will admitted to our hospitals and infirmaries—where they die This is I conceive one explanation of the fact (which at first sight seems curious) that in Edinburgh[5] Dundee and, I suppose, other large towns more phthisical patients die in two-roomed than in one roomed houses The very poor—those who live in one-roomed houses—die I suppose for the most part in hospitals or poorhouses the less poor—those who live in two-roomed houses—probably die in much larger proportions in their own homes. The migratory character of the very poor is probably also another cause of this difference.

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[4] It is advisable I think that patients suffering from tuberculous disease of th int stine with [illegible]

Under £5		21	£30 and under £40	7
£5 and under £10		125	£40 £.0	7
£10	£15	97	£.0 and upwards	11
£15	£20	70		
£20	£30	39		380

Note.—17 deaths of persons who died in public institutions or common lodging houses are not included in the above

I repeat that, in my opinion, it is desirable that the nitary authorities, or the Poor law authorities, or the nitary authorities in conjunction with the Poor law uthorities (for, practically speaking, the cases of phthisis o which I am now referring are, in the great majority of nstances, paupers or very poor people), should provide a ertain amount of hospital accommodation for the reception, etention, and treatment of cases of this kind, for not nly are their surroundings eminently bad but they are nable to carry out proper preventive measures and so re distinct sources of danger to the community This nay perhaps seem a "large order" but it is to be remem ered that in the course of time, and probably in the course f a short time, provided that the adequate means are rovided for the treatment of early cases and that vigorous reventive measures are efficiently and thoroughly carried ut, the number of cases of phthisis (dangerous cases as they nay be termed) requiring such hospital accommodation will iminish and the cost to the community, which for the first ew years will be very great, will in the course of time ecome, comparatively speaking, small

But, further, it is, theoretically at least, the duty of the anitary authorities to see (so far as this is practicable and o far as such measures fall within the sphere of their action, out only in those cases in which the assistance of the nedical officer of health is demanded by the medical man n attendance) that the preventive measures (for the destruc ion of phthisical sputum) are carried out—in other words, to ee that the persons suffering from phthisis shall not be ources or danger and infection to the persons with whom hey are in immediate contact and to the community at arge. And this leads me to the next point, viz —

The special measures which the sanitary authorities should take in order to prevent the tubercle bacillus and its spores from being conveyed from one human being to another and from bovines to man.—We have seen that the two great sources of tubercle in the human subject are (1) the inhalation of dust containing the dried sputum from cases of phthisis, and (2) the introduction into the alimentary canal of food stuffs (more especially milk) containing the tubercle bacillus and its spores, and that if the prevalence of phthisis and other forms of tuberculous disease in the human subject is to be reduced to the lowest attainable limit measures must be taken to prevent the inhalation of tuberculous dust, and the introduction into the alimentary canal of tuberculous milk and (though this is much less important) of tuberculous meat. This being so, it is, I conceive the duty of the municipal and sanitary authorities and of the Government, if the assistance of the legislature is required, to take measures, so far as they are practicable, to prevent the tubercle bacillus or its spores from being conveyed (1) from one human being to another, and (2) from the lower animal—that is to say (practically speaking), from bovines to man

With the object of preventing the tubercle bacillus or its spores being conveyed from one human being to another the sanitary authorities should take the following measures 1. To instruct patients suffering from phthisis as to the necessity of destroying or disinfecting their sputum while it is still moist, as to the manner in which this should be done, and as to the danger which is entailed to the persons with whom they live and to the healthy members of the community by their expectorating on the floor, on the public streets, in workshops, public conveyances, &c 2. To provide, when they are required, the necessary appliances for the destruction and disinfection of the sputum 3 To see, so far as this is practical and so far as it falls within the power of action of the sanitary authorities, that any insanitary conditions which are present in the rooms, houses, and workshops in which phthisical patients live and work are removed. (This point has already been considered) 4 To disinfect, or cause to be disinfected, on the death or removal of a phthisical patient, the rooms and houses which there is reason to suppose are contaminated with the tubercle bacillus. I do not mean to imply that it is necessary to disinfect every room in which a phthisical patient has lived, or every room in which a phthisical patient has died, but only those rooms which there is good reason to suppose are contaminated with phthisical dust. I repeat that if our object is completely to eradicate and to stamp out phthisis and other forms of tuberculous disease sanitary measures of a general kind are insufficient and that special measures must be taken to destroy or to disinfect the sputum of cases of phthisis and other discharges which contain the tubercle bacillus Fortunately, there is no difficulty in destroying and disinfecting the sputum of cases of phthisis in individual instances provided that the nature of the disease is recognised, that the patient is properly instructed with regard to the destruction or disinfection of the sputum (or other discharges), and that these instructions are carried out. But, practically speaking, it is impossible with the means which are at present available to destroy and to disinfect the sputum in anything like the majority (it would perhaps be more correct to say except in a small minority) of cases of phthisis, for the disease is so persistent and so widely spread, it is so common, so much more common amongst the poor, ignorant, and careless members of the community, in whom the disease is often unrecognised in its earlier stages, since they do not in many instances seek medical advice until it is far advanced, and who, after the disease has been recognised, are in many instances either unable or unwilling to take the precautions which are necessary to prevent its extension to other people, and the individuals who are affected with phthisis and the houses in which they live are not known to the sanitary authorities There will, I suppose, be little or no difference of opinion that great advantages would result from the measures which have just been indicated (1, 2, 3, and 4) provided that the sanitary authorities were in a position to carry them into effect But without a compulsory system of notification the sanitary authorities are quite unable to carry them into effect The compulsory notification of phthisis is, in my opinion, necessary and essential if a serious and determined effort is to be made to reduce the prevalence of the disease to the lowest attainable limits (see Lectures IV and V) 5 Further, if phthisis and other forms of tuberculous disease are to be reduced to the lowest attainable limit it is, in my opinion, theoretically speaking, advisable (though some of these measures may at first sight seem to be arbitrary) that the sanitary authorities should insist so far as this is practicable, that the instructions which they issue regarding the destruction or disinfection of the sputum, attention to cleanliness, ventilation, and absence of overcrowding are carried out 6 They should also enact by-laws to prevent phthisical patients from expectorating in the public streets, in public conveyances, &c In New York and some other American cities this is, I understand, enforced, and in this country the sanitary authorities should, in my opinion, make by laws for the purpose 7 They should remove to hospital patients suffering from phthisis or other forms of tuberculous disease who, in consequence of the insanitary nature of their surroundings and their inability to take proper precautions, or their refusal to take proper precautions, to prevent the diffusion of the poison (the tubercle bacillus and its spores), may fairly be regarded as distinct sources of danger to the healthy persons with whom they are in contact and consequently to the community as a whole (This point has already been considered)

The measures which the municipal authorities, the local sanitary authorities, and the Government should take in order to prevent the tubercle bacillus and its spores from being conveyed from the lower animals, more especially bovines, to man—This is a large and important subject which I do not propose to discuss in detail Further, until Koch's view—that bovine tuberculosis is incommunicable to man, or very rarely, if ever, communicable to man by means of tuberculous milk and tuberculous meat—is definitely established or contradicted the detailed discussion of the restrictive measures, if any, which it is advisable and necessary to take in order to prevent bovine tuberculosis from being conveyed to man and in order to stamp out tuberculous disease in cattle is superfluous

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HOSPITAL FOR EPILEPSY AND PARALYSIS, REGENT'S PARK, N W —The annual meeting of the governors of this hospital will be held in the buildings of the new hospital, 4 Maida vale, on Wednesday, July 23rd, at 3 P M, when the Right Hon the Earl of Hardwicke, president of the hospital, will preside. The first section of the new hospital is now nearly completed and will contain 38 beds and all the necessary administrative accommodation for the complete building which will contain 60 beds A sum of £2500 is required to enable the committee to complete the fitting and furnishing of this part of the hospital, including the out-patient department

SOME RARE CASES OF SARCOMA OF THE THYROID[1]

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THE subject of this paper might appear on superficial consideration to be rather of academic than of practical interest, but the subject of malignant disease in any shape and form is essentially practical and if by calling attention to it the early diagnosis of malignant disease of the thyroid will be facilitated and radical treatment thereby obtained a great amount of suffering and a terrible termination to life may be averted if permanent cure do not result.

Berry in his excellent work on the diseases of the thyroid body suggests that although sarcomata may appear to be equally common as carcinomata of the thyroid yet it is probable that more cases of sarcoma are recorded in literature or placed in museums on account of their greater rapidity of growth rendering them a more striking affection and that consequently carcinoma may be really the more frequent. In Charing Cross Hospital during the past six years we have on record one case of carcinoma, one of malignant adenoma, and four cases of sarcoma of the thyroid.

The four cases that I wish to record this evening confirm the statement that most cases of malignant thyroid are unfortunately seen at too late a stage for radical treatment. Extirpation was possible in one only and this case indicates clearly the uncertainty of diagnosis and prognosis and the difficulty of removing the disease once it has become extracapsular In one case tracheotomy was performed. Malignant disease of the thyroid is said to be more common in glands which have been the seats of previous non malignant growths This may be correct generally but there is no definite history in either of these cases to suggest the presence of any form of simple growth and in only one of the four cases was there a probability of any previous disease of the thyroid and this was not of the nature of a growth. In this case a preceding pathological condition may be assumed inasmuch as there is a possibility that the patient suffered to a slight extent from myxœdema for some time before the malignant disease was observed This however is a moot point as it is not improbable that a diffuse form of sarcoma may have existed for some time, resulting in the destruction of the essential elements of the thyroid and loss of function with myxœdema following as a logical sequence The disease generally affects males and females equally and the proportion is retained in this instance two of the patients being males and two females. It is more common in districts where goitre is endemic. During the later years of their lives these four patients lived at Barkfield in Kent, Lewisham Greenwich, and Wandsworth respectively none of which districts are, I believe goitrous. The onset of malignant disease of the thyroid is late in life Berry in his investigations limits practically its earliest appearance to 40 years of age. In these four cases the ages were respectively 57 59 60 and 69 years. The two younger patients were males, the two older were females. The patient who was 60 years of age had the symptoms of myxœdema and the one who was aged 69 years had the affected lobe extirpated The histological varieties of sarcoma found in the thyroid are either spindle or round-celled in three of the following cases the cells were round and of medium size. In the fourth the structure was that of a giant-celled sarcoma The duration of life in malignant thyroid is variable from nine weeks to two and a half years being the limits although in those cases grafted on to pre-existing simple growths the date of origin of malignancy is uncertain and its duration may be considerably longer These four cases terminated fatally in eight, nine, 12, and 17 months respectively from the period of earliest observation of the growth, and being primarily malignant the history is fairly accurate. The immediate cause of death in each case is recorded as follows The first patient died suddenly from heart and respiratory failure five or six hours after tracheotomy the second from syncope on the day upon which he was prepared for tracheotomy the third five days after extirpation, from exhaustion and the fourth from general suppurative peritonitis pleurisy and pericarditis The sarcomata grow more rapidly than do the carcinomata.

The seat of origin of sarcoma —Whether one lobe is more prone to involvement than the other I cannot say but the isthmus is the least frequent site of origin. Sarcoma generally is more prone to involve one lobe and to grow rapidly carcinoma early to involve the second lobe and to grow more slowly Of these four cases three were primarily in the right lobe of these one appeared in the mid line but was clinically and at the operation obviously a growth of the right lobe. In the fourth case the growth involved both lobes simultaneously but grew more rapidly in the right lobe so that in all four cases the right lobe appeared to be selected by preference. Involvement of lymphatic glands is variable and is too late to be of diagnostic value In three cases the cervical glands were involved and palpable but when they became the seat of new growth it is impossible to say In the fourth case—the (?) giant-cell sarcoma—no secondary glands were found.

Secondary growths —In the earliest case although the primary growth was most extensive and involved the walls of veins the fasciæ, and the pleura, no embolic deposits were found In the second case extensive secondary growths were found involving the dorsal and lumbar vertebræ, both kidneys both suprarenals the cœliac and cervical lymphatic glands and the stomach. The last will be referred to later In the extirpated case secondary growths were found in both kidneys and the cervical and thoracic glands were involved In the fourth case, that with co-existing myxœdema, there were malignant ulcers of the stomach and intestine malignant infiltration of the pancreas and the cervical glands were involved

Deviation of the trachea —In three of these cases deviation was not marked such slight deviation being the usual condition found in malignant disease The greatest was one inch In the fourth case—the (?) giant-cell sarcoma—the deviation of the trachea from the mid line was two inches Pain was not a prominent sign in either of these cases two patients complained of slight neuralgic pain situated in the neck and radiating up towards the ear and down towards the chest Dysphagia and dyspnœa were present in three cases

Ingrowth into the trachea —This is comparatively common and takes place usually from one half to an inch below the cricoid cartilage. In the second of these cases the larynx had been invaded and the mucous membrane was ulcerated. In the fourth (the myxœdematous) case there was distinct infiltration of the submucous tissue of the larynx and the trachea This extended for a distance of one and a half inches and resulted in a fusiform elevation , it extended above and below the cricoid and seemed to have enveloped, if not to have destroyed, the cartilage. There was no obvious loss of tissue—i.e. ulceration—over it

The consistence of sarcoma generally is softer than is that of carcinoma of the thyroid One of these cases was described as stonily hard one as firm and elastic, and the other two as hard.

Complete fixation of the mass to deep structures was found in three cases

The carotids —In two cases the carotids were embedded in the growth In the third case the vessel lay at the posterior border In the fourth case the vessel lay at the outer border below the growth

CASE 1.—The patient, a man aged 57 years who was admitted to hospital on Oct. 25th 1895 suffering from a tumour in the neck and was operated upon on the following day died suddenly on the day of operation The history of the case showed that during the winter of 1894 not more than 12 months previously the patient noticed a lump of the size of a small marble which was situated behind the right sterno-mastoid at the junction of the lower and middle thirds This disappeared in March, 1895 (at about the fifth month) and it returned in April since when it had gradually increased in size It had been painless and free from tenderness. In May (the seventh month) the patient began to have dysphagia for fluids there was no difficulty in swallowing solids In August (the tenth month) solids were taken with difficulty and this was accompanied by the onset of hoarseness. The dysphagia gradually increased the hoarseness remaining more or less the same Two weeks before admission the patient began to regurgitate food shortly after taking it, but he did not feel nausea. He had lost flesh during the last six months The patient had to recline or to sit up in bed, being prevented from lying down by a sense of threatened asphyxia. His expression was painful and distressed He coughed frequently The respirations, which were of a sighing, laboured character, were 28 and the rate of the pulse, which was small and weak, was 133. The patient was given two or three teaspoonfuls of beef tea which were disposed of with great effort About three minutes later, without difficulty or nausea, he regurgitated the beef tea unchanged This was repeated several times and on each successive occasion the beef tea became increasingly mixed with mucus The fifth time mucus composed the greater part of the regurgitated fluid and was markedly acid On examination the abdominal wall was found to be emaciated and retracted No tumour was felt and the liver was not enlarged Pulsation was felt along the whole course of the abdominal aorta. A large mass was seen on the right side of the neck, measuring *from four to five* inches vertically and from five to six inches transversely It extended from an inch to the left of the mid line in front to within two and a half inches of the mid-line *posteriorly* Above it reached as high as the base of the lower jaw, below it reached the clavicle and it projected about two inches above the normal surface of the neck. Numerous large veins ramified in the skin over the growth, but otherwise this was not obviously changed On palpation the skin was *found* to be not hotter over the tumour than elsewhere but it appeared to be markedly thin and more or less *adherent over the* growth. The mass was *absolutely fixed* to deep structures and was stonily hard in all parts There were no soft spots nor was fluctuation found *anywhere* The thyroid notch was felt two and a half inches *to the left* of the mid line, the trachea was consequently considerably deviated but was difficult to palpate (obscured by growth), and it appeared to lie near the mid line just above the supra sternal notch Mr Boyd decided on immediate tracheotomy and the operation was performed at 3 P M on Oct 26th A 5 per cent solution of cocaine was freely injected in all directions over the position of the trachea. *An incision* two and a half inches long was made from the lower *border* of the thyroid cartilage in a position two inches *to the left of the mid-line*, several bleeding points were secured, the *fascia* over the trachea was divided and the latter *exposed*, and three rings were cut A bi valve tracheotomy tube was *inserted* by means of a gum elastic catheter *used as a* stylet. The patient felt no pain, the injection of cocaine was repeated several times during the operation He was considerably relieved, the dyspnœa was markedly diminished, and he was comfortable. The patient died suddenly during the night from respiratory paralysis

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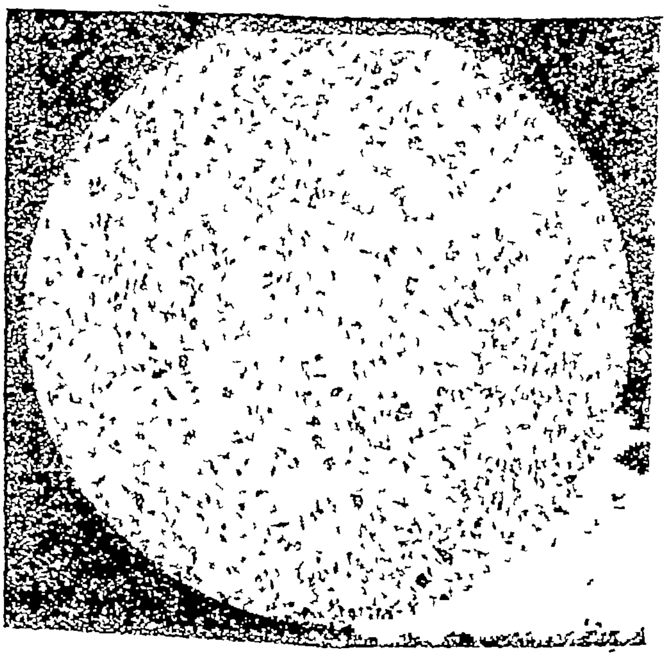
[1] A paper read before the Harveian Society of London on March 6th 1902.

At the *post-mortem* examination the patient was found to be sparsely developed and emaciated There was a large *growth* in the neck especially involving the right side, it weighed 15½ ounces The growth extended from the first rib upwards for five and a half inches, its depth below the first rib was four inches, its *breadth* was two inches, and its antero-posterior diameter was *three* inches It was lobulated, convex anteriorly *and* posteriorly where it was attached to the spine It blocked completely the right inlet of *the thorax* and was pale in colour, soft and brain like in consistence, and had the appearance of a sarcoma. It was firmly adherent to the anterior *aspect of* the lower cervical vertebræ behind the œsophagus It involved the right lobe and isthmus, extending well over to the left side of the trachea without implicating the left lobe of the thyroid The trachea had been greatly pushed over to the left side and in order to reach it the portion of growth in *front of* the trachea had to be cut through The growth was closely attached to the trachea The œsophagus lay between the tumour and the trachea, both the *œsophagus* and the pharynx were involved in the growth, especially the latter, the wall of which was *atrophied* The œsophagus must have been greatly pressed upon throughout the entire length of the growth Inferiorly the mass extended into the upper division of the thorax four inches below the level of the first rib It lay *in* concert with the apex of the lung but did not involve its substance. It involved the right subclavian vein in its course from the first rib to the innominate. It extended downwards over the arch of the aorta, involving the innominate and carotid vessels The left vagus was deeply embedded in the growth With regard to the heart there was no coarse lesion except one or two points of atheroma at the base of the aorta There was no other disease of the viscera The patient had an ununited fractured patella On looking at the cut surface of the growth a central circular area was seen which presented the appearance of carcinoma, while the greater portion of the periphery showed the solid homogeneous appearance of sarcoma.

The following are points of interest in the case

1. As to the histological appearances, sections showed under the low power an arrangement of cells which in parts immediately suggested sarcoma, there being little or no stroma and the cells were closely approximated and of fairly uniform size, but in other parts one would be led to diagnose carcinoma. Here there was a stroma consisting of degenerating fibrous tissue and round cells of a sarcomatous nature, throughout which were scattered, but not uniformly, a large number of what might be called giant cells (Fig 1), these were of irregular shape *and size*, and were *more or* less angular and showed evidence of nuclear proliferation, vacuolation, and cell inclusion (Fig 2) In a small minority only of the cells the nuclei were multiple and discrete (Fig 3), the majority presented imperfect nuclear proliferation Were these cells of that variety which is generally called giant cells of new formation? Or were they simply clusters of thyroid epithelium aggregated and compressed so that the protoplasm surrounding the nuclei appeared to form one mass? The great variety in size, shape, and distribution of the cells and the character of the nuclei suggested the latter possibility On the other hand, comparison with the imperfect giant cells of a growth removed by Mr Morgan from the subcutaneous tissue of the forearm of a youth in November, 1900, where no such epithelial cells could possibly exist, rendered it possible that they were not of thyroid origin Multi nucleated giant celled tumours growing in structures unassociated with bone have been recorded on numerous occasions Some of these have been described as carcinoma but the great majority as sarcoma Waring[2] has described a tumour which grew in the subcutaneous tissue of the neck which contained cartilage cells and showed cell inclusions but was probably, as he suggested, derived from some displaced embryonic osteo genetic tissue associated with the clavicle H Snow, Targett, and others have recorded giant celled tumours which have grown in the subcutaneous tissue

FIG 1.



Case 1 Low power Showing the giant cells interspersed in the fibrous and round-celled stroma

of the integuments and in the breast. I show a section of the growth removed by Mr Morgan also one of a giant-celled sarcoma recently removed by Mr Stanley Boyd from the breast of an elderly woman aged 60 years, *in which the giant cells show distinct multiple nuclei.* This patient (Case 1) was 57 years of age and most of Targett's cases were elderly subjects. He says that giant cells are seen in malignant tumours which have grown rapidly and are soft in structure. This thyroid tumour clinically was very hard but post mortem it was described as being *soft and brain like* It is probable that, as in the case of cysts, the hardness was due to tension and as the tumour was of rapid growth and Mr Boyd's "breast case" also showed recent very rapid increase in size Targett's statement is not negatived by these cases. Mr Morgan's patient was a youth At *the meeting of the Clinical Society of* London on Feb 28th, 1902, Mr G R. Turner showed giant-celled sarcoma growing from the synovial membrane of the ankle joint, and at the same time I had the opportunity of seeing a section from a case recorded by Mr Howard Marsh of a pedunculated sarcoma *growing from the under aspect of the patella. In both* these cases the cells were perfect myeloids but their origin is closely associated with bone forming tissues.

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[2] Transactions of the Pathological Society of London, vol l

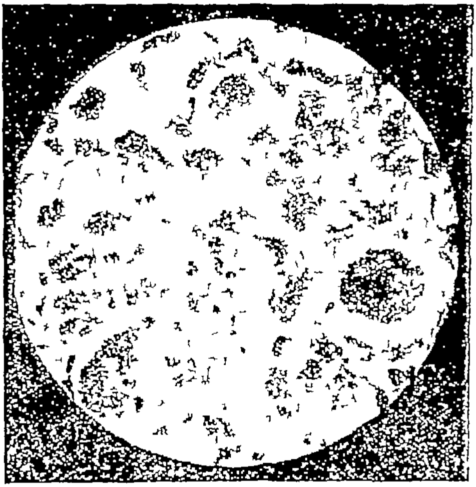
2. What was the cause of the dysphagia for fluids which set in first and which was not accompanied by signs of nerve involvement such as aphonia? The dysphagia for solids which occurred three months later was accompanied by hoarseness, showing probably direct involvement at the latter period of one recurrent laryngeal nerve Post mortem there was a note that the left vagus was deeply embedded in the growth, it was obvious from the specimen that the right *vagus and* recurrent laryngeal nerves were involved. It is possible that the early dysphagia for fluids was mechanical the fixation of the pharynx and larynx preventing the necessary movements, while the later dysphagia for solids was due to mechanical obstruction by pressure upon the œsophagus aided perhaps by paresis of the muscles due to increasing involvement of the vagi and recurrent laryngeal nerves. Or was the early dysphagia of nervous origin and the later of superadded mechanical origin? That this sequence is probable is shown by the fact that towards the end persistent and rapid regurgitation of both solid and fluid food occurred.

3. It is questionable whether the small tumour first seen and which disappeared for about a month was not an adenoma which moved about freely

CASE 2.—The patient, a married man aged 59 years, was admitted to hospital on Feb 28th 1898, and he died on March 10th. It was ascertained that a sister of the patient had died from cancer the site of which was not known. Eight months previously to admission the patient first noticed two hard lumps one on either side in the region of the thyroid lobes. He rubbed them with hartshorn and thought that for about three weeks they got smaller After this they began to increase in size the right side had always been bigger than the left. There had been only slight neuralgic pain in the neck The swelling on both sides had grown in a backward direction Since the onset of the swelling the patient noticed a considerable accumulation of mucus in the throat. During the last fortnight the growth became half as big again as it was before *On admission* the patient, who was a big powerful man, complained that he had lost flesh lately His breathing was very audible and tubular He could not swallow solids and his voice was slightly husky There was an enormous swelling in the neck occupying the right side, the centre, and to a less extent the left side, of the neck and extending *from the jaw to* the sternum. It involved both triangles The consistence of that portion of the swelling on the right side was uniformly elastic but it did not fluctuate Fixation to the adjacent parts was absolute. The skin on the right side was hot and congested but it was not tender or œdematous The skin on the front of the neck and on the left side was unaltered. Along the posterior border of the sterno-mastoid was a chain of enlarged glands. The left border of the mass corresponded to the posterior border of the left sterno-mastoid but the swelling on this side was far smaller than was that on the right side. Swallowing even of sops and fluids was difficult, but this varied In an ophthalmological examination by Dr W C Bosanquet nothing pathological was found. Laryngological examination was carried out by Dr F Willcocks The patient did not elevate his epiglottis in phonation, there was much swelling of the epiglottis and the arytenoids. The vocal cords were not visible. The superior orifice of the larynx was compressed laterally Mr Morgan did not consider the patient sufficiently distressed to need tracheotomy for some time after admission. Dyspnœa and dysphagia increasing however the patient was prepared for operation but he died suddenly from syncope

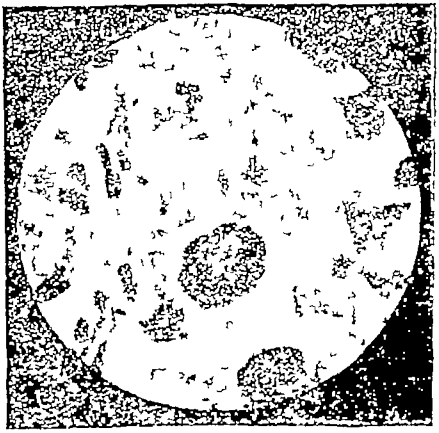
That tracheotomy should be delayed *until the dyspnœa* has become a source of considerable distress to the patient is the teaching of those who have had experience of these cases, *as* once the incision is made septic changes in the

FIG 2.



Case 1 High power Showing a giant cell with vacuolation and *cell inclusion*

FIG 3.



Case 1 High power Showing a giant cell with nuclei arranged circumferentially

growth and the complications following tracheotomy are very prone to occur Palliative operations such as partial excision for relief of pressure symptoms should be undertaken only when there is great probability that the skin incision will completely heal or when the symptoms of distress are great. Tracheotomy may be performed early when there is danger of œdema of the glottis occurring or when the growth is slow and the tumour can be avoided in reaching the trachea. (*Vide* Semon's case)

At the post-mortem examination the left pupil was seen to be larger than the right. The neck, which was greatly thickened by growth, was 21 inches in circumference The growth was adherent to the skin on the right side, it extended up under the angle of the jaw and was firmly adherent to the cervical fascia. On the left side the line of cervical glands, much enlarged, could be distinguished separately The thyroid growth involved the isthmus and both lobes The right lobe and isthmus could not be distinguished as such, the left lobe on section retained its shape, though it was much enlarged There was slight ulceration of the laryngeal mucous membrane The growth did not extend into the mediastinum and the glands in the thorax were normal. There was no pressure on the veins The left carotid, with the nerves, was embedded in its sheath, in the growth near the bifurcation the vagus nerve was tightly involved and compressed The right carotid was lost in the growth In the lower dorsal region a large secondary growth springing from the vertebræ projected forwards and partly surrounded, without involving, the aorta. It extended between the laminæ backwards and several secondary nodules were found in the muscles behind The spinal cord was not affected although the growth was very near it There was a large mass of growth in the glands behind the cardiac end of the stomach, this was adherent to, and growing through, the stomach wall near its cardiac orifice and was fungating in the cavity The growth involved half the circumference of the wall of the stomach near the cardiac orifice, part of it had ulcerated and it presented a hæmorrhagic appearance About the middle of the stomach was a small ulcer with raised firm margins of the size of a sixpenny piece Both kidneys contained new growths The largest, which weighed eight and a half ounces, was in the left kidney, that in the right weighed seven and a half ounces Both suprarenals were involved by solitary growths, the largest occupying the whole of the left capsule The liver and spleen were congested but there were no new growths The lungs were not diseased

The points of greatest interest in the case are the following 1. The association of ulceration of the stomach and intestine in sarcoma of the thyroid in this case and in Case 4 The condition of the stomach I will refer to in discussing Case 4 2. The signs of hyperæmia and the post-mortem evidence of attachment to the skin show how closely the latter may be involved and yet resist perforation It is possible that the heat and redness of the skin might be due to involvement of the sympathetic, as suggested by Agnew, the rapid increase in size, however, towards the end, suggests that some inflammatory reaction was set up The increase certainly was not due to hæmorrhage or to cystic degeneration Clinically no note was made of eye changes, yet probably such existed, as an ophthalmological examination was made and the left pupil post mortem was stated to be more dilated than the right, probably the left sympathetic was becoming involved 3 The secondary growths were exceedingly large and numerous, they were also median or symmetrical Rolleston states that the vascular medulla of the suprarenals is more often affected by secondary deposits of sarcoma than of carcinoma

Were the lumps first noticed simple growths irritated by the vigorous application of hartshorn and undergoing sarcomatous change in consequence? This is extremely improbable. On the other hand, spontaneous disappearance of malignant growths has been not infrequently noticed and in Case 1 also we have the statement that the first growth seemed to disappear Thyroid sarcomata have shown great decrease in size following tracheotomy The very notable case recorded by Sir Felix Semon[3] and that recorded by Mr G R Turner[4] are cases in point

CASE 3.—The patient, a widow, aged 69 years, who was admitted to hospital for swelling of the neck on Feb 1st, 1900 was operated upon on the 3rd Death took place on the 8th. The patient had had no children and had been a widow for four years She had suffered from chronic bronchitis Nine months previously her attention was drawn to the swelling by a shooting pain extending into the top of the left breast and up to the right side of the neck into her ear The swelling was in the mid-line of the neck low down and had extended upwards gradually It had grown more rapidly during the last few months The swelling itself was painless For some time she had had a "funny" sore throat and complained that it hurt her to swallow her spittle but not food She did not complain of unusual dyspnœa but obviously her breathing was not easy and natural even while she was at rest On admission the patient was found to be a fairly healthy looking woman for her age and had a good colour but was rather thin. The urine contained a little albumin. Occupying the lower part of the neck and extending from the sternal notch below, upwards to the level of the thyroid notch in the mid line was an oval swelling of the size of a goose's egg It lay obliquely and occupied chiefly the right side but it extended well beyond the mid line into the left anterior triangle The skin and veins over it appeared to be normal On palpation the swelling was found to have a smooth surface except at its upper right lateral angle, here it terminated in a blunt point like the lateral lobe of the thyroid On this were small masses, probably enlarged glands which caused it to be irregular at this part (? glands pushed into prominence) The growth did not appear to affect the isthmus and the left lobe was normal. In consistence it was firm and elastic, like a deep-seated thick walled cyst. The right sterno mastoid was stretched over the swelling but the inner edge of the muscle stood up clearly on bringing it into action The infrahyoid muscles could not be demonstrated. The trachea was pushed towards the left side from three quarters of an inch to an inch beyond the mid line The right carotid artery was pushed backwards into the posterior triangle and could be easily felt pulsating behind the sterno mastoid The growth was not freely moveable but did not give the impression of being very fixed to surrounding parts, but it was firmly fixed to the trachea and moved with it on deglutition The larynx was normal and the cords moved perfectly, the voice was unaltered The patient did not complain of dyspnœa but she certainly breathed rapidly and with obvious effort Dysphagia was not present except when the patient wished to swallow her spittle. She had coughed considerably since admission but she attributed this to chronic bronchitis There was not much expectoration. Under the anæsthetic Mr Stanley Boyd revised his diagnosis thus "The evidence of deep cyst is very doubtful. Against malignancy is the smooth circumscribed surface and outline, the absence of dysphagia and of interference with the recurrent laryngeal nerve. In favour of malignancy is the short history, the patient's age, the fixation to the trachea, and the prominence of glands at the upper angle " Yet after Kocher's angular incision was made and the growth bared it appeared "as a pale, slightly bossy, circumscribed, encapsuled mass, it looked like an adenoma and I endeavoured to enucleate it, but could find no inner capsule of thyroid tissue so determined to extirpate it." Great difficulty was experienced in removing the growth which extended deeply into the thorax. A continuous chain of glands was seen Into the cavity which was left in the thorax after the removal of the growth air was being freely sucked. A doubtful nodule of growth was observed in the cut surface of the portion of isthmus left The wound was drained. The prognosis was grave. After the operation the patient was in a very precarious condition Next day surgical emphysema developed and the patient appeared almost comatose unti she was given a brisk purge (on the assumption that the condition was uræmic), which entirely dissipated the symptoms. She did not pick up at all after the operation and died on the fifth day

I think the interest in this case lies in the following points 1 The deceptive clinical appearance and signs The growth appeared to be encapsuled, oval in shape, and i consistence it appeared even to such an experienced surgeo as Mr Stanley Boyd to suggest the probability of a deep seated thick walled cyst and it was moveable on deglut tion The carotid artery, instead of being overlapped an surrounded, as is usually the case in malignant thyroids, wa pushed backwards and could be felt easily at the posterio border of the growth The patient appeared to be in goo general health and her signs and symptoms might all b attributed to chronic bronchitis Under the anæsthetic a revision of the diagnosis was made, yet after incision the growth on its anterior aspect showed a pale, slightly bossy circumscribed and encapsuled tumour It appeared to have traversed its capsule on the posterior aspect which is probably accounted for by the fascial arrangements. That malignant growths of the thyroid tend to extend backwards in a marked manner has been clearly indicated by the cases which I have seen. The extreme difficulty with which the growth was removed shows how great may be the fixation to surrounding parts and yet allow up-and-down movement with deglutition. I should personally in future lay more stress on lateral movement with the trachea. 2. The drowsiness noticed after operation was similar to the condition in the case recorded by Mr G R. Turner previously referred to, in which after the operation the patient was comatose until a brisk purgative had acted. This patient was albuminuric likewise. 3. The surgical emphysema. 4 It is interesting to note that in Case 2 both suprarenals and kidneys and in this case both kidneys were symmetrically involved in secondary growths.

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[3] Transactions of the Royal Medical and Chirurgical Society 1893

[4] Transactions of the Clinical Society of London 1890

CASE 4 —The patient, a married woman, 60 years of age, was admitted to hospital on April 24th 1901 for tumour in the neck. She died on May 14th—the twentieth day The urine had a specific gravity of 1015 was acid but contained no albumin or sugar The patient had suffered from bronchitis every winter and she also had asthma. There was no history of goitre, of cancer or of myxœdema She had been treated for dyspepsia and constipation during the past 12 or 15 months. In October 1899—that is 17 months before admission—the tumour was first noticed it appeared to have commenced on the left side in the position of the left lobe of the thyroid. It then seemed to involve the right side and had increased greatest on the right side The husband of the patient said that when the fulness of the throat was first noticed the patient's skin began to be very dry and she developed progressive weakness Her speech was always slow and she was rather stout but not to the extent now observed. The consistence of the swelling was not noticed. Six months previously the right side began to increase rapidly in size and the growth steadily persisted It was accompanied by an increase in stoutness. She was seen at this time by Dr G H. Charlesworth of Wandsworth who at once diagnosed myxœdema. When she was admitted on April 24th 1901, the neck looked very thick—that is, it was broad, full and expressionless there were no elevations or depressions visible. This fulness was most marked on the right side. On palpation a large tumour was found to occupy the neck which was more prominent on the right than on the left side. It obscured the trachea and was hard and solid and had distinctly defined margins, but the fulness of the neck extended beyond these margins. The carotid on the right side seemed to lie posteriorly and deep to the swelling On the left side it was palpable at the outer border The skin was free from attachment and except for a dark pigmentation where the patient had been painted and blistered with iodine it seemed normal The mass was adherent to the deep parts and was very fixed It did not move on deglutition The trachea was deflected a little to the left but palpation was difficult. It could be felt in the mid line below The thyroid cartilage was easily felt in the mid line but was not visible, being obscured by fulness The lymph glands were enlarged and of firm consistence and were easily felt on the left side but less easily on the right side above the level of the growth. The patient had the characteristic appearance of myxœdema—i.e. subcutaneous thickening double chin puffy eyes, and swollen hands. She was slow of comprehension and speech the latter was drawled. All her movements were slow the voice was peculiarly harsh, thick, and of deep tone. The skin was dry harsh, and coarse. Her hair was scanty but the scalp was uniformly covered. She was placid if left alone but was easily irritated. It was said that her voice had become harsher during the previous six months and that her breathing had become shorter she complained of the latter considerably but there was no obvious dyspnœa when she was at rest. Her temperature on admission was about normal During the night she had some dyspnœa. She was put on Burroughs and Wellcome's thyroid tabloids which were gradually increased to five or more tabloids a day She was being kept under observation to see the result of thyroid feeding and was considered to be inoperable. On April 28th her breathing had been variable in frequency and ease. She had considerable expectoration and so was given an expectorant mixture Her temperature was 98° F On the 29th the cough was worse. She was more cyanosed complained of difficulty in drawing her breath, and was much less comfortable. The pulse was rapid and feeble and she had some sibilant rhonchi. On the 30th after a distressed restless night she complained of pain in her throat of a shooting character and was given chloral When seen on May 6th it was ascertained that the patient had felt and shown no ill effects of the thyroid extract. There was less œdema of the fingers and hands, the nose was less swollen the face had improved and the speech was clearer and more rapid The dyspnœa, on the whole, was getting worse and especially affected her at night, so she slept badly There was little or no cyanosis The pain in the throat occurred now and again The cough was variable. Examination of the larynx revealed no evidence of paralysis of the vocal cords and the breathing was not stridulous. The expectoration was less and the temperature continued about normal On the 9th the dyspnœa was still well marked. The patient was restless and she felt more comfortable when lying on her right side. Speech and intellect were better the puffiness about the eyes was less, the face was thinner and more natural and the neck was probably slightly smaller especially about the left lobe. On the 11th—the seventeenth day after admission—suddenly without obvious cause and without a rigor the temperature rose to 102° and subsequently to 104° The patient had slight diarrhœa, the dyspnœa became well marked, and the skin pallid. She felt very ill but could not say how She completely lost her appetite and although considerable improvement had been made as regards the myxœdema she rapidly got worse. The thyroid extract was discontinued. The temperature continued at 104° and then gradually fell. The pulse became thin and feeble ranging from 130 to 160 Slight delirium developed at night. A marked shrinking occurred in the size of the tumour The neck became quite slim and except for a localised swelling on the right side the growth seemed to disappear She occasionally complained of pain in the abdomen and always persisted in lying on her right side, slightly propped up. She did not vomit and after the first day of fever her bowels did not act. Her condition for the last three days of life may be summed up as follows. The temperature was 104° falling to 101°, there were intense restlessness, marked dyspnœa with pallor and cyanosis a thin thready pulse varying from 130 to 160 and slight pain in the abdomen there was no vomiting she was constipated she was conscious but was too distressed to speak much about herself and at night she became a little delirious most of the subcutaneous thickening and the thyroid fulness seemed to disappear suddenly there was no suspicion of pelvic trouble and no signs of secondary growths were observed. She died on the twentieth day after admission.

Post-mortem examination showed the right lobe of the thyroid to be involved in a mass of new growth but the left lobe appeared to be normal. The trachea was narrowed by the growth and was pushed to the left side. The growth extended above to beyond the hyoid bone and below to within one and a half inches of the bifurcation of the trachea and measured four inches vertically Anteriorly the isthmus was thickened and was continuous with the new growth in the right lobe The right carotid and jugular were almost completely surrounded by new growth at the postero-external angle the vein lying external. The bifurcation of the common carotid was involved in new growth The subclavian could be separated from the growth but the lower end of the carotid was very adherent. The right half of the cricoid cartilage was embedded in new growth which had extended into the submucous tissue forming an elevation of a fusiform shape one and a half inches in extent reaching above and below the level of the cricoid. There was no evidence of ulceration over the swelling The growth lay in a retro-tracheal position, extending from the level of the tip of the epiglottis to the subclavian artery The larynx was compressed from the right side and behind The left lobe was firm and looked very fibrous there was a mass of pigmented glands at the bifurcation of the trachea, and considerable tracheitis was present. Examination of the thorax showed purulent pleurisy on the right side and serous pleurisy with flakes of lymph on the left side. In the cavity of the pericardium there were flakes of lymph. The heart was normal. The lungs were compressed but were otherwise normal. The cavity of the abdomen was full of greenish yellow turbid purulent fluid.

The stomach —An ulcer twice the size of a florin lay near the cardiac orifice of the stomach and near it were two smaller recent ulcers with raised thickened edges There was no thickening of the wall of the organ Near the pyloric end was another recent ulcer of the size of a sixpenny piece, also two large chronic shallow ulcers, one of the size of a five-shilling piece

Intestines —Two or three small sharply cut ulcers existed in the middle of the ileum The mucous membrane of the lower part of the small intestine was stippled with dark dots throughout. In the neighbourhood of the cæcum and throughout the colon the mucous membrane was almost black with closely set points of pigment The ureters contained much muco purulent fluid In the Fallopian tubes was a small amount of pus The kidneys were slightly granular The spleen was normal The mucosa of the intestine examined microscopically showed masses of brownish pigment deposited between the glands, there were no hæmatoidin or hæmatin crystals Microscopically the pancreas showed infiltration by new growth

The points of interest in the case are (1) the direct association of myxœdema with sarcoma of the thyroid and (2) the ulceration of the stomach and intestine The most interesting feature is the association of myxœdema with sarcoma of the thyroid

Quoting Dr G R. Murray,[5] "in only a few exceptional cases has the destructive lesion of the thyroid gland been traced to a definite cause Kohler describes two cases, one of syphilis and the other of actinomycosis of the thyroid Neudorfor gives one case of adenoma of the right lobe of the thyroid. In each of the three cases appropriate treatment of the exciting cause was followed by recovery of the functional activity of the thyroid gland and disappearance of the myxœdema." Assuming that Dr Murray has collected all the cases bearing on this subject this case appears to be an exceptional one.

It is impossible to state whether the myxœdema, of which clinically there is no doubt, was due to sclerosis or to senile atrophy of the gland antecedent to the malignant change, or whether a diffuse sarcomatous infiltration was the immediate cause of the glandular destruction and consequently of the myxœdema. The history states definitely that the development of the symptoms of myœdema, with one exception, that of slow speech, was coincident with an enlargement of the thyroid which became slowly progressive When a marked increase in the size of the thyroid took place six months before death the symptoms of myxœdema also became more pronounced. Senile atrophy as a cause of myxœdema is rare Clinically it was observed that thyroid treatment seemed to result in diminution in size of the left lobe. This may be best explained by assuming disappearance of the mucinoid deposit in the tissues about the thyroid, as microscopically there is no evidence of regular gland structure in any of the sections of the left lobe which I have examined, everywhere there is the diffuse infiltration with round cells, here and there may be seen remains of thyroid epithelium identical with the condition of the right lobe

The condition of the stomach —In this case marked ulceration of the stomach and slight ulceration of the small intestine with pigmentation of the latter were found. In Case 2, besides the massive involvement of the cardiac extremity of the stomach by the secondary growth in the cœliac glands, there was separate ulceration of the stomach near the pyloric extremity similar to that in Case 4 In a case not yet recorded of probably primary sarcoma of the larynx with bilateral growths in the thyroid there was found similar ulceration and new growth in the stomach This association of ulceration of the stomach with thyroid sarcoma may be a coincidence but there are many points in favour of a direct relationship Primary and secondary sarcoma of the stomach may be of four varieties (1) round-celled, (2) spindle celled, (3) myosarcoma, and (4) angeiosarcoma Primary growths are much more common than are secondary ones except in the lympho sarcomatous variety in which *secondary* involvement of the stomach is more common than is *primary* deposit (Hemmeter) and is most often found secondary to primary growths involving the neck, the pharynx, the gums, &c Primary growths tend to be nodular and begin in the submucosa Ulceration of the mucous membrane is late and signs and symptoms may be entirely absent, the post-mortem examination revealing the presence of growth for the first time

In the two cases now recorded what is the nature of these ulcers? In Case 2 the nature of the large ulcer was indubitable—viz, that of an ulcerating sarcoma The smaller ulcer presented the same macroscopical characteristics as those in Case 4 and the small ulcer of the laryngeal case referred to The latter is microscopically undoubtedly sarcomatous, so we may assume that the nature of the ulcers in Cases 2 and 4 is similar Macroscopically those in Case 4 appear to be of two varieties, one having the appearance of acute ulcer, the other chronic with thickened edges There was slight thickening with increased vascularity at the base of some of the ulcers but not of all Microscopically the more acute ulcers showed a condition of erosion of mucous membrane surrounded by round celled infiltration in the mucosa and submucosa impossible to distinguish from an inflammatory process The area of ulceration appeared to be more vascular than did other portions of the stomach walls If the brownish flocculent fungating portion of the new growth projecting into the stomach in Case 2 be brushed off the ulcer left is identical in appearance with the small ones seen in Cases 2 and 4 Probably at one time these had fungating growth adherent to their surface The patient in Case 4 was for some time under treatment for dyspepsia and constipation, but her symptoms were not marked and there was no obtainable history of hæmatemesis The duration of her symptoms seemed to have been coincident with the thyroid troubles. Extensive ulceration of the stomach may occur with few symptoms, yet it might be assumed from the condition of pigmentation of the intestine in this case, if due to blood absorption, that considerable hæmorrhage from the stomach had occurred from time to time, but the history did not support the assumption. Also the pigmentation was absent in the upper jejunum and was least marked in the lower jejunum and the upper ileum and most pronounced in the lower ileum and the colon It is reasonable to assume that a great deal of the blood came from the intestinal ulcers, situated half-way down, one of which had probably ulcerated deeply and eventually perforated, causing general peritonitis.

The origin of the ulcers —In Case 4 from the appearance and situation of the primary growth it is obvious that the pharyngeal muscles were involved by the new growth at their origin from the cricoid. In Case 2, from the extensive nature of the growth, a similar conclusion must be deduced. The larynx also was *ulcerated* slightly In the unrecorded case of primary sarcoma of the larynx with ulceration of the stomach referred to the explanation which I beg to give of the origin of these ulcers suggests itself—namely, that it is probable that some of the sarcoma cells were swallowed and passing through the mucous membrane of the stomach and the intestine gave rise to secondary submucous growths. In my cases the pharyngeal mucous membrane need not have been perforated to permit this as cells of at least equal size constantly escape in the process of inflammation and probably under normal conditions also between the epithelium of mucous membranes In addition in Case 4 there was involvement of the larynx which might be a possible source of sarcoma cells Thursfield[6] recorded a case of primary sarcoma of the stomach in which the infiltration was diffuse and ulceration was not present In this case there was a mass in the region of the parotid and left thyroid Was the stomach growth primary? The association of secondary lympho sarcomatous growth in the stomach with primary lesions of the gums, the pharynx, and the neck, recorded on repeated occasions, suggests that some such simple explanation as I have suggested is probable.

In conclusion I will quote Kocher and Berry

> Kocher ' Every goitre in an adult and especially in an elderly person that enlarges without obvious cause should raise a suspicion of malignancy, even though it should cause no pain or other trouble. If at the same time the goitre becomes harder and irregular and symptoms of increasing distress set in then the diagnosis becomes almost certain The prognosis as regards malignant goitre from the operating point of view is not worse than that of innocent goitre if performed while the growth is intracapsular When the growth is still intracapsular there are no means by means of which we can make a certain diagnosis of malignant disease "
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> Berry "When however in the thyroid gland of a person over 40, a tumour appears which is hard, which steadily and rapidly increases in size and which is not of an inflammatory nature the malignancy of such a tumour should be strongly suspected If moreover the surface of the tumour is irregular and bossy and if there is likewise dysphagia and pain in the neck shooting up to the side of the head or to the shoulders, then the diagnosis becomes almost a certainty

My thanks are due to Mr Morgan and to Mr Stanley Boyd for permission to record these cases to Dr Bosanquet for much assistance and advice, and not least to Dr Hunter for great assistance and permission to utilise the perfectly mounted specimens of the cases

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[5] Diseases of the Thyroid (1900) p 33, on the Etiology of Myxœdema.

[6] Transactions of the Pathological Society of London, vol lii 1901

Devonshire-street, W

ON THE

ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA

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(Continued from p 66)

THERE are two views of the pathogeny of diabetic coma which stand in a position to claim consideration The one refers it to an acidosis or excessive production of acid and the other to the β-amidobutyric acid, an assumed precursor of the β-oxybutyric acid

Excessive proteid disintegration is attended with excessive acid production. The sulphur and phosphorus of the proteid becoming oxidised give rise correspondingly to sulphuric and phosphoric acids. Under natural circumstances these acids encounter a sufficiency of fixed bases to neutralise them but when developed in excess they have to attach themselves to a portion of the ammonia at the same time developed by the proteid disintegration and in this state they pass into the urine. Normally the amount of ammonia in the urine is very small, inasmuch as what is developed by downwards metabolism combines with the carbonic acid at the same time being produced and the combination becomes transmuted into urea. Combined with sulphuric or phosphoric acid the ammonia cannot pass into urea but escapes as the unaltered compound. Thus from simple increased tissue breaking down a source exists for the undue presence of ammonia in the urine and when the breaking down is attended with the formation of the additional acids oxybutyric and diacetic, that have been receiving consideration ammonia is appropriated and carried off by them into the urine, and thus the amount may rise from something under one gramme per diem to six or seven grammes or even more. The quantity of these acids that may be formed is such as to constitute a factor from more than one point of view of much significance. Estimations of diacetic acid are not given, for no satisfactory method of estimating it exists but it must be reckoned that whatever diacetic acid is present means an addition to the troubled state otherwise induced. As regards oxybutyric acid it is not uncommon for from 50 to 70 grammes per diem to be eliminated It is accepted that as much as 150 grammes per diem may be eliminated and considerably higher figures than these have been named (e.g 226 grammes—approximately half a pound—by Külz) but doubt of the correctness of the extreme figures that have been given may be entertained From the records supplied cases have occurred in which the oxybutyric acid has exceeded in amount the sugar The waste occurring in these circumstances must be something enormous. The elimination of oxybutyric and diacetic acids constitutes an outgoing of material carrying with it unexpended energy and the same applies to the sugar Hence with all three an immense sacrifice of potential energy is occurring

Acidosis is the term which has been applied to the state resulting from the production of these acids. As they reach the blood they must obviously tend to decrease its alkalinity The available fixed alkali, as already stated is first appropriated for neutralisation and when the supply of fixed alkali fails the effete ammonia from proteid disintegration is taken and accompanies the acid into the urine. Notwithstanding these sources for neutralisation it has been found in cases when coma has supervened that the alkalinity of the blood has become reduced to a point standing much below the normal.

In the circumstances mentioned we have a sequence of events holding it may be considered a thoroughly established position. The existence of such a source of acidity cannot do otherwise than by its influence on the constitution of the blood, act deleteriously The altered constitution of the blood due as in the "alimentary" type of diabetes to the presence of sugar unaccompanied with any other condition interferes with nutrition and recognisably damages the kidney Experience shows that where sugar is allowed to be passing for a long time through the system a certain amount of albumin appears in the urine and granular and hyaline casts become discoverable. This condition may go on for a long time in, as it were, a quiescent form and without any of the classical phenomena of Bright's disease becoming developed although sometimes whether incidentally or derivatively well marked Bright's disease with the concomitants belonging to the granular kidney type of it becomes established. When the acidosis state is added to the other kidney damage, indicated by moderate albuminuria with granular and hyaline casts, may with greater certainty and rapidity be looked for Indeed, if marked acidosis exists I think it may be said that albumin and casts may be expected to be found in the urine

I now come to the pathogeny of diabetic coma, and as I have said there are two views to which attention will be given. These are autotoxicosis from acidosis and from β amidobutyric acid.

As far back as 1877 it was found by Walter[1] that when hydrochloric or phosphoric acid was given in repeated full doses to rabbits a state comparable to that existing in diabetic coma was induced The heart's action became much increased in frequency the breathing forced deep and more frequent, like what is appropriately termed the "air hunger" breathing of diabetic coma and the animal passed into a stupefied state. It was noted also that the carbonic acid in the blood dropped from about 24 to 2 5 and 3 per cent. a condition that has since been found to agree with that observable in connexion with diabetic coma. Further when the rabbit was on the point of death in coma the injection of carbonate of soda restored it. At the time when these experiments were performed the acidosis associated with diabetes had not been recognised but from its suggested existence it was looked for[2] and in the course of a few years the presence of oxybutyric acid[3] was discovered It was in this way that the acidosis associated with diabetes was worked out and whether it supplies the true explanation of diabetic coma or not it is found that with the supervention of coma the acids are present in the blood in such quantity as to be not far remote from covering its alkalinity With this condition, as in the experimental acidosis, the amount of carbonic acid in the blood drops. Figures as low as 3 3 per cent. were noted by Minkowski[4] in a case during the existence of coma Three weeks previously in the same case they stood at 17 per cent. For comparison he mentions quoting from the work of another authority that 30 6 per cent. may be given as a representation of the normal amount present in arterial blood of the human subject.

By the advocates of the acidosis theory as an explanation of the production of diabetic coma it is considered that when the acids developed begin to fail to meet with bases to neutralise them a condition is reached productive of coma The effect of the administration of carbonated alkali in the circumstances agrees with that observed in experimentally induced acidosis and soda has been frequently employed as a measure of treatment with, in some cases temporary restoration from coma Instances of the kind stand on record but the final issue has been disappointing The bicarbonate of soda is the preparation that has been used and very large doses have been found necessary to be given, so large, indeed as to create a difficulty in putting the treatment into force. Magnus Levy[5] relates a case in which a boy aged 13 years, was twice brought out of coma by the administration of 200 grammes (a little over seven ounces) of the bicarbonate of soda. In another case recorded by Magnus-Levy[6] the patient a girl aged 12 years recovered from fully-developed coma under the administration of 100 grammes per diem and showed no further signs of coma during the nine weeks she subsequently remained in hospital. Notwithstanding however that success may be thus for a while obtained in the end coma supervenes which fails to be any longer susceptible of removal[7] This is not to be wondered at looking at the circumstances actually existing It is true that, besides the neutralising action which is the main purpose of the treatment, the elimination of oxybutyric acid is greatly increased, but the production of the acid which constitutes the real fault to be dealt with remains untouched

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[1] Walter Archiv für experimentelle Pathologie und Pharmakologie 1877 Band vii., p. 147

[2] Stadelmann Ibid 1883, Band xvii p. 419

[3] Minkowski: Ibid. 1884, Band xviii., p. 35. Külz: Zeitschrift für Biologie, 1884 Band xx p. 165

[4] Mittheilungen aus der Königsberger medicinischen Klinik, 1888, p. 171

[5] Archiv für experimentelle Pathologie und Pharmakologie 1899 Band xlii., p 149

[6] Ibid 1901 Band xlv p 389

[7] Naunyn Diabetes Mellitus p 323.

Writers speak of the altered constitution of the blood by the reduction of its alkalinity as the cause of the coma connected with acidosis and refer the result to the effect of the altered condition of the blood on the tissues of the body This, however, amounts only to an assertion which gives no insight into the actual pathogeny of the coma. If we bring the mind to bear upon the matter an explanation becomes opened out which carries us to the depths of physiological action and shows the precise *modus operandi* in relation to the question. In effect the acidosis state, if looked into, is seen to offer an impediment to the performance of an indispensable functional operation connected with the vital activity of the tissues—I mean the removal of the carbonic acid developed in them as an attendant phenomenon of life. By the train of reasoning to be brought forward we arrive at finality in connexion with the matter

The blood, as we know, conveys oxygen to, and carbonic acid from, the tissues It is in the tissues that oxidation on the one hand and production of carbonic acid on the other takes place, the process constituting what is termed the "internal respiration" The oxygen is conveyed in loose combination with hæmoglobin and is taken by, and embodied in, the living protoplasm where in reality the chemical interactions of life occur The oxygen thus embodied does not, it is considered, directly unite with carbon and hydrogen to form carbonic acid and water but as a part of the combination into which it has entered participates in a succession of changes of degradation presumably taking place and resulting in the formation of carbonic acid and water as main final products. The carbonic acid formed requires to be carried away and it is chiefly by the agency of the carbonate of soda in the blood that this is effected Brought into contact with carbonic acid the carbonate of soda becomes converted into bicarbonate The bicarbonate thus formed is conveyed by the blood to the lungs where it yields up its intake of carbonic acid to the air and returns to the state of carbonate which starts again on another round of work. Thus it is seen that the carbonated alkali of the blood performs in relation to carbonic acid a transport service similar to that which hæmoglobin performs in relation to oxygen. A limited amount of carbonic acid is also transported in simple solution In the cold blooded animal, where, on account of lower vital activity, the production of carbonic acid takes place on a much smaller scale, this mode of transit may suffice to accomplish what is wanted, as is evidenced by the continuance of life in a frog for a considerable number of hours when a saline solution has been substituted for its blood. In the warm blooded animal, however the production of carbonic acid is such that the capacity of transport by simple solution sinks to insignificance looked at in relation to the total quantity required to be conveyed, and the further provision supplied by the carbonated alkali is indispensable Hence the effect of the loss of alkalinity of the blood is to deprive it of its power of carrying away the carbonic acid formed in the tissues If the carbonic acid, the production of which is an essential phenomenon of vital activity, cannot be carried away it must obviously accumulate in the tissues and the only result that can be conceived sooner or later to follow is arrest of vital action. Choked with the product of their activity the tissues must yield to its toxic influence. Viewed in this way death intelligibly becomes a necessary consequence of the loss of the alkalinity of the blood With the advance of the acidosis a period will be reached when, under the reasoning adopted, a fatal termination must ensue

The characteristic breathing in diabetic coma testifies to the defect existing in connexion with the function of gaseous exchange To the condition the term "air-hunger" has been applied and it certainly looks as if efforts were being made to rectify a deficiency of air in the system. The inspirations are deep and prolonged and although more air than can be obtained seems to be wanted there is nothing to reveal any obstacle to the entry of air into the chest It is in the tissues that the respiratory want supplies the stimulus that regulates the mechanism of respiration. The lungs serve for the exchange of gases between the blood and the air, whilst the blood serves for the transport between the tissues and the lungs of the gases to be exchanged. For efficient tissue respiration these portions of the respiratory mechanism must be in a fit state for performing their work. Anything which interferes with the proper passage of oxygen to, or of carbonic acid from, the tissues will derange the chemistry of tissue life If oxygen fails to reach the tissues in sufficient quantity or carbonic acid adequately to be carried away the result in each case is that the chemical operations of life are checked and functional power diminishes till a state of coma ending in death is produced. In acidosis the fault lies with the defect in the carrying power of the blood for carbonic acid by the loss of its alkalinity As a consequence the tissues become poisoned by the carbonic acid that fails to be carried away A corresponding defect in the carrying power of the blood for oxygen is occasioned by carbonic oxide This gas, reaching the corpuscles, combines so tenaciously with their hæmoglobin as to prevent the subsequent ingress of oxygen The tissues are in this way prevented from obtaining their supply of oxygen just as they are prevented from getting rid of their carbonic acid under the existence of acidosis A parallelism, it is thus seen, in relation to defective transport action exists in the two cases

The outcome of what has preceded is that the retention of carbonic acid in the tissues is the cause of diabetic coma with its associated "air hunger" character of breathing The phenomena observed agree with the effects of carbonic acid poisoning occasioned in other ways The acids in the blood which writers upon the subject of acidosis speak of as producing, through their alteration of the constitution of the blood, the toxic results stand in the position of the precursory and not the immediate factor In the condition produced by privation of oxygen there is, as might be expected, a similar train of phenomena. There is this distinguishing feature, however, that while convulsions occur in connexion with the coma of oxygen deprivation they are absent in carbonic acid poisoning [8]

I previously said that there were two views bearing on the pathogeny of diabetic coma to which attention would be given. The view that remains to be considered is that of Sternberg,[9] which refers the coma to the toxic action of an assumed antecedent of oxybutyric acid—viz., amidobutyric acid Proceeding upon the presumption that diabetic coma is due to a toxic agent in the blood and assuming that oxybutyric acid is derived from the disintegration of proteid he thought that an amido compound of it would be a likely precursor This led him to experiment upon the effects of the series of amidobutyric acids upon the system, and in doing so he found that the β amido acid acted toxically and produced symptoms resembling those of diabetic coma There is first, he says, an excitement stage and next the comatose stage with deep and slow breathing Grube[10] has repeated his experiments and obtained corroborative results I notice that Sternberg speaks of the heart being strong and slow in action, but rapidity of action is one of the associations of diabetic coma. According to his suggestion the amidobutyric acid is a transitory step in the degradation of proteid towards acetone, and by delay of transition a toxic result may occur Its presence in the body is only hypothetical, but with reference to this it is said that it passes with too much rapidity into the lower forms of the series for it to be recognisable.

On account of its seeming feasibility this amidobutyric acid theory has met with widespread favourable consideration. Forcible objection, however, has recently been raised to it Magnus Levy[11] gives an illustration showing that on the presumption of amidobutyric acid constituting a precursor of oxybutyric acid the quantity of the latter eliminated much exceeded what was compatible with the nitrogen elimination that occurred The trend of opinion also at the present day from the recent evidence that has come into our possession is to the conclusion that oxybutyric acid is not actually derived from proteid, and if this is the case there is no ground for assuming that the production of an amido compound enters into the series of changes occurring There is likewise against the amidobutyric acid theory the collateral consideration that with the occurrence of carbonic acid poisoning *as a necessary sequence of acidosis* nothing more is wanted. When acidosis is looked at simply as acidosis exerting a toxic influence on the tissues it is permissible for some other condition to claim an equal pretension to consideration but looked at, as has herein been done, from the point of view of interfering with the performance of a necessary physiological operation, anything further becomes unneedful.

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[8] Since this section was written I have met with remarks by Bunge ("Physiological Chemistry" translated by Starling 1902) which coincide with the view that has been submitted Without entering into any particulars he simply says that acids reaching the blood deprive it of its carrying power for carbonic acid which thence accumulates in the tissues and by its toxicity is the source of the coma of diabetes

[9] Zeitschrift für klinische Medicin, 1899 Band xxxviii p 65

[10] Archiv für experimentelle Pathologie und Pharmakologie, 1900, Band xliv p 349

[11] Ibid, 1901, Band xlv, p 389.

(*To be continued.*)

THE TREATMENT OF INTRA PERITONEAL ABSCESS OF THE APPENDIX.

BY F. C. WALLIS F.R.C.S. ENG.

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IN the accompanying small series of consecutive cases of abscess of the appendix it will be noticed that in every case except the last the abscess was intra peritoneal—by which is meant that the abscess which is formed in connexion with the appendix, although shut off by surrounding adherent coils of intestine, was in no way adherent to the parietes or only so slightly as to form no protection. In every case, therefore, the general peritoneal cavity had to be opened before the abscess could be dealt with.

The following are details which were performed in each case. A comparatively small incision is made through the skin down to the rectus sheath which is divided. The length of the initial incision depends mainly upon the thickness of the abdominal parietes. The rectus muscle being pulled inwards the posterior part of its sheath is opened and the peritoneum is incised and held apart by forceps. If now the finger is introduced and a search more or less roughly carried out for whatever may be found the consequences will be disastrous the abscess cavity will almost inevitably be opened and the contained pus escape into the general peritoneal cavity Great care is necessary to avoid this catastrophe as *in the young* even after many days the *adhesions are of the frailest character* and unless the intestines are manipulated with gentle hands these adhesions give way and expose the general peritoneal cavity to the infection of the escaping pus To avoid this, when the peritoneum has been incised a blunt hook with a large curve is used to pull up the parietes on the left side of the incision. The general peritoneal cavity is shut off all round by introducing pieces of Gamgee tissue about from one and a half inches to two inches wide above internally and below, thus forming a crescent around the affected area. Now the abscess may be looked for by gently separating the adhesions in the neighbourhood of the appendix. This must be done *quite* gently otherwise the pus, which is always under a certain amount of tension may escape too rapidly to be controlled. If this does occur as it sometimes will in spite of all proper care, the patient should be immediately tilted over to the right side and the pus directed to a small bowl held underneath. When the pus escapes gently it can be sponged up as it wells out of the cavity until the tension has ceased when the opening is separated more widely and the cavity is thoroughly cleansed by sponging with Gamgee tissue (marine sponges should not be used) If there is any appendix to be removed this should be done now, the cavity is then dusted with iodoform and filled with iodoform gauze. In one or two cases the cavity was swabbed out with pure carbolic acid but the subsequent oozing was so excessive that I gave it up. It is important especially for the first 24 hours, to keep the surroundings as dry as possible and iodoform powder with moderately light packing of the gauze answers well. This packing is removed on the fourth day—i.e. after the bowels have acted—as a rule. In some of the cases peroxide of hydrogen was used to clean up the abscess cavity I have used it now for some years and can recommend it. The abdominal incision is closed by one set of interrupted fishing gut sutures, care being taken that each layer of the parietes is picked up by the needle—a large curved Hagedorn—as each suture is passed

It will be noticed that seven out of the eight patients were young—a matter I believe of some considerable clinical importance. It is not intended in this paper which is only a record of one's clinical experience, to deal with the vast amount of literature on the subject, but from what I have read and from what I have gathered from the clinical experience of others—and it certainly is my own—suppurative appendicitis is much more common in young people than the recurrent form and hitherto sufficient importance has not been attached to this fact. In all these cases the attack which ended in suppuration was the primary one. The onset in each case was a sharp, definite attack of abdominal pain, and in most cases this—perhaps naturally enough—had been looked upon as an ordinary stomach ache by the patient or relatives, and the sufferer had continued to go about for several days before applying for medical relief. Herein lies the danger If by chance adhesions form—and fortunately this is the rule—before the pus escapes from the appendix a bulwark of safety has been made which is of great value. But many of us have had personal experience of those cases when a young life is lost in two or three days by a suppurating appendix bursting before any sufficient adhesions were formed.

Another point which I have already mentioned is the *frail* character of the surrounding adhesions in the young even after many days Case 1 was operated on 10 days and Case 4 four days, after the original attack yet in each case as in all the others save one, quite delicate manipulation was necessary to avoid bursting the adhesions before the necessary guards had been placed around the affected area. The importance of recognising this clinical fact is evident. The one exception to this was Case 7 The age of the patient in this case was 48 years and here the adhesions were firm and strong forming a good protection In my experience this also is the rule in patients about this age These facts emphasise the necessity of operating quite early after the primary attack of appendicitis in young children. In all these cases a thorough view of the abscess cavity was obtained and whenever any appendix or portion of it remained this was removed at the time. When the pus tracked up behind the colon a posterior incision was made from which the wound drained and the anterior incision was closed

The sequel of commencing intestinal obstruction which occurred in Case 5 shows the advisability of removing any omentum which may owing to its inflammatory condition be capable of contracting adhesions with neighbouring coils of intestine. A certain amount was removed in this case but, as the sequel shows, not enough The rapid convalescence which ensued in all these cases was, I believe due in great measure to the thorough cleansing of the abscess cavity at the operation and to the removal of whatever was left of the appendix

With regard to the somewhat vexed question as to whether the appendix should or should not be removed at the time when the abscess is opened I do not think that any hard and fast rule can be made. In four of my cases the appendix was seen when the abscess cavity was exposed and was comparatively easily removed. But any systematic search when the appendix was not apparent was not made and I do not think that it would be good surgery to make one, as very serious harm might be done by opening up the peritoneal cavity and recurrences after an abscess has formed when the appendix has not been removed are rare

The treatment of the last case on the list is one which I have adopted lately when pus or puriform fluid was found in the general peritoneal cavity but at the time there was no general peritonitis My reason for such treatment is my great and growing respect for the wonderful protective and recuperative power of the peritoneum when not irritated by chemical solutions and rough manipulation which in these cases do nothing but harm.

CASE 1.—The patient, aged 15 years was admitted into Charing Cross Hospital on July 6th 1900 Operation was performed on the 13th and the patient was discharged on August 12th. There was pain in the abdomen on July 3rd, when castor-oil was given, and sickness on the 4th and 5th. The temperature varied from 101° F at night to 98 6 in the morning The patient was transferred to the surgical side on the 13th when, as stated above, the operation was performed. The abdomen was somewhat distended. There was slight respiratory movement and the abdomen was markedly tender especially over the right iliac region where the skin was slightly œdematous and a distinct fulness could be made out. At the operation the skin was incised for two inches over McBurney's point the rectus sheath was opened and the muscle was pulled inwards When the peritoneum was opened thickened œdematous omentum presented itself and the incision was enlarged one and a half inches In the mid line was a mass of omentum, underneath which was a gangrenous appendix and a small quantity of very offensive pus The appendix was removed, the abscess cavity was swabbed out, and a portion of thickened omentum was cut away The cavity was dusted with iodoform powder and was packed with iodoform gauze, and the greater part of the incision was brought together with silkworm gut sutures The iodoform gauze was removed three days after operation and a small piece was reinserted into the cavity for drainage purposes The cavity filled rapidly and the patient was discharged on August 12th. The patient was again operated upon on Jan 25th, 1901, for small ventral hernia.

CASE 2.—The patient, a girl, aged 13 years, was admitted into the Metropolitan Hospital on Oct 11th, 1900 Operation was performed on the 16th and she was discharged on Nov 13th The patient had been taken suddenly with abdominal pain on Oct 2nd. She kept about until the 7th when she went to bed and diarrhœa commenced. She was admitted into the hospital as suffering from enteric fever When she was seen after admission a definite swelling in the right iliac fossa was discovered and appendicitis was diagnosed. At the operation an abscess was found situated between the adherent small intestines and cæcum This was treated in the manner described above An uninterrupted recovery followed Peroxide of hydrogen was used as a lotion.

CASE 3—The patient, a girl, aged 15 years, was admitted into Sutton Cottage Hospital on Sept 4th, 1900 Operation was performed on the 9th and the patient was discharged on Oct. 9th She had been taken ill with abdominal pains and vomiting on Sept 2nd, the pain and resistance were most marked in the right iliac fossa. When she was seen on the 9th there was a well-marked swelling in the right iliac fossa, the temperature being 103 2° F, but the patient was lying on the affected side reading a book. At the operation an abscess was found containing nearly one ounce of characteristic pus This was treated on the same lines as the others The patient made an uninterrupted recovery

CASE 4—The patient, a youth, aged 17 years, was admitted into the Metropolitan Hospital on Feb 6th, 1900 Operation was performed on the 23rd and the patient was discharged on April 3rd He had been seized with acute pain in the lower abdomen during the night of Jan. 30th and this was followed by vomiting The pain and daily vomiting continued until his admission into the hospital, when an indefinite swelling was found in the right iliac fossa extending as far as the middle line This swelling was dull on percussion At the operation the omentum, which presented through the wound, was found adherent to the anterior abdominal wound and also to a loop of small intestine, this loop was adherent to the lower part of the cæcum Between these coils was a small abscess and the remains of the appendix These were removed and the cavity was packed with gauze The patient made a good recovery, but the sinus was longer than usual in filling up Peroxide of oxygen was used as a lotion

CASE 5—The patient, a youth, aged 17 years, was admitted into Charing Cross Hospital on Oct 26th, 1900 An operation was performed on the 26th and he was discharged on Jan. 9th, 1901 The previous history of this patient was not clearly made out, but on admission he was quite ill and had obvious signs of suppurating appendicitis At the operation the omentum, the small intestines, and the cæcum were all matted together, and on separating these a considerable abscess cavity was exposed filled with foul pus In the cavity was the gangrenous appendix, this was removed and the cavity was swabbed out and packed with iodoform gauze A portion of the sodden and thickened omentum was removed. The patient did very well until the third week, when he had symptoms of intestinal obstruction, necessitating a laparotomy, which was performed in the mid line, when two coils of intestine were found adherent to the great omentum. These were separated and the patient made a good recovery

CASE 6—The patient a girl, aged 11 years, was admitted into the Metropolitan Hospital on July 1st, 1901 Operation was performed on the 2nd and she was discharged on August 4th. She had first complained of pain in the right iliac fossa on June 25th, which gradually became worse until the 29th. There had been no sickness The bowels had been opened twice a day On the day of her admission into the hospital she had lamb and mint-sauce twice At this time her temperature was 103° F and her pulse was 132. The abdomen had a distinct fulness and sense of resistance in the right iliac and lumbar regions, where manipulation caused pain On opening the abdomen the colon presented itself This was pulled towards the middle line and an abscess cavity situated externally to the colon was found, which held two ounces of foul pus The cavity extended up towards the liver and was lined with a thick white membrane A posterior incision for better drainage was made in the loin and the abscess cavity was treated in the same way as the other cases Recovery was uninterrupted

CASE 7—The patient, a female, aged 48 years, was admitted into the Metropolitan Hospital on July 3rd, 1900 Operation was performed on the 4th and the patient was discharged on August 14th She had suffered from sudden severe pain in the lower abdomen on June 25th which settled in the right side, there was no sickness but rather violent retching The abdomen moved freely on respiration and on palpation a large mass could be felt in the right iliac and lumbar regions which extended upwards to the lower surface of the liver The abdomen was opened by an incision four and a half inches in length When the transversalis muscle was reached it was found to be much infiltrated and thickened On opening the abscess cavity firm adhesions formed definite and safe boundaries (the only case of this series where this was so) The abscess cavity was treated in the usual manner Recovery was uninterrupted

CASE 8—The patient a young man, aged 20 years, was admitted into the Metropolitan Hospital on Nov 5th, 1901 Operation was performed on the same day and the patient was discharged on Jan 4th, 1902 He had suffered from a sudden attack of pain with shivering and nausea on Nov 3rd, 1901, since when the bowels had not acted and no flatus had been passed Vomiting commenced on the 5th. On admission the patient looked very ill. The temperature was 97 5° F and the pulse was 120 The abdomen was distended and rigid, it did not move with respiration and was very tender all over the right iliac fossa. The feet and hands were found to be peeling in a manner suggestive of scarlet fever When the patient was sent into the hospital the case was notified as one of typhoid fever On the abdomen being opened the intestines in the right iliac fossa were found to be covered with a thin puriform fluid There were no signs of adhesion or appearance of localisation of peritonitis A long, swollen appendix was found lying on the outer side of the cæcum, between it and the parietal peritoneum This was removed and a quantity of sero purulent fluid was withdrawn by a syringe from the right side of the pelvis The wound was treated as in the other cases, with the addition that a large drainage tube was passed down into the recto-vesical pouch The patient was constantly sick until Nov 8th when, after repeated treatment, the bowels acted well. Recovery after this was uninterrupted When on the 15th the stitches were removed it was found that no union had taken place, the whole wound gaping and exposing the intestines No ill effects followed this unusual *contretemps*

Harley-street W

INTUSSUSCEPTION OF A DIVERTICULUM WITH SECONDARY ILEO-COLIC INTUSSUSCEPTION

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ON April 3rd I was asked to see a boy, 10 years of age, who was suffering from sickness and abdominal pain He had been quite well until the previous day, when he sat down with the rest of the family to breakfast. Suddenly, before taking any food, he complained of abdominal pain and vomited The vomiting had continued at frequent intervals up to the time of my seeing him, that is, at 6 30 P M next day There had been a good action of the bowels on the 1st and no recent constipation or diarrhœa, neither flatus, mucus, nor blood had been passed since this action The child was lying with his legs drawn up, his face was flushed, and his tongue was dry and brown The pulse rate was 116 and the temperature was 98° F He complained of pain in the right side of the abdomen. On examination the abdomen was seen to be flat, with the exception of a slight but distinct prominence on the right side. In the area thus defined a *tumour* could be felt, about two inches in length by an inch in width lying with its long axis at right angles to the middle-third of a line from the umbilicus to the right anterior superior spine of the ilium. It was firm and tender and dull to percussion. Nothing else abnormal could be felt though the abdominal wall was quite yielding. A rectal examination gave no information. There had been only slight tenesmus but an attempt to defecate just before I saw him had caused much pain and had increased the vomiting. The sudden onset of the illness and the symptoms of obstruction, with the condition of the patient, strongly pointed to an intussusception. The early and persistent vomiting and the position of the tumour suggested the ileum as the part affected. I therefore directed his friends to take him at once to the West Kent Hospital at Maidstone, his father being a labourer with a large family. At 9 P.M. I *saw him in the hospital. The* swelling in his abdomen previously noticed had entirely disappeared but now a somewhat indefinite mass could be felt in the position of the ascending colon. His pulse-rate was 132 and he had been again very sick. Operation was decided upon and at 9.30 P.M. I opened the abdomen by an oblique incision two and half inches in length parallel to the fibres of the external oblique muscle and one and a half inches from the iliac spine. The external oblique was split and the deeper layers were drawn aside and slightly notched. On opening the peritoneum the cæcum presented. It was quite flaccid and empty. This and the long vermiform appendix were rapidly examined. The ascending colon was then felt and was found to contain a doughy mass extending for three and a half inches and with a hard lump of the size of a filbert at its apex. The ileum was hooked up with the finger and was found to be intussuscepted into the colon. By gently pressing down the mass in the colon the ileo-cæcal valve was first everted from its position three-quarters of an inch from the base of the tumour. The ileum appeared to go directly to the harder portion mentioned and by carefully pushing this down and drawing out the ileum some three inches of gut and then this mass were reduced. The passage of this portion through the ileo cæcal valve was effected by pushing it through from the distal side and was the only part which gave any trouble. As soon as it was free a number of small coils of bowel easily followed which had been packed in closely and which came out much as string comes from the inside of a ball. Finally, the returning layer formed by the last three inches of the ileum was reduced. This portion of bowel showed signs of having been greatly distended and the peritoneum was sutured in two places where there were lacerations. The adjoining part of the ileum, 14 inches in length, was on reduction much compressed and anæmic but in a very few minutes it resumed a normal appearance. Above this 18 inches from the valve, was the swollen part. On examining this it was found that a pouch or diverticulum was here intussuscepted or rather inverted into the bowel forming a polypoid mass which almost completely obstructed the lumen of the gut. This was partially replaced but owing to the swelling of its coats could not be entirely reduced, its apex still remaining tucked in though it no longer projected within the bowel. The diverticulum about three-quarters of an inch in length and nearly of the size of the little finger sprang from the gut opposite to its mesenteric attachment. A point, however which drew my attention was the presence of a fold nearly half an inch wide running from the mesentery around the lower surface of the bowel to the little diverticulum, the edge of the fold being free and forming a little recess above and below in the angles between the ileum and the pouch. The bowel was replaced and the wound was closed, buried sutures uniting the out muscular walls. The operation lasted just half an hour, the patient rallied well from the ordeal and the sickness ceased entirely. The bowels acted on the 5th after a small enema. The tongue, though moist continued to exhibit a thick fur until after the administration of several 10-grain doses of sulphate of magnesia on the 6th. The stitches were removed on the 13th and the boy was sitting up in bed on the 18th and he returned to his home on May 2nd.

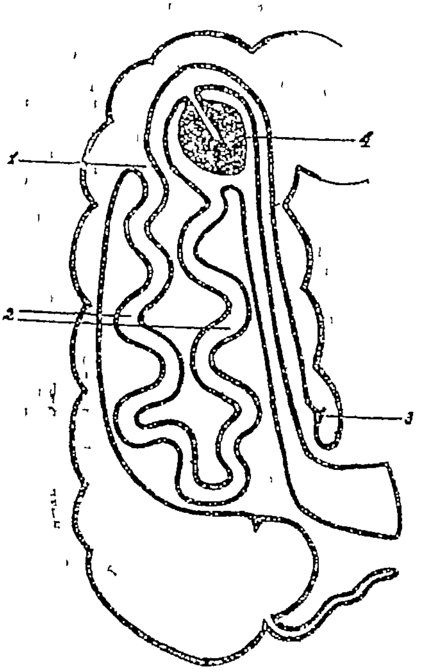

Diagram illustrating intussusception due to an inverted diverticulum. 1, True apex of the intussusception. 2, Ileum 14 inches, in tightly packed coils. 3, Position of the ileo-cæcal valve. 4, Inverted diverticulum showing œdematous thickening of the walls.

The condition here appears to have been primarily due to inversion of the diverticulum which then formed a polypoid mass and induced irregular peristalsis and secondary intussusception. The œdematous state of this pouch and the bowel wall immediately adjoining it showed that it had been affected longest, indeed at this point alone was there any œdema present. The secondary intussusception was I think when first seen still of the simple enteric form and the tumour then felt was altogether on the proximal side of the ileo-cæcal valve. The change of position and shaking consequent on the removal of the patient produced the condition found at the operation, the enteric intussusception having become ileo-cæcal. The difference in the conditions of the abdomen at 6.30 P.M. and at 9 P.M. was very striking. The stretched appearance of the returning layer of the ileum and the injury to its peritoneal coat can readily be accounted for—although from the absence of œdema or circulatory disturbance the part cannot have been long involved—by the fact that into between three or three and a half inches of inverted ileum some 18 inches of the adjoining bowel and the mass formed by the inverted diverticulum had been tightly packed. The coils of bowel were wedged in by the latter which had been carried right up to the apex of the tumour.

The total absence of the classical symptom of the passage of blood and mucus is noteworthy and the almost complete freedom from tenesmus exemplifies well how dependent this is on the implication of the large bowel in the affection which here apparently occurred quite late.

The diagram gives almost exactly the arrangement of the bowel in the tumour, the tightly packed coils of bowel being partly omitted for the sake of clearness.

Maidstone.

THE WATER-SUPPLY OF NEWPORT (MON.).—At the monthly meeting of the Newport corporation held on July 8th it was reported that the supply of water in the reservoir was less by 14,000,000 gallons than for the corresponding period of last year. The service has been suspended during several hours each night for over 12 months and the shrinkage now going on foreshadows a very severe situation at the end of the summer.

A CASE OF VERTICAL OR COMPLEX HERMAPHRODITISM WITH PYOMETRA AND PYOSALPINX, REMOVAL OF THE PYOSALPINX.

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THE case of which the notes are given below is, I think, of sufficient general interest to be put on record.

A patient, aged 20 years, came under my care at the Mildmay Mission Hospital, Bethnal Green, on March 17th, 1902. He was complaining of very frequent and painful micturition and thickness of the urine and some tenderness over the bladder. On examination he was found to be a double cryptorchid and to be hypospadiac, the hypospadias being of the perineal variety; the penis was very poorly developed and only between two and three inches long, there was a depression in the glans at the normal seat of the meatus, but this opening was blind, and the whole of the floor of the penile urethra was wanting, the urine being discharged by an opening in the perineum which admitted a No. 10 catheter with ease. On either side of this opening were two folds of skin representing the split scrotum, but the folds were empty, there being no signs of testes to be found here or in either inguinal region. Extensive scarring was to be seen on the right side of the hypogastric region which the patient said was due to an abscess which had been opened about a year before and which had now been closed for about six months. Beneath this scar there was to be felt an ill defined fulness the nature of which could not be clearly made out, partly on account of its tenderness and partly because of the scarring. The condition of the urine varied a good deal at different times; sometimes there was a very considerable amount of pus present; at others he would pass a very fair quantity which was almost clear—occasionally, but only on one or two occasions, and not at any regular intervals, there was a little blood present. On passing a catheter it was never possible to obtain more than a small quantity of urine at one time and this was always thick with pus, though he could often pass six or eight ounces at once himself when the quantity of pus was usually much less. In general appearance the patient was very small and puny for his age. He had no hair on his face and the pubic hair was scanty; his face had rather a feminine aspect, his voice was also high pitched. The breasts were more developed than is usual in a male, the development being similar to that usually seen in a girl about 15 years of age.

An investigation of his history showed that he had always been a rather feeble person and that he had been for the most part of his life at an orphan school owing to the early death of his father, but the authorities there had not noticed anything peculiar about him except his physical deformity and general want of development. There was no evidence to be obtained of menstruation. His mother also said that his brother and sister, who had emigrated to Canada, were both well developed. He had been earning his living as a tie maker for the last three years except when he had been laid up with the abscess mentioned above and with an attack of bronchitis. He did not appear to show any special sexual feeling, but had been always considered a male.

He was at first treated by having the cavity into which the catheter passed, and which was thought to be the bladder, washed out daily and this diminished the hypogastric tenderness and the amount of pus in the urine. But as a thorough examination could not be made he was given an anæsthetic on April 7th, a large fluctuating tumour was then found in the hypogastrium which appeared to be the bladder but the catheter failed to draw off more than a small quantity of urine and left the swelling as it was. Rectal examination enabled one to feel this swelling bimanually and also to feel a mass which felt like an elongated prostate on its posterior surface but this extended above the reach of the finger and its connexions could not be clearly made out. Under the scar there was also to be felt a much smaller mass, but this could not be properly defined as it was masked by the larger swelling.

Three days later the patient was again anæsthetised with a view to opening his abdomen. It was then found that the state of parts was quite altered as the large fluctuating swelling was absent and only the smaller one to the left of it could be felt. An incision was made in the middle line and the abdomen was opened below the umbilicus. On separating a good many adhesions there was found a tube-like structure, running up from the pelvis to be adherent to the old scar and also to a coil of gut, and on more clearly defining this it appeared to be a Fallopian tube full of fluid and of about the size of the middle finger attached along the upper border of a very rudimentary broad ligament and leading at its inner end to what appeared to be a uterus which, though not fully developed, was of considerable size and to which was attached on the other side another Fallopian tube which seemed to be normal. To the posterior aspect of the left broad ligament there was found attached a gland which was of the size and appearance of a normal ovary. The large cystic swelling which had previously been felt was found to be the bladder considerably dilated but now empty. The left tube and the gland were now removed; no similar gland was found on the right side, but no very careful examination could be made as the operation had lasted for some time and it was thought well to close the abdomen. The recovery from the operation was uninterrupted but pus continued to be passed in the urine although the general condition was much improved. On May 8th as the discharge of pus still continued, a further careful examination was made, the intention being, if thought advisable, to scrape the interior of the uterus after dilatation of the hypospadiac opening; it was found, however, that to do this it would be necessary to slit up the orifice considerably, and as it seemed improbable that it would heal kindly, and as if it did not it would seriously inconvenience his micturition, it was thought well not to do this at present but to continue the treatment by irrigation. It was found that a uterine probe could be passed for four inches with ease and clearly did not go into the cavity which at the previous operation had been identified as the bladder; a very careful and prolonged attempt to get a small metal catheter into the bladder was not successful.

The patient is now in very good general health and has gone out of the hospital, but is being kept under observation and is having the uterine cavity occasionally washed out, it being intended if the discharge continues at some future date to remove the rest of the appendages.

The examination of the parts removed gave the following results. The tube had in every respect the ordinary structure of a Fallopian tube, somewhat dilated so as to contain about a drachm of pus, in which no organisms were demonstrated by ordinary staining or by staining for tubercle bacilli. The gland showed in one part a structure which there could be no doubt was that of a rudimentary testis, as ill-formed tubules could be very clearly seen; in another part of the section there was a mass of cells of which the nature was uncertain. These cells varied in shape, being mostly cubical and round cells and some short spindles, but there were none like ovarian cells; possibly they were derived from the original cells of the germinal epithelium.

Remarks.—In this case the following seems to be the condition of the sexual organs. Externally the penis was small but otherwise normal except for the fact that the urethra had no floor. What appeared to be the opening of the urethra was really the opening of a very rudimentary vagina into which the uterus opened by a fair sized aperture and the urethra by a very small one; the folds on either side of the opening in the perineum might be taken to be either rudimentary scrotum or labia. Internally there were a very fairly well formed uterus and tubes, and on the left side the gland which was removed was clearly a testis; it was uncertain if there was a similar gland on the right side. There was no evidence of the existence of epididymis, vas deferens, or prostate, but it was quite possible that these might be present in a rudimentary form as no examination to settle this point could of course be made. The bladder was normal save for considerable increase in size. The general build of the individual was rather of the female than of the male type. The above mentioned points would lead one to classify the case according to Simpson's classification[1] as one of true double, vertical, or complex hermaphroditism, in which part of the internal organs are of the male and part of the female type, though some deny the term true hermaphrodite to any case in which both an ovary and a testis are not present.

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[1] Sir J. Y. Simpson's Works, vol. ii., p. 407.

Park-street, Grosvenor-square, W

SIX CASES OF MENINGITIS IN ONE HOUSE, WITH TWO DEATHS

BY EDWARD H. SWEET B A. OXON M R.C.S. ENG L.R.C.P LOND.

THE following cases, all of which occurred within a period of two months present many points of difference from the text-book descriptions of either cerebro-spinal or posterior basic meningitis.

At the beginning of this year the occupants of the house wherein the cases occurred consisted of the father the mother, the mother's sister and nine children (eight boys and one girl) varying in age from 11 years to twins born in December last. One of the twins died in January last from broncho-pneumonia. As regards the family history of this household the father had tuberculous disease of one lung the mother was not strong but had no disease her sister was a strong and healthy woman, and another sister had died some years ago from consumption. The parents of both the father and the mother were alive and in good health and the family history was otherwise a very good one. In February of this year the whole family suffered from influenza, followed by troublesome coughs

CASE 1.—Early in April last the girl, aged six years complained of a stiff neck and constant headache. She was occasionally sick and quite lost her appetite. I saw her first on April 28th and found her very much thinner than when I had attended her two months previously for influenza. She was drowsy sick after every meal, and complained of a dull pain all over her head. Constipation was very troublesome but the tongue was not at all coated. The pulse was soft and irregular and the temperature was 99 2° F Knowing the father's condition I feared tuberculous meningitis. The sickness easily yielded to careful feeding and ordinary stomachics but the constipation continued to be troublesome all through her illness in spite of two-grain doses of calomel twice a day As soon as the sickness stopped I administered three grains of iodide of potassium with five grains of bromide of potassium every four hours in addition to the calomel. The stiffness of the neck had decreased and was not much complained of at this time. At no time was there any retraction of the head, irritability or photophobia. As a rule the patient lay curled up in bed with the eyes half closed and had no objection to being moved. Emaciation progressed rather rapidly though liquid food was well taken and retained and the abdomen became much retracted. Tache cérébrale was well marked. On May 1st I examined the eyes. The pupils were slightly dilated and they reacted sluggishly to light. The discs were swollen and retinal hæmorrhages were present in both eyes. There was never any screaming convulsions were absent and there was no squint. The patient gradually sank into insensibility, and on May 12th she died. During the last three days the temperature rose to and remained at, 101° The pulse continued to be irregular and was generally about 100.

CASE 2.—Before I saw the child in Case 1 the eldest boy aged 11 years, had been brought to me with a history of constant headache, occasional vomiting loss of appetite restlessness, and grinding of the teeth at night The bowels were very constipated but the tongue was fairly clean. The sickness appeared to be quite independent of food and it came on quite suddenly I suspected worms and treated him for them without any result. He remained under treatment for six weeks and is now quite well.

CASE 3.—On May 28th I was asked to see the mother and I found her suffering from constant sickness and severe headache—chiefly occipital. The bowels were very constipated, the pulse was irregular and weak, and the temperature was 96° F I prescribed three grains of calomel and a mixture containing six grains of iodide of potassium, 10 grains of bromide of potassium, and five grains of antipyrin every four hours and milk-and soda and brandy every hour Next morning the sickness and headache had abated and the bowels acted after an injection. The patient now complained of great stiffness and soreness in the muscles of the neck and the head was held stiffly but there was no retraction. There was also pain in the back but no hyperæsthesia or anæsthesia of the trunk or the limbs She steadily improved and on June 2nd I was able to send her away for a change.

CASE 4.—The same evening I was sent for to see the fifth child a boy aged two and a half years who was said to be very sick and drowsy His father's account was that he had seemed out of sorts for two or three days. The appetite had been bad and he had occasionally complained of headache. When I saw him he lay curled up in bed and rather resented being moved. The pupils were rather dilated and reacted sluggishly to light. There was no photophobia or head retraction The pulse was 110 and irregular and the temperature was 99 2° F The bowels had not acted for two days in spite of a dose of castor oil, but the tongue was not coated. They acted a little later after a glycerine injection. Next morning vomiting had ceased, but the patient was more drowsy he was however conscious when aroused I ordered an ice bag to be applied to the head and prescribed the same drugs as had been prescribed for the patient in Case 1 In the evening Mr A H. Buck of Brighton kindly came over and saw the patient He recommended a Scott's dressing to be applied to the shaved scalp and milk with a few drops of brandy to be taken every half hour Next day the pulse had improved but the cerebral symptoms progressed rapidly Three days later the patient had convulsions affecting the right arm and leg and convergent squint and he died in the evening Up to the last day he had taken food well and there had been very little wasting The temperature after the first day had remained subnormal. There had been slight retraction of the head during the last two days but no opisthotonos Tache cérébrale had been well marked. Mr Buck examined the eyes with great difficulty owing to the restlessness of the child and thought that the discs were slightly swollen.

CASES 5 and 6.—On June 6th the aunt and on the 12th the father were attacked with symptoms similar to those of the mother—viz. violent headache, sickness stiffness of the neck and constipation. Each recovered in about four days

The other children of the family remain well at present. On Mr Buck's advice they were all sent away on the day following his visit and the family have now moved into another house. Neighbours naturally were anxious to know if the disease was infectious and it was with no confidence that I gave it as my opinion that it was not infectious from person to person but that the fault lay with the house or the soil.

I may add that the house stands on high ground one mile from Crowborough, on the edge of an extensive common The soil is a sandy loam. There are only two other houses within a quarter of a mile of it and these are about 50 yards apart The house contains two sitting rooms and three bed rooms of fair size. Part of the floor of one sitting room was constantly damp until a drain was sunk along the outer wall about two months ago The father told me that when sinking this drain he found that the soil had a very bad smell. The brick floors of the lower rooms are laid directly on the surface of the common without any air course, and the soil is full of decaying vegetable matter I regret that I was unable to obtain a post mortem examination on either of the children.

Uckfield

A CASE OF FRACTURE OF THE SPINE, LAMINECTOMY, RECOVERY

BY R. T BOWDEN M D DURH
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ON June 3rd, 1901 I was called to see a man aged 52 years, who had been knocked down by a runaway horse and water cart. He was standing with his back to the cart and the shaft caught him in the lower dorsal spine and threw him forwards. When I saw him half an hour after the accident he was quite conscious and was complaining of severe pain in the dorsal spine. The power of movement in the lower extremities was limited to an almost imperceptible movement of each great toe. Sensation was unimpaired. The reflexes were absent. It was stated that immediately after the accident he was able to move the legs fairly well. On examination a distinct irregularity could be made out in the spinous processes of the eighth, ninth, and tenth dorsal vertebræ, and on a later occasion, when making another examination, distinct crepitus was detected. In addition to this injury two fingers of the right hand were hopelessly crushed and there was a severe contusion of the right knee together with various other injuries of a slighter nature. The fingers were amputated at once and the patient was placed on a water-bed. A few hours after the accident there was extreme distension of the abdomen from inability to pass flatus per rectum. This caused great distress, but was relieved to some extent by passing a tube into the rectum and by giving large doses of castor oil and turpentine enemata. There was complete retention of urine. The catheter was used regularly and a few hypodermic injections of morphia were given.

On June 8th the patient was seen by Mr. Watson Cheyne who performed laminectomy. The laminæ of the eighth, ninth, and tenth dorsal vertebræ were divided and the intervening bone was removed exposing some three inches of the spinal cord. The pieces of bone removed were fractured in various places and one fragment could be distinctly seen pressing on the cord. Several clots of blood were also removed. On introducing the handle of the scalpel by the side of the cord a fracture of the body of the ninth dorsal vertebra could be detected, the upper fragment being displaced slightly forwards. With a gouge the sharp edge of the lower fragments was smoothed down. The dura mater was not opened. The external wound was sutured and an abundant antiseptic dressing was applied.

The patient did not suffer in any way from the immediate effects of the operation, there was no rise of temperature, and no increased discomfort of any kind was felt. For 10 days the wound was left undisturbed and the patient was then turned gently on his side and the stitches were taken out. The whole wound appeared to have healed by first intention. During the next few weeks the scar was inspected from time to time and all appeared to be going well until July 15th, when there was a sudden rise of temperature with tenderness along the scar and a few days later a small abscess burst leaving a sinus which did not finally heal until three months later.

About three weeks after the laminectomy it was noticed that there was a slight increase in the power of movement in the lower extremities. But at this time and for many weeks afterwards the patient's general condition was unsatisfactory. He was wasting very much; there was no power of expulsion in the rectum which had to be emptied frequently by mechanical means; there was complete retention of urine and the water at times became ammoniacal and offensive. The most scrupulous care was exercised in the use of the catheter and for some months the bladder was washed out daily with boric solution. When the urine became offensive a little boric acid given internally appeared to do much good. Massage and electricity were employed regularly for many months.

It was not until some three months after the accident that any real improvement became manifest. The patient commenced then to put on flesh, the bowels began to act occasionally of their own accord, the urine became acid, but there was still complete retention. Increased power of movement was first noticed in the toes and feet and gradually it extended up the limbs. At the end of another three months he was able to stand and could take a few steps about the room with assistance; the bowels were acting much better though there was still complete retention of urine. From this time onward the progress was steady and continuous, but it was fully nine months after the accident before there was the slightest power to pass urine voluntarily.

The patient's condition at the present time (just a year after the accident) is as follows. He can walk a distance of two miles with hardly any fatigue and he is steadily gaining strength; he feels in perfect health, sleeps and eats well, and is fatter than he has been for years past; the bowels act naturally and he can pass urine fairly well but still finds it advisable to use the catheter once or twice daily. The reflexes are not well marked; a slight patellar reflex can be obtained. Throughout the whole illness the patient exhibited an extraordinary amount of pluck; during all his months of suffering he never lost heart; he said from the first that he intended to surprise his doctors, and he has done so.

Ramsgate.

A CASE OF

RHEUMATIC HYPERPYREXIA FOLLOWED BY SYMPTOMS RESEMBLING THOSE OF DISSEMINATED SCLEROSIS.

BY WILLIAM ALLEN, L.S.A.,
AND
JAMES W. RUSSELL, M.A., M.D. CANTAB., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE BIRMINGHAM GENERAL HOSPITAL.

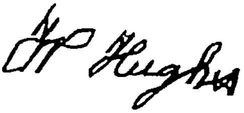
THIS case is of interest less from the extremely high level which the temperature reached than from the nervous lesions by which it was followed.

The patient was a man, aged 30 years, a butcher by occupation, with a good personal and family history. He was attacked with acute rheumatism on Nov. 14th, 1898. The attack ran a mild course and on the morning of Nov. 17th the temperature was normal and the patient's condition was in every way satisfactory. In the course of that day, in consequence of a fright due to the escape of a bull from his yard, he got out of bed and in the evening he was restless and inclined to wander. His temperature was found to be 107° F., but it was quickly reduced by the application of a cold pack. Next morning the temperature had again risen to 107° and though it was again reduced by the further application of cold packs it once more rose to 108°. Early in the afternoon the patient became violently delirious and the mercury reached the end of a thermometer the maximum register of which was 115°. It was certainly above this level. At about 3 P.M. the patient was seen by us together. He was then completely unconscious, the breathing was shallow and irregular, the face was cyanosed, and the whole appearance suggested the immediate approach of death. In a thermometer placed in the axilla, the maximum register of which was 110°, the mercury at once ran up to the extreme limit. The one favourable feature was the state of the pulse, which was hardly so bad as the general condition of the patient led us to expect, and we therefore decided to try once more the vigorous application of cold. As there was no bath in the house a quantity of ice was obtained and packed round the body and limbs and on the head, the chest, and the abdomen, and in the course of three quarters of an hour the temperature slowly came down to 102°, at which point the ice was removed. The temperature subsequently dropped to 98°. During the reduction of the temperature several general convulsions had occurred, and by the end of the hour these were being repeated every few minutes. An hour later the temperature had risen to 99°, and the patient, though still not to be roused, was showing some signs of a return to consciousness. He moved restlessly in bed, made inarticulate sounds, and there was some resistance to passive movement. After this there was a slow return to consciousness, though the ordinary mental condition was not regained for several days. The temperature remained constantly and irregularly raised for the succeeding three weeks, but it only once reached 104°. There were no convulsions after the day of the hyperpyrexia.

On regaining consciousness it was found that the patient had, to a great extent, lost the power of articulate speech and it was with great difficulty that he could make himself understood. There was no aphasia of any description—the difficulty was one of articulation only. Further, when he became convalescent and the weakness left by the fever had somewhat abated it was found that he was quite unable to walk owing to a condition of extreme ataxia of the legs. This slowly improved until the following June, when he was sufficiently improved to be driven into Birmingham, and on June 23rd, 1899, he was for the second time seen by both of us in consultation. The nervous symptoms then only differed from those to be described below as constituting his permanent condition in the greater degree of ataxia of the lower extremities, and we shall here therefore only allude to this feature. The patient was unable to walk or stand without support. With help he walked with short steps, putting each foot forward with great care and much unevenness of movement. On standing with the feet together and the eyes shut there was complete loss of balance. The coördination of the upper extremities was similarly, though to a less extent, affected. The movements of the hands and fingers were unsteady and writing was almost impossible, the pen spluttering and catching on the paper and the attempt being given up finally in despair A fuller report of the nervous symptoms is reserved for the account of the next joint examination, but it should be added that there was even then no evidence of any loss of muscular power nor was there any recognisable rigidity

On May 2nd 1900 we again saw the patient together His condition was as follows —

Motor system.—He was now able to walk by himself and on the whole steadily though every now and then there was a little loss of balance. He walked, however with great care, putting one foot before the other slowly and deliberately saying that he had to be careful lest he should fall The feet were kept rather widely apart and turning was especially difficult. He was quite unable to walk along a line without support. Romberg's sign was but slightly marked but when lifting one foot on to a chair there was marked disorder of movement. The movements of the upper extremities were awkward and clumsy, for instance in attempting to grasp the hand of one of us there was a good deal of coarse, uneven movement. When held out horizontally with the arms close to the body, the hands were steady except for slight wavering on the right side, but if the forefingers were pressed together with the arms well out from the body there was very marked rhythmical coarse tremor There was much unsteadiness in placing the forefinger on the tip of the nose even with the eyes open and there was similar difficulty in bringing the tips of the forefingers together from a distance. The power of writing had considerably improved though the attempt still caused a good deal of tremor which was only controlled by keeping the pen firmly pressed on the paper The following is a specimen of the handwriting —



W Hughes

There was no nystagmus and no tremor of the tongue. The motor power in both upper and lower extremities appeared to be intact, neither was there any paresis of the muscles of the face, the tongue or the eye. There was perhaps a very slight tendency to rigidity of the legs at the beginning of passive movement, but if present it wore off at once and we were not convinced that it really existed. The bladder and rectum were, and had always been, perfectly under control

Speech—Speech was slow monotonous and markedly scanning it would have passed as a most typical example of the scanning speech of disseminated sclerosis The articulation was distinctly though slightly blurred

Sensation.—Sensation was everywhere perfect both to touch and pain. The temperature sense was not tested

Reflexes.—The plantar reflexes were sluggish and flexor in type The knee jerks were moderately increased On testing for ankle clonus a few slight contractions were obtained on each side.

Muscles—The muscles were well nourished and there was no trace of any wasting The electrical reactions were, however somewhat sluggish both to faradism and galvanism Kathodal closing contraction was uniformly greater than was anodal closing contraction

The optic discs were normal and there was no trophic disorder of any sort. General nutrition and health were excellent. The mental faculties were we think quite unimpaired, though the monotonous intonation and blurred articulation gave a *false* air of mental feebleness.

We have recently made a final examination—namely on April 28th, 1902—but have practically nothing to add to the foregoing description. There has been perhaps some gain in control over the finer movements of the limbs, but the gait is still slow and careful The patient is able to do the ordinary work of a butcher's shop and he told us with pride that he had once succeeded in killing a sheep His handwriting is much as before his speech retains the same typical scanning character and in all other respects no change is to be detected

We have searched the literature of hyperpyrexia in rheumatic fever and have only succeeded in finding the report of one similar case. It occurred at the Birmingham General Hospital and was published by Dr Arthur Foxwell in THE LANCET[1] In that case the highest point reached by the temperature was 111° F and it remained raised for 10 days afterwards. The hyperpyrexia occurred on Sept. 28th 1884 and on Oct. 9th it was noticed that there was difficulty in pronouncing consonants and that the intonation was nasal. On Oct. 20th rhythmical tremors were observed the knee jerks were exaggerated more so on the left side and there was right ankle-clonus with a very slight degree of the same condition on the left. Sensation was normal but the leg movements were very feeble and the electrical reactions were sluggish On the 22nd the speech was perceptibly scanning and on the 25th the gait was ataxic and there was slight nystagmus. As in our case considerable improvement subsequently occurred in Dr Foxwell's case, but when the patient was seen a year later there were still some disorder of speech, paresis of the limbs, and tremors the left arm and right leg being most affected Dr Foxwell suggested a diffused inflammation occupying the substance of the medulla and lower half of the pons as a possible explanation of the condition. Some small scattered hæmorrhages would be an alternative solution and the occurrence of convulsions during the hyperpyrexia in our own case would seem to suggest some immediate lesion We have seen one case of rheumatic hyperpyrexia recorded in which such a lesion was present post mortem but have been unable to find the reference.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

OBSERVATIONS ON ERYTHEMA NODOSUM

BY H W SYERS, M A. M.D CANTAB.,
PHYSICIAN TO OUT PATIENTS GREAT NORTHERN CENTRAL HOSPITAL.

THERE is a fixed belief—at all events this is the opinion that would be formed by anyone who takes the trouble to refer to text-books—that the connexion between acute rheumatism and erythema nodosum is a very definite and indeed, close one. Yet an appeal to personal experience—that appeal which is so seldom made—will show that the belief in this link uniting the two maladies is altogether groundless. I have been interested in this question for a long time and have made observations on the nature and affinities of erythema nodosum in a very large number of cases extending over a long series of years. My experience has been that erythema nodosum has nothing whatever to do with rheumatism either acute or chronic. In my cases rheumatism had never preceded or followed the cutaneous lesion, joint pains being entirely absent throughout its course. In every case a most careful examination of the heart was made, but the result was in every instance negative, there being no evidence whatever of valvular or other heart disease. It was equally impossible to associate erythema nodosum with other morbid general conditions and from this point of view the malady should undoubtedly be regarded as *sui generis*

But there is one cutaneous malady to which the symptoms of erythema nodosum are certainly closely allied—urticaria Not long ago I saw a middle aged woman who for four days had been suffering from a rash giving rise to much irritation. The characteristic appearances of erythema nodosum were slightly marked over the shaft of the tibia but on the extensor surfaces of both forearms the rash was very well developed and quite unmistakeable At the same time examination of the neck showed the presence of urticarial wheals situated just where the collar presses If the investigation had been limited to that of the rash on the neck there can be no doubt as to the diagnosis which would have been made that diagnosis would certainly have been urticaria. These patches were anæmic in the centre and were according to the patient's statement extremely fugitive. It is worthy of note, too in this connexion that the skin generally was extremely irritable and that dermographism was well marked. In this case at all events, there can be no doubt that the clinical features of erythema nodosum and of urticaria were combined in one and the same patient But such cases are not so very rare. I have met with them several times The deduction to be drawn from these observations is clearly that the alliances of erythema nodosum are with urticaria and that the malady has nothing to do with rheumatism, acute or chronic

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[1] THE LANCET, May 29th 1886 p. 1012—"A Case of Rheumatic Hyperpyrexia with Nervous Sequelæ simulating Multiple Sclerosis

As regards the distribution of the lesions in erythema nodosum it is generally considered that the rash is more or less confined to the lower extremities, its seat of election being the front of the tibia, yet in my experience it is by no means unusual to meet with the characteristic appearances on the flexor and extensor surfaces of the arms and forearms as well as the legs and thighs In a few instances I have found the lower extremities to be practically free from the rash which was almost entirely confined to the arms and forearms

It is scarcely necessary to say that the treatment of this malady by salicylates or by anti-rheumatic measures generally is a perfectly futile proceeding The relations of the affection are certainly not with acute rheumatism, hence it is not surprising that therapeutic measures adapted to the management of that malady are altogether fruitless in this disease. Most important of all details of treatment is rest in the recumbent position and the use of lead and opium lotion may be agreeable and soothing to the patient But when severe pain is present warmth seems to be the most efficient method of relieving it. Internally quinine may be administered, but it is more than doubtful if any drugs control the course of the malady

In view of the close relationship existing between erythema nodosum and urticaria it is scarcely necessary to insist upon the importance of attention being devoted to the diet, the condition of the stomach, and the state of the bowels

Wimpole-street, W

A CASE OF CHRONIC PULMONARY TUBERCULOSIS TERMINATING IN ACUTE SURGICAL EMPHYSEMA.

BY J F HODGSON, M B, CH.B VICT,

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IT is probably a rare occurrence for a case of chronic pulmonary tuberculosis to terminate in acute surgical emphysema Such a state of things was found in the case of a patient in the Halifax Union Poor law Hospital.

The patient was a man, aged 41 years. He had been phthisical for 25 years and presented all the signs of chronic pulmonary tuberculosis When I saw him on the day of his death he was suffering excruciating pain in the region of his left shoulder A slight emphysematous puffiness on the left side of his neck was all that could be made out then. The emphysema was very acute, two and a half hours only elapsing between the appearance of the first symptom and death The patient, naturally a very thin man, soon became enormously distended. The emphysema was general, the skin all over the body being very tightly stretched.

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Halifax

A SERIES OF CASES OF JAUNDICE IN THE FŒTUS

BY G FRANCIS SMITH, M R.C S ENG, L R C P LOND

IT is no uncommon thing to meet with a mild attack of jaundice in the newly born infant, but I believe that the same condition in the fœtus is rare, and still more so when the resulting poisoning causes death, as described in the following cases, all children of the same mother

Four years ago a patient under my care, then aged 29 years, was delivered of a male child who was free from jaundice and who is now living At the age of two years he had a very severe attack which at the time I attributed to obstructive catarrh of the bile-ducts Three years ago the same woman had another boy born The child was full time but stillborn. He was intensely yellow, as were the liquor amnii, the membranes, and the placenta, all of them being deeply stained with bile. Death had presumably occurred one week before birth Two years ago another boy was born and the same condition of the liquor amnii and membranes obtained The child, who lived three days, was green at birth and became more so afterwards Symptoms of bile-poisoning supervened, terminating in coma. One year ago a girl was born Here again the same condition prevailed, only that the child lived five days On June 26th, 1902, another boy was born The liquor amnii was less dark and the child was less stained than on the previous occasions, but here, again, life seemed to flicker a few hours after birth The child would not take the breast, cried pitifully and moaned, gradually became comatose, and died on the third day

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Watford

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OF
HOSPITAL PRACTICE,
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WESTMINSTER HOSPITAL

A CASE OF SPLENIC LEUKÆMIA TERMINATING IN TUBERCULOSIS.

(Under the care of Dr W MURRELL.)

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On admission, and for some days after, her temperature varied from 100° to 101° F She was pale but not markedly so, and there was dyspnœa on exertion There was a considerable amount of pigmentation, especially of the abdomen and in the neighbourhood of the axillæ, nipples, and groins. There were brown pigment spots ranging in size from that of a pin's head to that of a split pea on the arms and there were similar spots scattered over the face. There were no patches of pigment on the mucous membranes. The spleen was felt as a smooth, firm, hard tumour extending anteriorly to the umbilicus and downwards well into the hypogastric region, there was a tender spot at the margin of the ninth and tenth ribs and the notches on the anterior border could be felt without difficulty The circumference of the abdomen at the umbilicus was 31 inches and there was no ascites. There was no enlargement of the cervical axillary or inguinal glands and there was no tenderness of the bones. The red blood corpuscles numbered 4 735,000 per cubic millimetre and the white 44 000 the latter consisting of finely granular oxyphile cells 51 per cent. coarsely granular 4 per cent., hyaline cells 15 per cent. lymphocytes 9 per cent. and myelocytes 26 per cent. These percentages are only approximately correct, as it was found impossible, from the large number of transitional forms observed to differentiate the varieties with any approach to certainty There was no epistaxis, menorrhagia, or other form of hæmorrhage, and there was no retinitis. She had a faint apex systolic murmur The urine was acid of specific gravity 1032, and contained no albumin or sugar It was found that 100 cubic centimetres of urine contained 2 5 grammes of uric acid. The patient was kept in bed and under close observation until May 21st, 1902, when she died. During the last few days of life there were indications of œdema of the lungs with consolidation at the left base. There was very little cough and no expectoration. The progress of the case is best seen by the following analysis of the symptoms and physical signs.

Temperature —The temperature was taken six times in the 24 hours. For the first month it was rarely above 99° although occasionally it rose to 101° at 11 p.m In August and September it ranged from 97° or 98° in the morning to 102° in the evening After this there was a long period of quiescence in which the temperature rarely rose above 99° In January and February it ranged daily from 98° to 101 8° In March and April it was persistently high rarely falling below 101° During the last week of life it varied from 101° to 102 6° the pulse being from 120 to 130 and the respirations from 40 to 44 in the minute.

Blood —The blood was examined from time to time by Dr Lazarus-Barlow Dr Bertram Abrahams, and Mr E. Rock Carling and the following data were obtained —

Date.	Time.	Erythrocytes per cubic millimetre	Leucocytes per cubic millimetre.	Hæmoglobin value per cent.
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Oct. 17th	3.15 P.M	4 390 000	150 000	64
20th	2 P.M	4 030,000	20,000	58
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April 6th, 1902	—	—	167 000	—
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The percentage of the different forms of leucocytes varied much from time to time. For example, on Oct. 20th it was as follows small lymphocytes, 10 per cent. large lymphocytes 5 per cent. myelocytes, 20 per cent., polymorphonuclears, 45 per cent. and eosinophiles, 20 per cent. Seven days later the following figures were recorded small lymphocytes, 3 per cent. large 3 per cent. myelocytes (chiefly eosinophilous) 44 per cent. polymorphonuclears, 30 per cent. and eosinophiles, 20 per cent. The sudden fall in the number of leucocytes from 150,000 on Oct. 17th to 20,000 on the 20th was coincident with the appearance of the catamenia on the evening of the 17th and a higher temperature on the 18th and 19th than had been recorded for some days previously In the final count on May 14th when the leucocytes had fallen to 16,200 the percentages were as follows finely granular 45 lymphocytes, 9 myelocytes 7, basophile, 7 and hyaline, 36. A large proportion of those classed as "finely granular" were atypical as to nucleus. Speaking generally of the blood observations made throughout the case it may be said that the great increase was in cells of large size presenting a large badly staining circular or oval nucleus and in the number of very minute granules which stained with eosine. The fall in the number of myelocytes towards the end was very noticeable On Oct. 27th the differential count per cent was 44 on Nov 4th it was 20 and on May 14th it was only seven. The polymorphonuclears on Nov 4th were 25 per cent. and on May 14th they were 45 per cent.

Spleen.—The spleen continued to increase in size until the middle of January when it was two inches to the right of the umbilicus and extended downwards almost to Poupart's ligament In then rapidly diminished in volume until on April 25th, 1902, it was two inches to the left of the umbilicus and proportionately smaller in other directions.

Hæmorrhages —From February onwards the patient suffered from extensive subcutaneous hæmorrhages chiefly on the lower extremities and the right knee was red and painful. In April the extraction of a tooth was followed by a not unusual amount of bleeding The eyes were frequently examined by Mr G Hartridge. In July 1901, the fundi were normal, in December the retinal veins were large and tortuous three times the size of the arteries, and the discs showed a few hæmorrhages in the periphery In March the retinal vessels were extremely tortuous and much enlarged and there was some increase in the amount of hæmorrhage. The ears were examined but there was no deafness and nothing abnormal was found.

Pigmentation.—The pigmentation noticed on admission persisted and increased somewhat whilst the patient was taking arsenic. A dark purple line was observed at the base of the nails. In this connexion it may be mentioned that the patellar reflex was absent.

The treatment adopted was as follows. From July 14th to 27th and from August 28th to Sept 21st the patient had liquor arsenicalis in doses of from three to 15 minims three times a day From Oct 2nd to Nov 9th she had liquor hydrargyri perchloridi in from three- to five-minim doses every four hours. She was then placed on sulphate of quinine in five-grain doses three times a day for some weeks, after which she had sodium meta vanadate in daily doses of two milligrammes. Probably none of these drugs exerted any real effect on the progress of the disease, but the administration of the small doses of perchloride of mercury was concurrent with the decrease in the number of leucocytes.

Necropsy —At the post-mortem examination (which was made by Mr Carling) the pleural sacs were each found to contain about half a pint of clear serous exudate the pleural membrane was smooth and not ecchymosed. In both lobes of the left lung and in the upper lobe of the right there were patches of consolidation presenting the appearance of grey hepatisation at the apex of the left was an area of caseation with breaking-down. The larynx, trachea, and bronchi were normal but in the latter there was muco-purulent secretion. The thyroid was normal. In the situation of the thymus there was a mass of tissue. The infra tracheal glands were much enlarged and pigmented and in one there was a patch of breaking down caseation. The spleen (which weighed 3 pounds 12 ounces) was firm, resisted cutting and was brownish red on section. The capsule was not disproportionately thick. Scattered throughout the organ and here and there on the surface were white masses apparently of miliary tubercle. The liver weighed 5 pounds, it was pale and firm and showed both on the surface and on section miliary tubercles The adrenals were normal. The marrow of the ribs was pale in colour and small in quantity That of the lower end of the femur was firm, in part grey and in part red interlaced with white trabeculæ. On microscopical examination it was found that in the lungs there were abundant evidences of tubercle. The indications in the liver were less decisive but there seemed to be early tubercle. There was no doubt that the patient died from tuberculosis. (The specimens and sections have been kept.)

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[1] *Deutsche Medicinische Wochenschrift* Sept. 30th, 1897 p 193.

As regards the distribution of the lesions in erythema nodosum it is generally considered that the rash is more or less confined to the lower extremities, its seat of election being the front of the tibia, yet in my experience it is by no means unusual to meet with the characteristic appearances on the flexor and extensor surfaces of the arms and forearms as well as the legs and thighs In a few instances I have found the lower extremities to be practically free from the rash which was almost entirely confined to the arms and forearms

It is scarcely necessary to say that the treatment of this malady by salicylates or by anti rheumatic measures generally is a perfectly futile proceeding The relations of the affection are certainly not with acute rheumatism, hence it is not surprising that therapeutic measures adapted to the management of that malady are altogether fruitless in this disease. Most important of all details of treatment is rest in the recumbent position and the use of lead and opium lotion may be agreeable and soothing to the patient. But when severe pain is present warmth seems to be the most efficient method of relieving it. Internally quinine may be administered, but it is more than doubtful if any drugs control the course of the malady

In view of the close relationship existing between erythema nodosum and urticaria it is scarcely necessary to insist upon the importance of attention being devoted to the diet, the condition of the stomach and the state of the bowels

Wimpole-street W

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BY J F HODGSON, M B, CH.B VICT,
RESIDENT MEDICAL OFFICER HALIFAX UNION POOR LAW HOSPITAL.

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[1] Deutsche Medicinische Wochenschrift Sept [illegible]0th 1897 p 193.

2,000,000 red blood corpuscles and 250,000 white per cubic millimetre, whilst in the following February the red corpuscles were 3,300,000 and the white were 8900 Under the influence of the intercurrent disease the proportion of leucocytes to erythrocytes diminished from 1 in 8 to 1 in 370 In 1889 Quincke[2] at the Association of German Scientists and Physicians in Heidelberg reported a case of mixed splenic-myelogenous and lymphatic leukæmia in which miliary tuberculosis supervened There was a marked reduction in the characteristic leucocytes but no differential counts are given At the same meeting Stintzing[3] reported a case of lymphatic leukæmia in which there was chronic tuberculosis. At the expiration of six months there were the physical signs of cavities at the apices of the lungs and the sputum contained tubercle bacilli The blood at first showed moderate leukæmia (1 in 100) with a normal red count, but as the tuberculosis progressed the glands became smaller and the proportion of leucocytes was reduced to 1 in 150 Baldwin[4] in the same year reported a case of lymphatic leukæmia with tuberculosis and gave a series of differential blood counts At the first examination in October, 1897 the erythrocytes were 3,010,000 and the leucocytes were 695,000, whilst in December, 1897 on the day immediately preceding death, there were 2,435,500 red and 959,500 white per cubic millimetre, the proportion of white to red having risen from 1 in 4½ to 1 in 2½ The first case of splenic myelogenous leukæmia with pulmonary tuberculosis was published in 1901 by Henry L. Elsner and William A. Groat[5] of the Syracuse University The patient, a man, aged 40 years, after being under observation for some weeks, developed phthisis with well marked physical signs in the lungs and tubercle bacilli in the expectoration His blood was examined on six different occasions and showed a gradual diminution in the white cells from 320,000 to 121,500 per cubic millimetre and a decrease of myelocytes from 31 per cent. to 17 5 per cent The second case was published by Arnold Sturmdorf[6] of New York. The patient was a woman, aged 35 years, who developed pulmonary laryngeal and faucial tuberculosis Blood counts were made during a period of four weeks and showed that each rise of temperature was accompanied by a corresponding increase in the number of polymorphonuclears and a proportionate decrease in myelocytes

Although phthisis is rare in splenic myelogenous leukæmia it is not uncommon to meet with an ulcerative process and new formations disseminated throughout the lungs giving rise to small scattered cavities. Lymphoid cells infiltrate the wall of the bronchus and extend into the adjacent pulmonary tissue Nodules are formed which may coalesce into larger masses, although they rarely undergo caseation. The infiltration may be present in three situations—around the branches of the pulmonary vessels, around the bronchi and alveoli, and beneath the pleura. In the fibrinous areas so formed large collections of bacteria are often found. The diagnosis of tubercle as a superadded affection in leukæmia presents much difficulty The temperature affords no indication, for it is commonly elevated from the original disease The patient may have very little cough and no expectoration, and the physical signs may be ascribed to œdema of the lungs or a patch of pneumonic consolidation. A reduction in the percentage of myelocytes with an increase in the polymorphonuclears should excite suspicion

Of other intercurrent affections in leukæmia erysipelas is the commonest. In a case reported by Richter[7] the patient suffered from an attack of acute rheumatic arthritis, whilst Müller's case[8] was complicated with septicæmia In the rheumatic patient the condition of the blood remained unaltered but in the septicæmic case the white cells rose from 180,000 to 400,000 per cubic millimetre, with a marked increase in the percentage of polymorphonuclears There was a genuine leucocytosis added to a leukæmia In intercurrent affections such as pneumonia and pleurisy, which in the normal blood produce a leucocytosis, the total number of leucocytes is decreased and may fall below the normal as death draws near

A point which attracted attention in this case was the extensive pigmentation Was it due to the arsenic which the patient took before she came under my care or was it to be regarded as an indication that the adrenals were involved? Dr Robert Muir informs me that in his experience involvement of these organs is rare Professor Ralph Stockman, who saw the case with me, was of opinion that the pigmentation was due to arsenic and at the necropsy the adrenals were found to be normal These organs have been found diseased in a few cases of leukæmia. In one they were the seat of caseous change and in another in which they were large and mottled there was some bronzing of the skin In connexion with the action of arsenic in causing pigmentation of the skin it will be remembered that even small doses in frogs induced desquamation, the cuticle being stripped off readily from every part of the body This desquamation is observed[9] in as short a period as five and a half hours after the administration of a proportional dose of $\frac{1}{1000}$ The histological explanation of the change has been investigated by Emily A. Nunn[10] who has shown that (1) the whole epiderm becomes loosed from the subjacent derm, (2) the cells of the Malpighian layer become incoherent so that the whole layer collapses, its well known architectural features becoming obscured, and (3) the intermediate layer separates from the Malpighian layer below and from the corneous layer above

Arsenic is reputed to be of value in the treatment of leukæmia, but in this case it was less efficacious than small and frequently repeated doses of perchloride of mercury On theoretical grounds it would hardly be expected that arsenic would do much good in splenic leukæmia, for, as R Stockman and E D W Greig[11] have pointed out, it acts as a hæmatinic by stimulating the bone marrow Although it may increase the number of blood corpuscles it does not affect the cause of the disease, and its administration is a purely symptomatic mode of treatment. With regard to vanadium its efficacy is equally doubtful. It is allied in action to phosphorus and arsenic, although there are many points of difference G F Dowdeswell[12] many years ago showed that in animals it produced fatty degeneration of the liver Recently, Lyonnet, Martz, and Martin[13] in a joint paper, "De l'Emploi Thérapeutique des Sels de Vanadium (Métavanadate de Soude)," have advocated its use in a number of diseases, including anæmia, but apparently not of the pernicious type They say that it markedly improves the appetite, imparts a sense of well being and increases the body weight. They give the sodium meta-vanadate by mouth in daily doses of from one to five milligrammes The most exhaustive paper on the physiological action of the drug is by John Priestley[14] of Manchester, the result of a research made under the direction of Professor Arthur Gamgee, F R S In this contribution it is shown that vanadium exerts no direct action on the blood Many French writers on vanadium speak of "les recherches de Platt," evidently being misled by the fact that Priestley was the Platt physiological scholar at Owens College

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON

Puerperal Eclampsia —Retro-peritoneal Lipoma —Ovarian Tumour in the Pelvis

A MEETING of this society was held on July 2nd, Dr PETER HORROCKS, the President, being in the chair

Dr R H. BELL read a short communication on a case of Puerperal Eclampsia with Necropsy and Remarks The clinical phenomena were those usually associated with cases of eclampsia, viz, headache, vomiting, œdema, albuminuria, and, finally, fits and coma. It was noted, however, that the urine was little, if at all, diminished in amount, and that albumin, though always present, was never in larger proportions than one sixth The presence of jaundice in the later stages of the illness was also mentioned, and reference was made to other cases in which this symptom was present.

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[2] Tageblatt der Naturforscher und Ärzte in Heidelberg 1889 p 405

[3] Ibid

[4] American Journal of the Medical Sciences 1899 vol cxvii p 656

[5] Ibid 1901 vol cxxi p 271

[6] Ibid 1901 vol cxxii p 166

[7] Deutsche Medicinische Wochenschrift 1895

[8] Wiener klinische Wochenschrift, July 1896.

[9] Ringer and Murrell Journal of Physiology vol i, No 4

[10] Journal of Physiology vol i No 4

[11] Ibid vol xxiii No 5

[12] Ibid 1878-9 p 257

[13] Lyon Medical 1899 Nos 9-12

[14] Transactions of the Royal Society of London, 1876 vol clxvi, p 495 THE LANCET Jan 15th 1876 p 104

A short account followed of the necropsy and microscopical appearances of the liver and kidneys, both of which but especially the former, showed marked degenerative changes such as have been described by Pelliet and others as associated with cases of eclampsia Their close resemblance to those seen in the early stages of acute yellow atrophy was dwelt upon, but the fact was mentioned that during life no diminution of the size of the liver was made out, and that post mortem the organ weighed 55 ounces. Dr Bell suggested that the case was interesting as showing the close affinity of eclampsia to acute yellow atrophy occurring in a pregnant woman, the post mortem appearances being those associated with an acute toxæmia. Some experiments with regard to the toxicity of the blood conducted by Mr O G Seligmann were then recorded. The method employed was the subcutaneous injection of serum into guinea pigs. Control experiments were made with the blood from cases of chronic uræmia in the stage of coma, and it was shown that in these cases the serum had by no means the same high degree of toxicity as existed in the ca e of eclampsia.—Dr C J CULLINGWORTH thought that there was much that was still to be elucidated both about the pathology of puerperal eclampsia and that of acute yellow atrophy of the liver and it was quite possible that some day both might be found to be capable of being classed under one general heading The difficulties of such a case as this would then be cleared up and indeed this case might prove valuable as a sort of connecting link, all the more valuable from its having been recorded without any attempt to fit the facts on to some favourite theory There was just one point on which he should like to ask Dr Bell a question. The hæmorrhages found in the liver were extensive and remarkable He was not sure that their extent had been actually measured and recorded in figures, but from his recollection he should say that the larger one had a sectional area of at lea t three *inches by two and a half inches.* He feared that he was not a sufficiently expert pathologist to be able to say whether such a condition was ever met with in puerperal eclampsia with kidney lesions only —Dr T W EDEN said that he thought the case which had been so admirably reported by Dr Bell was a very important one. It served to support the view now gaining much favour abroad that it was possible to divide cases of eclampsia into two principal groups hepatic and renal. The morbid anatomy of eclampsia had not perhaps received as much attention of late as had been paid to experimental work in connexion with the toxæmic theory of this disorder But the occurrence of well-defined changes in the liver consisting chiefly of hæmorrhages and degeneration of hepatic cells, was now well established and it had of course, been long recognised that marked changes might also be found in the kidneys Dr Bell s case appeared to belong to the hepatic class, and the relation of this class to cases of acute yellow atrophy was one of the most interesting problems connected with the subject. Dr Bell appeared to sympathise with the view that eclampsia was produced by a toxic condition of the blood. That might be so but toxæmia after all was only a symptom like eclampsia, and they were therefore no nearer a satisfactory explanation of the pathology of the condition. The real problem that had to be faced was How did the toxæmia arise? Unfortunately no answer could at present be given to this question When physiological chemists had succeeded in separating from the blood of eclamptic women definite toxic bodies the properties of which could be accurately studied some progress might be made in settling this very difficult question.—Dr AMAND J M ROUTH rather doubted the diagnosis of acute yellow atrophy in this case owing to the absence of atrophy He saw a patient, six months pregnant, who was seized with severe vomiting slight albuminuria, jaundice and passage of blood per rectum. A diagnosis of acute yellow atrophy was made and the uterus was emptied. The following day puerperal eclampsia ensued and she died but no post-mortem examination was allowed.—The PRESIDENT did not think that this was an ordinary case of puerperal eclampsia. On the contrary it was a very unusual one, for on the one hand the urine was never loaded with albumin and on the other albumin was not quite absent. Again there was marked jaundice which was uncommon in puerperal eclampsia. Hence although the pathological changes in the liver and other viscera were of great interest it did not follow that they would be found in ordinary cases. He deprecated the use of the term puerperal toxæmia. for it was founded upon a still unproved theory and gave no picture of the case like the term puerperal eclampsia" did.—Dr G H DRUMMOND ROBINSON referred to a case in which he had made some experiments with the blood serum of a patient who, during her first pregnancy had developed jaundice and albuminuria. Considerable quantities of the blood serum from this case were injected into guinea pigs without producing any effect. This patient had no fits and made a good recovery after the induction of premature labour —Dr WILLIAMSON considered that under the term eclampsia they grouped together at the present time conditions which had very little in common with one another On the one hand there was a well marked group of cases in which the patients were the subjects of chronic nephritis. In these patients what they termed eclampsia was really a uræmic condition and though modified by pregnancy still it differed in no essential from uræmia occurring in a non pregnant woman But there was another and an entirely different class of case in which the convulsions appeared to depend upon an acute toxic poisoning the stress of which fell more especially upon the liver, and the kidneys might almost escape damage. In support of this contention he quoted a case recently seen in which 40 eclamptic fits occurred within 24 hours of delivery The urine was not reduced in amount the percentage of urea never fell below 1 6 per cent. only a slight cloud of albumin was present, and no tube casts were found After the cessation of the fits however the patient became deeply jaundiced and bile was found in the urine The patient recovered

Mr ALBAN H. G DORAN exhibited a Retro-peritoneal Lipoma, weighing 13 pounds 12 ounces removed from a woman aged 47 years. The omentum was not involved. The right kidney lay on the pelvic brim in a lobe of the tumour which was supplied with blood by large vessels arising close below the pancreas. The patient rallied from the operation but died 38 hours later from suppression of urine. Mr Doran noted that surgically this kind of tumour must be distinguished from the purely omental type (Meredith and perhaps Lannander) and from lipoma of the broad ligament (Treves) varieties which allowed of easy and safe removal. The results of extirpation of these absolutely retroperitoneal lipomas were very unsatisfactory Ferrier and Guillemain questioned on good grounds whether it was justifiable to attempt their removal when their nature was recognised at an exploratory operation.—The PRESIDENT Dr CULLINGWORTH Dr HERBERT R. SPENCER, and Dr GILES took part in the discussion

Mr J W TAYLOR read the notes of a case in which delivery at full term had been obstructed by the presence of an Ovarian Tumour in the Pelvis. After considering the relative advantages of abdominal and vaginal ovariotomy it had been decided to make a posterior vaginal section and to perform ovariotomy during the progress of labour This was successfully accomplished and then delivery had been completed by the aid of forceps without delay The patient had made an easy and very satisfactory recovery —The PRESIDENT congratulated Mr Taylor on the happy termination of his case. But he could not help feeling that he had been lucky in finding this ovarian cyst so simple and so free from adhesions. Had it been a multilocular cyst with myriads of small cysts had there been a lot of adhesions extending to the bowel, or had the pedicle been difficult to reach he might have been obliged to open the abdomen after all He related details of a case in Guy s Hospital where a tumour occupied the pelvis and obstructed labour It was under such great pressure that *it was thought to be a solid tumour* There was no fluctuation and it felt a hard as any fibroid A needle was pushed in and pus was withdrawn. Then an incision was made and a loculus was emptied a septum was punctured and another loculus was emptied and then a third one, after which it was found possible to deliver Subsequently another loculus of this multilocular suppurating ovarian tumour opened and discharged near the navel and the patient left the hospital and was lost sight of After trying operations per vaginam he must say that he preferred to tackle these tumours through the abdominal wall One great danger was the pedicle which sometimes tore when being pulled down in order to reach it from the vagina.—Dr SPENCER thought that abdominal ovariotomy was preferable to vaginal ovariotomy in the treatment of these cases Mr Taylor seemed to have chosen vaginal ovariotomy partly because he would probably have to evacuate the pregnant uterus or do a Cæsarean section before he could get at the imprisoned tumour" It could not be too strongly insisted upon that Cæsarean section was quite unnecessary In Mr Taylor's case the tumour, which he understood contained two or three pints, would certainly have reached above the brim of the pelvis and might have been opened there possibly without much difficulty But in any case by enlarging the incision (and it was surprising through how small an incision the pregnant uterus would pass if taken out one cornu first) the tumour could have been easily dealt with, and then forceps could have been applied and the uterus returned. The vaginal operation appeared to him (while having some slight advantages alluded to by Mr Taylor) to be, on the whole, inferior in that it made a wound in the vagina but did not permit inspection of the other ovary or allow of such careful treatment of adhesions or of the pedicle Mr Taylor had himself found difficulty in dealing with the pedicle in that he had tied it by encircling it with a ligature applied beyond a pair of forceps and had to cut the ligature short by the sense of touch This appeared to him to be not free from danger of slipping of the ligature Cases had been recorded of slipping of the ligature and such cases showed the necessity of careful separate ligation of the ovarian vessels in the pedicle in cases of ovariotomy during pregnancy, which could only be satisfactorily performed by the abdominal operation —Dr **Heywood Smith** said that about 17 or 18 years ago he had a similar case under his care He tapped the ovarian cyst per vaginam and delivered the woman It was not till she was between three and four months pregnant again that she presented herself. He then did ovariotomy during the pregnancy, the patient did well, went her full time, and subsequently had other children.—Dr M **Handfield-Jones** recorded two cases of suppurating dermoid tumour which had obstructed delivery at full term In both cases he had thought it best to open the abdomen and remove the tumours by the abdominal route While performing these operations he had been struck by the difficulty which would have been encountered if he had endeavoured to effect the removal by the vaginal route, for in both these instances the upper wall of the tumour had been densely adherent to coils of small intestine, and great risk of tearing the bowel would have arisen if an attempt had been made to withdraw the growth through an opening in the vagina. The plan of removing the tumour by the abdominal route and then replacing the pregnant uterus and effecting delivery by the natural passages commended itself to him as by far the safest and most scientific procedure He thought that Mr Taylor was to be congratulated equally on the success of his operation and the good luck which had attended it —Mr **Taylor**, in reply, said that while acknowledging the good fortune for which every surgeon should be grateful he wished the Fellows to understand that the operation was deliberately chosen and that this choice was made in consequence of an experience of vaginal cœliotomy extending now over some nine or ten years, during which he had repeatedly removed small ovarian cysts, diseased tubes, small dermoid tumours and extra uterine pregnancies by the vaginal method As experience widened it could be generally judged what cases were suitable for vaginal section and it was only in the minority of cases (possibly some 5 per cent.) that an operation begun by the vaginal had to be finished by the abdominal route. Even when this was necessary he had found that the additional vaginal opening was no disadvantage, being often exceedingly useful for drainage The chief difficulty of the vaginal operation was undoubtedly the comfortable securing of the pedicle but (as a previous speaker had already stated) the surgeon could leave a pair of forceps on the stump, if necessary, with perfect safety In addition, the open method of treating the vaginal wound (with an iodoform gauze drain) precluded the possibility of any serious hæmorrhage occurring without the immediate knowledge of those in attendance. As Dr Spencer was describing his case (requiring a large abdominal incision, eventration of the pregnant uterus, and delivery of the child while the uterus was still outside of the abdomen) he could not help unfavourably contrasting the operation as described with the simple, direct, and comparatively easy method employed in his own case. Moreover, in his own case the patient recovered with no abdominal wound or cicatrix In the other operation a large wound was made and if this were closed hurriedly (a proceeding almost unavoidable under bad surroundings) a hernia of the cicatrix was extremely likely to develop later He would in no case use simple puncture or aspiration by the vagina. The danger of fouling the peritoneum by oozing from a pus sac or dermoid cyst contra indicated this practice, and in every case that recovered an operation had to be done later The method described, Mr Taylor believed, formed a legitimate and very useful extension of operative practice which, in suitable cases, satisfied the requirements of good surgery much better than did the more usual method of operation by abdominal incision

OPHTHALMOLOGICAL SOCIETY

Detachment of the Retina —Convergent Strabismus —
Exhibition of Specimens

An ordinary meeting of this society was held on July 4th, Mr **Charles Higgens**, Vice President, being in the chair

Mr **Higgens** described a case of Detachment of the Retina in which complete recovery took place The patient was a woman, aged 36 years, who had been under his care since 1892 for myopia of high degree and had in 1899 nearly lost the sight of the left eye from detachment of the retina. In May, 1901, she first noticed obscuration of the upper part of the field in the right eye There was a doubtful history of injury some weeks before Detachment of the retina at its lower part was discovered. She was treated for nearly a month in hospital, lying in the prone position, with mercurial inunction and vapour baths, and she left with some improvement. Two weeks later her sight returned whilst lying down in the afternoon she went to sleep for some hours and on waking found the sight as good as it had been before the detachment occurred Ophthalmoscopic examination showed some floating shreds in the vitreous but no sign of detachment On Jan 23rd, 1902—nearly nine months since the detachment appeared and eight months since the recovery of vision—she could see with correction $\frac{6}{24}$ and J 1. The field was almost normal and there was no sign of detachment.

Dr E H. **Cartwright** also read notes of a case of Detachment after Cataract Extraction The patient was a man, aged 72 years, who had had a cataract removed from his eye without iridectomy in February, 1899 Subsequently two capsulotomies had been done In April, 1900, Dr Cartwright first saw him and with his correction he could read $\frac{6}{6}$ and J 1. In January, 1891, he again attended with the history that two weeks previously the sight of the right eye had suddenly failed late one day, everything looked at appeared red and the sight was lost below the horizontal meridian. The sight had got gradually worse since. The vision in the upper part of the field was equal to counting fingers at six inches Left vision = P L Almost complete cataract was present. Projection was good In the right eye the upper half of the retina was detached and this obscured the view of the disc The urine and heart were normal. The patient was kept in bed and on Jan 9th a scleral puncture to the outer side of the superior rectus tendon as far back as possible was made and from this some clear watery fluid exuded On Jan 25th the disc was visible but vision was not improved. After this he was discharged but was seen from time to time with gradually improving vision until in September, 1901, he could read $\frac{6}{18}$ and J 2. The field was normal except on the temporal side On Sept. 27th, 1901, the left cataract was extracted and on Nov 29th, 1901, his vision was as follows with correction right vision = $\frac{6}{12}$ and J 1, left vision = $\frac{6}{6}$ and J 1 —Mr N M **Maclehose** mentioned a case which he had seen of detachment due to a blow in which recovery had taken place —Mr G **Hartridge** thought that the experience of Mr Higgens and Mr Cartwright was exceptionally good, for he himself had never seen a case of such complete recovery —Mr **Jessop** remembered only one case in which recovery had resulted and this was reported by Mr E Nettleship and Mr J Tweedy to the society some years ago He had seen temporary improvement but it never lasted.—Mr C **Devereux Marshall** said that the only case of complete recovery which he knew was the one referred to by Mr Jessop In a case which he had had, where in the second eye the retina had become detached, a good result was obtained, and this lasted for several months but it recurred and the patient became quite blind He also remembered another case, due to a blow, in which the retina became re attached, but as he had been unable to trace the patient after the first few weeks following the accident he had not thought it well to publish it as a cure.—Mr HIGGENS, in reply said that he doubted very much whether the treatment adopted in his case had anything to do with the recovery of vision.

Mr SYDNEY STEPHENSON read a note on some cases of Convergent Strabismus treated by lengthening the tendon of the internal rectus and exhibited the patients. The method adopted was that of cutting the tendon of the muscle either obliquely or in some other manner by means of which the cut ends could be united in such a way that the muscle was thereby lengthened to the required degree. He had operated upon six cases with gratifying results.—Mr. HIGGENS thought that this method was likely to be of considerable benefit.

The following card specimens were shown —

Mr J H. PARSONS (1) Gumma of the Ciliary Body, (2) Metastatic Carcinoma of the Choroid and (3) Annular Leuco-Sarcoma of the Ciliary Body

Mr R. W DOYNE Rupture of the Eyeball with Prolapse of the Iris and no Dislocation of the Lens

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DERMATOLOGICAL SOCIETY OF LONDON —A meeting of this society was held on July 9th Dr J J Pringle, being in the chair —Dr T Colcott Fox showed a private patient who was suffering from Generalised Alopecia. The patient was a young man in perfect health but of a somewhat nervous disposition, and no cause for the onset of the disease had been discovered. The history showed that five years previously a single spot of alopecia areata had occurred on the right side of the chin before which the patient said that he had had a very 'ugly pimple' in the same situation and lasting several weeks When shown the head was almost entirely bald only a few small tufts of dark hair remaining here and there. There was a bald patch in the centre of the right eyebrow and most of the hair of the face had gone. The patient was naturally a very hairy man and consequently the patches of baldness which were observable on the chest, the hypogastric region, and the upper part of the calf were very striking and sharply defined. Dr Colcott Fox said that he exhibited the patient for two reasons—first, because although alopecia universalis developing from alopecia areata was not very uncommon it was not often that the opportunity was had of observing the actual round areas on the trunk and limbs and secondly he thought it of interest that, although on the scalp and to a certain degree on the face the oily condition and follicular plugs of Sabouraud could be demonstrated, on the trunk and limbs no trace of any seborrhoeic progress could be detected —Dr G F Still and Dr A. Whitfield showed a child a little more than a year old suffering from a Bullous and Hæmorrhagic Eruption. The history was rather indefinite, the mother stating that the child had had an eruption of blisters in the first week of its life. The present eruption had existed for a little over five months, thus leaving a period of entire freedom of about seven months. The child seemed to be quite well, but owing to the intense itching of the eruption at night its sleep was often much broken. The eruption was distributed over the whole trunk and extremities sparing the face entirely and falling with greatest severity on the buttocks, the extensor surfaces of the knees and elbows, and the hands and feet. The rash was extremely polymorphous. On the elbows and knees were large hæmorrhagic bullæ reaching to the size of an acorn and in addition to these there were a good many small vesicles. The whole of the outer surface of each thigh was thickly set with a fine papular eruption consisting of millet-seed-sized papules with a flat and shining top. On the loins and buttocks there were large thumb-nail-sized erythematous macules with a dark and firm papular centre. On the hands and feet were small lichenoid papules and pustules and scabs. In addition to this, when first seen there were two scratch marks which were mapped out by the formation of a line of small vesicles, but these had flattened down. The mucous membranes were not affected. Dr Whitfield said that he thought everyone would agree with his diagnosis of lichen urticatus for the lesions of the maculo-papular type and the scratch marks. The question was whether there was anything beyond this. He reminded the members that the demonstrations and writings of Dr Colcott Fox had made them all familiar with the occurrence of bullæ in lichen urticatus, but he had never seen a case resembling the present one. The idea had occurred to him that the child might be the subject of epidermolysis bullosa, and he could not definitely exclude this. On the whole, however he felt inclined to believe that this was not present for the reason that the child had had apparently an immunity lasting for seven months, during which time no blisters had appeared.—All the members agreed as to the presence of the lichen urticatus but as to the coincidence of two diseases no one liked to offer an opinion.—Dr Colcott Fox pointed out that in his experience the bullæ in lichen urticatus were almost invariably situated on the hands or feet.—Dr Pringle showed 1 A child aged three years, suffering from a Relapsing Bullous Eruption. The eruption had appeared first in September 1901, and had disappeared in May, 1902 reappearing in June. On exhibition the child showed a generalised eruption which commenced as small pearly vesicles. The original vesicle flattened down and became surrounded by a new ring of similar lesions, and by the continuation of this process large circles and polycyclical figures were produced. The mucous membranes were unaffected and there was no itching In spite of this absence of itching Dr Pringle offered the diagnosis of dermatitis herpetiformis which all the members accepted 2. A young man suffering from a Miliary Papulo-pustular Eruption The history was that the man had had a sore on the penis seven weeks previously the sore appearing one week after connexion lasting two weeks, and disappearing under local antiseptic treatment only Slight adenitis had appeared in one groin but had gone down completely at the time of exhibition. On the other hand the patient had suffered for some time from tuberculous adenitis in the neck, and recently some of the glands had suppurated and had been surgically treated at Middlesex Hospital. At the time when he was presented to the society he showed an eruption of fine, purple, firm papules, each in most cases being surmounted by a minute pustule. The eruption was situated at the pilo-sebaceous follicles and distributed chiefly on the extensor surfaces of the upper arms and over the shoulder blades. The case was brought forward to show the difficulty in view of the complicated history of distinguishing the syphilide from the tuberculide, and Dr Pringle asked if any of the members would tie themselves down to a definite diagnosis —There was a great deal of discussion and although most members inclined to the view that the disease was in all probability syphilis few cared to commit themselves to an absolute opinion.—Dr J Galloway brought forward a woman aged 36 years, in apparently good health who showed a peculiar line of Telangiectases across the chest and back at the level of the fourth dorsal vertebra, above which there were slight thickening œdema, and pigmentation of the skin The fingers of both hands were uniformly thickened and very hard the whole process being essentially chronic in its progress.—The relationship of the disease to scleroderma was discussed and the whole case was admitted to be entirely anomalous in its characters —Dr Whitfield suggested that the hands should be radiographed as the sensation given to the fingers was that of a true barrel shaped enlargement of the phalanges, and he reminded the members that a case had been published by Mr C. B Lockwood in the Transactions of the Clinical Society of London (1897) in which there were features somewhat resembling this case.—Dr H Radcliffe Crocker brought forward again a man shown at the April meeting suffering from Lupus Erythematosus of the face and hands. The patient was exhibited again to show the effect of the administration of salicin in 20-grain doses three times a day under which treatment all the infiltrated erythema had subsided so that it could hardly be said that any active disease still existed.—Dr E. G Graham Little showed a baby seven months old exhibiting a good example of the Annular Syphilide. The signs of the disease had first appeared one week previously to exhibition and consisted of several small infiltrated rings of about the diameter of a sixpenny piece, situated on the anterior and internal surfaces of the thighs. On the posterior surfaces of the thighs were some large lenticular syphilitic papules, and there appeared to be condylomata commencing round the anus. The history given at first was that the child had had no rash before this one but closer questioning revealed the fact that there had been scaling of the palms and soles, which still showed a similar condition, soon after birth.—Dr J H Sequeira showed a man aged 74 years, with an Ulcer of the size of a florin on the Back of the Neck. This ulcer had existed for 26 years and was of a bright red colour with slightly everted and somewhat infiltrated edges. There was a large, hard gland on the right side of the neck, rather higher than might have been expected, in connexion with the growth. The diagnosis offered was that of a slowly growing malignant ulcer of epithelial type, but whether rodent ulcer or epithelioma neither Dr Sequeira nor any of the members cared to state definitely The growth would be removed and reported upon.—Dr Sequeira also showed a classical example of Xerodermia Pigmentosa in a little girl, aged five years Pigmentation had been noticed at the age of 10 months and a wart been removed from the face when the child was three years of age and two more after she had reached her fourth year When shown the skin of the face was generally atrophic and was marked by numerous freckles and small telangiectases There were also two large warty growths on the left side of the bridge of the nose with pearly rolling edges, suggestive of burrowing of the epithelium. These would be removed and reported on later —Dr S E Dore showed three cases of Psoriasis following vaccination In one case the attack was the first from which the patient had ever suffered, in another attacks had occurred before, and in the third the history was doubtful All the patients were adults and in all the rash had started immediately after the healing of the vaccine vesicles, appearing at the sites of the lesions first

NORTH-EAST LONDON CLINICAL SOCIETY —This society held its annual general meeting at the Tottenham Hospital on July 3rd, Dr F J Tresilian, the President, being in the chair —The report of the council and the treasurer's report were read and adopted —The following gentlemen were elected officers of the society for the session 1902–3 President Dr F H. Daly Vice Presidents Dr C T Aveling, Mr Walter Edmunds, Dr F de Havilland Hall, Mr J Langton, Dr E Hooper May, Mr J S Sequeira, Dr T Gilbart Smith and Dr F J Tresilian Honorary treasurer Dr Arthur E Giles Council Mr C Billson, Dr G P Chappel, Dr H Corner, Dr S E Dore, Dr J W Hunt, Dr R. Murray Leslie, Dr G Norman Meachen, Dr D Petty Dr A. S Ransome, Mr R. F Tomlin, Dr A. J Whiting, and Dr C H Wise Honorary secretaries Mr H. W Carson, 26, Welbeck street, W , and Mr C E Hutt, Bruce grove, Tottenham, N —After the meeting tea was served in the grounds of the hospital to a large number of members and their friends, the presence of ladies adding much to the success of the proceedings

Reviews and Notices of Books.

Sewage and the Bacterial Purification of Sewage By SAMUEL RIDEAL, D Sc Second edition London The Sanitary Publishing Co , Limited 1901 Pp 308 Price 14*s*

THE remarkable development of the bacterial treatment of sewage has soon rendered new editions of standard books upon the subject necessary Dr Rideal's excellent treatise appeared in the press early in 1900 and hardly a year passed before he felt compelled to prepare a second edition, not only on account of the rapid sale and early exhaustion of the first edition but because our knowledge of the bacterial processes both in theory and in practice has advanced considerably in that short period. The statement of principles such as those of the stages of purification remains, of course, the same since the conditions essential to the disposal of sewage by wet combustion are now understood. Effectual, however, as the mere destruction of effete organic matters may be, the question is still open as to whether pathogenic organisms lose their vitality or even suffer a diminution in virulence under the conditions prevailing in a biological filter It is well known that Dr A. C Houston, at the instance of the London County Council, has made some interesting experiments upon this point. From his results as a whole he was not able to say with certainty that in the cases of the typhoid bacillus and the cholera vibrio they would lose their activity a whit, or that the biological processes at work in the coke beds would produce any significant alteration in the number of spores of the bacillus enteritidis The bacillus coli is similarly unaffected, but, as Dr Rideal points out, though classed as pathogenic this organism can hardly be considered to be so in the ordinary sense of the term Its presence, however, as Dr Rideal does not omit to add, serves as an index of the possible presence of other and more objectionable kinds of bacteria. Certainly, as regards the experimental beds at Barking and Crossness it cannot be assumed, according to Dr Houston's results, that the effluents are more safe in their possible relationship to disease than is diluted raw sewage Of the chemical purification effected there can be no doubt that it is sufficient to reduce entirely all putrefactive matters Dr Rideal points out that in Dr Houston's experiments the degree of nitrification and aeration was never pushed to a satisfactory point and the conclusion seems to be warranted that the greater the aeration and nitrification the less is the possibility of the survival of pathogenic organisms Dr Rideal states that subsequent chemical treatment could be used for sterilising filtrate if necessary Such reagents, he suggests, might be called "finishers," for by their employment the resulting purified sewage would be satisfactory both from the chemical and bacterial points of view We assume that the ' finisher" would be employed in such a small quantity as not to interfere with river life

The second edition of Dr Rideal's eminently practical work was issued just before the interim report of the Royal Commission on Sewage was presented to Parliament in July, 1901. The most remarkable and important conclusion in this report was that ' there are cases in which the Local Government Board would be justified in modifying under proper safeguards the present rule as regards the application of sewage to land " Dr Rideal regards—and we ourselves have expressed the same view—the insistence on final land treatment as decidedly a mistake when the object is only purification As is well known, it frequently happens, as in the case at Hampton (Middlesex), that an originally good effluent suffers great deterioration by subsequent passage through land

Dr Rideal's book will be studied with advantage with regard to both the practical and theoretical aspects of the subject and an excellent and sound idea of the present position of bacterial methods of purification of sewage will be gained by a careful perusal of its pages It is undoubtedly a standard work.

Hygiene a Manual of Personal and Public Health. By ARTHUR NEWSHOLME, M D , F R.C P Lond , Medical Officer of Health of Brighton, &c London George Gill and Sons, Limited. New edition 1902 Illustrated Pp 356 Price 4*s* 6*d*

THE first edition of this work appeared so far back as 1884 and naturally in preparing a new edition there was a great deal that needed altering As the book contains much that is of great practical use, presented in a form and manner admirably suited for ready reference, it was very necessary that this store of information should be brought up to date Indeed, the present edition has been almost entirely rewritten and a considerable amount of new matter has been introduced, notably in regard to dietetics, trade nuisances, meteorological observations, tuberculosis, disinfection, and vital statistics For instance, one of the recent points raised is Professor Koch's contention that bovine tuberculosis is not communicable to man. This question, Dr Newsholme very correctly states, is not yet settled and in the meanwhile he considers that the ideal would be to condemn all cattle suffering from tuberculosis But this involves a serious economical problem and in practice it is not customary to condemn the entire carcass when only one organ is affected The pig however, should always be condemned because of the greater tendency of generalisation of tuberculosis in that animal Because man cannot infect cattle it does not follow that cattle cannot infect man and Dr Newsholme urges that no tuberculous animal of any kind should be allowed to remain in any cowshed where milch cows are kept." That such measures are necessary and not properly applied is shown by the fact that the proportion of infected samples found when examinations of milk-supplies have been made in different towns has varied from 10 to 50 per cent. But, fortunately, it is not necessary to boil milk to destroy the tubercle bacilli and the Danish law of 1898 compels every dairy proprietor to heat his skimmed or butter milk, but only to 185° F A description is given of various apparatus and methods for sterilising milk. In this manner about 60 of the principal problems of hygiene are treated and discussed. A large number of illustrations very materially help to render the meaning clear Indeed, in such matters as drainage, especially for a beginner who has not yet acquired practical experience of the meaning of technical terms, illustrations are indispensable. Altogether Dr Newsholme is to be congratulated on the new issue of his book and it will be a welcome addition to the library of the student of hygiene

Practical Lip-reading By E. F BOULTBEE. London L. Upcott Gill. 1902. Pp. 112.

THE subject principally dealt with in this little work is the value of lip-reading for persons who have the misfortune to become deaf or partially deaf in adult life the book is very interesting and deals with a somewhat new adaptation of educational endeavour to benefit the large number of adults who being deprived of hearing find themselves to some degree excluded from the ordinary resources of social life In such cases it is desirable that the patient should learn to read at sight the expression of speech on the lips of the speaker In the child all speech is acquired by imitation, either through the eye or the ear and, therefore if the child be totally deaf the teaching must necessarily be conducted through sight but if there is a remnant of hearing the ear doubtless helps. The author divides the teaching of deaf children into four stages (1) from babyhood to the time that he is brought under proper control in order to fit him for instruction and can be made to look at the teacher's mouth (2) the development of articulation and production of sounds (3) the connexion of certain movements of the lips with the objects and action which they represent (this embraces the teaching of language at this stage it is desirable to make the child repeat the question put and then to give the answer) and (4) the ordinary school curriculum, including careful culture of the powers of observation The child who is born deaf must be taught the use of language through sight the adult who becomes deaf starts with the faculty of speech and knowledge of the use of words but to be impressed by the sight of the words of the speaker as formed on the lips careful training is required. It is necessary that the teacher should have a complete knowledge of the art of lip-reading—an accomplishment to be acquired only by long study and experience. The adult pupil must be trained in seeing in order that he may rapidly recognise and appreciate those positions and movements of the tongue and the lips which are required when a speaker gives forth the sounds which are represented by letters and which when strung together form the spoken word It is then necessary that the student of lip-reading should study the lips of the reader rather than the eyes Efficiency in the art of lip reading may be acquired by deaf adults and this mainly depends upon the way in which the facilities of observation and perception of movement have been cultivated, together with readiness of mental inference as to the meaning Those persons who become deaf in middle life are apt to find themselves isolated Some of the cases narrated by Miss Boultbee show that ready intercourse in social life may be re-established by acquiring the art of reading words and sentences from the speaker's face. The subject is an important one and the training suggested, if followed out with perseverance is likely to ameliorate the condition of those who have lost their hearing Besides the technicalities of training explained in this book there are many hints given which are likely to be appreciated by deaf persons.

LIBRARY TABLE

Hare-lip and Cleft Palate By R. W MURRAY F R.C S Eng London J and A. Churchill. 1902. Pp. 34 Price 3s —Mr Murray who is surgeon to the David Lewis Northern Hospital Liverpool was formerly surgeon to the Liverpool Infirmary for Children so that he has good opportunities of becoming acquainted with the subjects about which he writes in the book before us. He points out, and we think with justice, that there are few operations in surgery in which it is so difficult to secure a good result as that for hare-lip. His experience with regard to the matter consists of 168 cases of hare-lip most of which included a cleft of the palate. Mr Murray gives details of the methods employed by him which are very clearly set out and are further illustrated by diagrams. The book will be found to be thoroughly useful and practical.

Malarial Fever its Causes Prevention and Treatment By RONALD ROSS, C B F R.S. &c Published for the University Press of Liverpool by Longmans, Green, and Co. London 1902. Pp 68. Price 2s. 6d.—This book forms Memoir No 1 of the Liverpool School of Tropical Medicine Being written mainly for the use of travellers soldiers, and residents in malarial countries it does not go into scientific detail but states in plain and simple language how malaria is conveyed and communicated how it may best be avoided, and how if acquired it may be treated by a layman in the absence of medical aid. The treatise will be found most useful and everyone proceeding to a malarial country should take a copy with him

The Prevention of Infection in Public Vehicles By ALFRED GREENWOOD M D Vict. London The Sanitary Publishing Co. Limited. 1902. Pp 65. Price 1s net.—This little book is practically an expansion of a paper read by Dr Greenwood at the congress of the Royal Institute of Public Health which was held at Eastbourne in 1901. In our issue of Oct 5th 1901 p. 927 we endorsed Dr. Greenwood's suggestions as to the cleansing of public vehicles and we can but repeat our endorsement. A Minister of Public Health is a much needed addition to Government.

Transactions of the Childhood Society for the Study of the Mental and Physical Conditions of Children London Childhood Society 1902. Pp. 88. Price 2s 6d.—This is the first volume of Transactions issued by the Childhood Society and it appropriately commences with a portrait and a notice of the work of Sir Douglas Galton K.C B F R S as founder and first chairman of the society As a sanitarian and earnest scientific worker he was early impressed by the evidence accumulated during the examination of 100 000 children seen in schools and their variations in development as found in different urban and rural districts. The society was established to study conditions of mental and physical development of normal children as well as of those whose conditions are abnormal or who are feebly gifted mentally Its existence has been more than justified by the useful work done it fills a public need and has afforded guidance and helped to educate public opinion with regard to many educational and philanthropic movements while on several occasions evidence and recommendation have been given to Royal Commissions and other public bodies concerning special classes of children and their requirements Abstracts of the following lectures which were delivered during the past year are published on Food Dietaries in Relation to School Life, by Dr R. Hutchison, on Observations of Children after the Methods of Natural History, by Dr Francis Warner, and on a Method of Teaching Children to Read, by Mr M. Friedeberger, Ph.D Two useful and interesting discussions were held, that on School Discipline from the Scientific, Inspector's, Teacher's, and Hygienic Points of View was introduced by Mr A. W Newton, M.A., and that on the Practical Bearings of the Society's Investigations on Social Questions by Mr E W Brabrook, C B These showed how great is the need of widespread and exact knowledge of childhood Two prizes were offered to teachers, for essays on Suggestions as to Giving Effect to the Education Code and on Children considered Suitable for Special Instruction, for these there was a keen competition. The volume gives much interesting information to those engaged in the care of children and their education

Report on a Visit of Inspection to Colonies and Hospitals for Epileptics, the Feeble minded, and the Insane in the United States of America By J MILSON RHODES, M.D Brux., and EDWIN W MARSHALL, C A. London P S King and Co 1902. Pp 51.—Dr Rhodes and Mr Marshall were sent as a committee of inquiry by the committee of the proposed colony for epileptics to be established at Warford, Cheshire Their mission was to become acquainted with the best method of management of such an institution. Colonies and asylums were inspected in the following States New York, Ohio, Pennsylvania, Maryland, and Massachusetts The opinions of the committee of inquiry may be shortly summarised by the following passage "The State of New York has fully realised the necessity for legislation in the interest of epileptics and has acted upon it. We are strongly of opinion that the sooner the authorities in England follow the example set by the State of New York the better it will be for the interests alike of the ratepayer and the unfortunate persons suffering from epilepsy"

Reports on Mosquitoes North Shore Improvement Association. New York Styles and Cash 1902. Pp 125 and a map—The "north shore" mentioned in this report is the north shore of Long Island and it is a district much troubled by mosquitoes Hence the North Shore Improvement Association, the objects of which are generally to promote "such measures as will tend to protect the territory as a desirable residential region," took the matter up The examination of the matter was entrusted to an engineer Mr Henry Weeks, two entomologists (Professor Charles Davenport and Mr F E. Lutz), and Professor Shaler, an eminent authority on marine marshes, places which are favourite breeding grounds for mosquitoes. The report is very interesting reading and, shortly summarised, it states that the breeding of mosquitoes can be prevented but that State legislation and the coöperation of the municipal authorities must supplement individual action.

A Hero of Donegal, Dr William Smyth. By FREDERICK DOUGLAS HOW London Isbister and Co 1902. Pp. 146 Price 2s 6d net—William Smyth was one of that noble army of medical men who have laid down their lives in the service of their fellows The story of how he and Dr Brendan McCarthy, an inspector of the Irish Local Government Board, rowed across a strait in a crazy old boat and, no man aiding them, removed certain patients stricken with typhus fever to the hospital, is fresh in everyone's mind The sequel of this act was that Mr Smyth, who was run down from hard work and anxiety, contracted the fever himself and died. Mr How tells the story of William Smyth's life and death in a simple unaffected fashion. It was a life such as few have the opportunity of leading and one, moreover, which perhaps still fewer would care to lead if they had the opportunity, but, like Abou Ben Adhem, William Smyth could be written down as one that loved his fellow men, and who shall say that he has not reaped his reward?

Lights and Shadows in a Hospital By ALICE TERTON London Methuen and Co 1902. Pp 229 Price 3s 6d—This is an easily and brightly written book Mrs Terton possesses two faculties which are of value to a writer—namely, observation and the grace of humour We gather that her experiences were obtained some years ago, but although nursing has changed, patients are all much the same and so are the types of people who visit in hospitals Of these two classes Mrs Terton gives many little life-like sketches and we can recommend the book to anyone who wishes to know something of hospital life apart from medical details

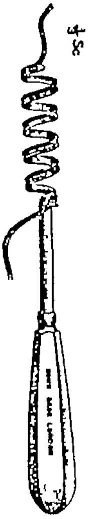
The Cult of Chiffon By Mrs ERIC PRITCHARD London Grant Richards 1902. Price 5s Pp 212—This is a book which the mere man feels a natural diffidence in reviewing Only recently a contemporary, in giving an account of Henley, began to describe the dress of the ladies After a line or two the writer broke off, saying that he remembered the fate of Actæon It is some time since we read the Metamorphoses, but, so far as we remember, Actæon's fate was connected with a lack of clothing rather than with an abundance thereof Medical men, however, have a licence forbidden to other men, so we may say that Mrs Pritchard's remarks upon clothing are eminently satisfactory both from the point of beauty and hygiene The average woman is apt to think that hygienic dress must be ugly, but a perusal of this book will show her that it is not so Most sensible are the writer's remarks upon athletic dress and upon the care of the complexion Miss Le Quesne's illustrations are charming, and great praise is due to the publisher for having included among the advertisements only one of a "beauty specialist."

IN our issue of Feb 1st, p 313, we reviewed at length the official account of the Surgical and Medical History of the Naval War between Japan and China during 1894–95 The copy of the book which we noticed was sent to us from Japan by the courtesy of Baron Saneyoshi, the Director-General of the Medical Department of the Imperial Japanese Navy As the book is valuable and likely to be referred to in the future we think that it is well to announce that it can now be obtained from Messrs Kegan Paul, Trench, Trübner, and Co, Limited, who have the sole market for England. The price is £1 11s 6d

New Inventions.

THE HELIX NEEDLE

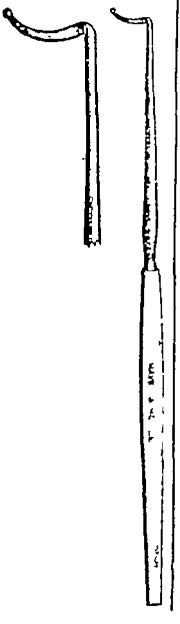
THE "Helix" is a spiral or corkscrew shaped needle designed with the object of including the broad ligament in a continuous suture in the operation of hysterectomy The worm of the helix is grooved in order to carry a suture, the point is blunt and the eye is kite-shaped On threading the needle the suture is drawn into the narrow part of the eye and is thus prevented from slipping during the process of winding it on to its groove. This is done as follows—After threading the needle the suture is gently held in its groove by the thumb of the left hand which, as the helix is rotated, follows each spiral and so holds the suture in its groove. The groove terminates in a vertical slot, into which the suture is finally placed. The instrument is now ready for use, having a strand of suture held taut and lying in its groove. In using the needle the point is introduced close to the edge of the ligament and is firmly pushed through the tissues on to the forefinger of the left hand In this manner the helix is made to travel along the ligament, care being taken that whenever the point is being pushed through the tissues the left forefinger ascertains that it has passed completely through, otherwise there would be danger of the point passing between and not through the layers. The handle of the needle is then depressed so as to elevate the point and to bring it into position as much as possible. With an aneurysm needle the free end of the suture can easily be released from the tissues. The next step is the unthreading of the needle, and in order to facilitate this the groove is made to terminate half an inch from the eye, so that a pointed needle can easily take hold of the suture and draw it out of the eye. This was a suggestion made by Mr Down and adds greatly to the value of the instrument. The end of the suture thus freed is held in a pair of clip forceps while the helix is slowly withdrawn by rotating it in the opposite direction leaving the suture in its track. By pulling the free ends the suture is tightened and the tissues embraced by the suture are completely strangled. A portion of ligament is now included in a continuous suture, leaving two free ends yet to be dealt with. The distal free end is threaded to an aneurysm needle and carried by it through the tissues so that when unthreaded there is a loop and free end on the surface of the ligament, these are made into a firm knot. The suture is again tightened by pulling on the remaining free end. All that remains to complete the operation is to deal with the proximal free end in the same manner except that the pedicle needle is first carried round the edge of the ligament.



F W ROBINSON M D Aberd F R C S Eng,
Honorary Surgeon Huddersfield Infirmary

A SUTURE SICKLE.

THE removal of sutures in some situations, and especially in cavities, is sometimes a matter of difficulty To simplify the procedure I have devised an instrument in shape something like a short aneurysm needle on a long handle. The concave edge is, however sharp and the point is blunted like a small probe. It is an easy matter to pass the probe-point under a suture and to cut through with a slight jerk and only one hand is required. The sickle will be found a convenience for removing sutures from the uterine cervix, since the slender instrument in the speculum does not obscure the light and no forceps or scissors are required. I have also found it to simplify the removal of stitches in the perineum and on skin surfaces generally Dr C Lawson Smith resident medical officer at the Tottenham Hospital, has found it to answer well for general surgical cases. Messrs. Mayer and Meltzer who make the instrument, have carried out my idea very satisfactorily



ARTHUR E. GILES.
Upper Wimpole-street, W

Looking Back.

FROM

THE LANCET, *SATURDAY, JULY 17*, 1824

The pre-disposing cause of scrofula is congenital, or original fault of constitution. The exciting causes are whatever tend to produce, or rather increase that debility, such as the fever from diseases of a specific kind as measles, scarlet-fever and small pox. Scrofulous affections occurring after small pox used to be much more frequent before the introduction of vaccination than since, and if there were no other advantage attending it than this, it ought to be regarded as a boon to society The reasons, you must be acquainted with, how small pox disposes to the excitement of scrofulous inflammation without my entering into them at present.[1]

We consider it our duty to censure improper practices wherever we find them and we are really astonished to see the admission of persons into the wards of this hospital[2] tolerated who vend green gooseberries, unripe cherries and every other thing that a sick person should not have tempting those to purchase who know no better and affording the opportunity to others who from a vitiated appetite, regardless of the consequences, need no persuasion to do so. It should be recollected also that there are many children in the wards who are always anxious to lay out the little money their friends may furnish them with in the first trash that is shown them. The result with them almost invariably is a considerable irritation of the lining membrane of the stomach and bowels, and sometimes even amounting to inflammation with a corresponding constitutional disturbance, and we must not suppose that even adults can escape with impunity We have often observed great surprize manifested by the surgeon on finding the medicine which he had ordered produce just the opposite effect to that which was anticipated which has induced him to substitute a less efficient remedy under the supposition that the former one has disagreed with the patient. By which circumstance it happens that the patient is not only losing his time, but the surgeon is also losing confidence in the remedies he employs. We beg therefore, to direct the attention of the proper authorities to this point, in order that it may be prevented for the future. We have before had occasion to notice this practice and for a time it was discontinued. A repetition of the occurrence, has rendered a repetition of the caution necessary and we hope that this gentle reminiscence will not be without its effect.

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[1] Excerpt from a lecture delivered by Sir Astley Cooper in the Theatre of St Thomas s Hospital on Monday evening May 17th 1824

[2] Guy s.

LONDON SCHOOL OF MEDICINE FOR WOMEN — On July 11th at 40 Hunter street, W C. the prizes won by the students of the London School of Medicine for Women were distributed by Mrs Percy Sladen The St. Dunstan scholarship given by the governors of the Endowed Charities of St. Dunstan s-in the-East, value £60 a year for three years was awarded to Miss Somner the Singleton scholarship value £95 to Miss Coupland and the Mackay prizes of £20 each to Miss Bolton and Miss Payne. In referring to the work of the school during the past year Mrs Garrett Anderson dean of the school, who presided remarked that financially they were still in debt with regard to the new building but they hoped in a short time to succeed in sweeping the debt away During the year they had reduced the debt by £1500 and there wa now left to be cleared off about £6000. The most important event of the year was the appointment by the Royal Free Hospital Committee of women to two of the resident posts at the hospital These posts had been filled with conspicuous success. With regard to the South African Hospital Commission it was interesting to know that two of their past students, Miss Waterston and the Hon. Ella Scarlett, formed part of the commission and did exceedingly good and valuable work

THE LANCET.

LONDON SATURDAY, JULY 19, 1902

The Illness of the King

SINCE we last wrote His Majesty the KING has continued make uninterrupted progress towards recovery So far, deed, has he travelled along the road to health that on uesday, July 15th, he was able to leave London for ortsmouth whence he went on board his yacht There is, deed, but little to add to what we said last week concerning His Majesty His condition is eminently satisctory and the wound is filling up surely if slowly As a atter of fact, the freedom from State care and social ties, together with the enforced rest in bed, has had a ost beneficial effect and the KING is looking better than has done for some years

He has all along been a most exemplary patient and spite the hot weather has slept well, not merely by atches but for continuous periods of eight or nine hours r FREDERICK TREVES and SIR FRANCIS LAKING, together ith two nurses, are with His Majesty on board the yacht lthough it might be supposed that recent State events ould have exerted a retarding influence upon His Majesty's onvalescence, yet we are enabled to state that neither the ception of Lord KITCHENER nor the personal interviews ith Lord SALISBURY and Mr BALFOUR, which were necestated owing to the resignation by the former of the remiership and the acceptance of that office by the latter, ad any bad effects Should the present fair weather connue it is only reasonable to hope that the fresh breezes f the Solent will accelerate the recovery so auspiciously egun in London.

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An Indian Prince and the London Hospitals

THE announcement that His Highness the Maharajah f JAIPUR has given a sum of £5000 to King EDWARD'S Hospital Fund for London illustrates in a striking manner he closeness with which East and West are linked together under the sway of the King Emperor, while it affords an instance of the interest which the feats of surgical science excite among men of all ranks and nationalities when their attention is called to them by any notable example That the King of England and Emperor of India should have at all times taken a keen interest in, and been active to help, the hospitals of his metropolis, that he should on the day appointed for his Coronation have lain in his palace owing his life to surgeons who acquired their skill and perfected their discoveries in those hospitals, and that every detail of his danger and of the steps taken to avert it should have been known and eagerly studied by his humblest subjects who openly expressed their trust in the skill of the surgeons employed and their confident expectation of the successful issue which has since been vouchsafed,—are facts well calculated to impress the mind of an intelligent and enlightened oriental magnate He would well understand the part which is played by hospitals in securing the health of the community, while the Fund instituted by the KING himself would present itself as an obviously suitable subject for a gift complimentary to the monarch and acceptable in the eyes of his people Moreover, the Maharajah of JAIPUR will have learnt, if he has inquired, that, conspicuous among English institutions, our hospitals are open to the poor of all nationalities and religions and that many of the natives of the great continent in which his dominions lie have from time to time found admission to them as patients He will also be aware that to all parts of the British empire surgeons and physicians trained in British hospitals find their way

In India the field which is slowly opening to medical science is, of course, enormous Epidemic outbreaks of disease upon a scale of which in Europe we have no conception are there the incidents of ordinary seasons, officially chronicled but otherwise not calling for special attention. The recent epidemic of plague in India was conspicuous owing to the fierce nature of the outbreak and to the immunity which, with the exception of certain districts near the Himalaya mountains, the country had long enjoyed from *pestis bubonica* The epidemic also served to call attention to the difficulty of supplying effective medical and sanitary aid in a country lying under the restrictions of the rules of caste, so that it had a political importance of grave significance Cholera and small pox can be studied in India at any time by those who are interested in their pathology and treatment but who might find it difficult to secure subjects for observation at home It is not necessary to multiply instances such as these or to call attention to malarial fever and to recent efforts of science to cope with it, but it is easy to see that a native of India, ruler of a territory such as that in which the Maharajah of JAIPUR holds sway, would find during a visit to London much that would draw his attention to the science typified and localised in London hospitals The care and attention bestowed upon sanitary science in London, including its minuter details are conspicuous novelties in the eyes of princes coming from places far less distant from centres of European progress than Jaipur To an Eastern prince it should be a fact of considerable interest that a town containing between 4,000,000 and 5,000,000 of inhabitants can exist in complete ignorance of epidemic disease as it is understood in India. The circumstances which beset the practice of sanitary science, medicine, and surgery in different degrees in different parts of India can only be completely understood by those who have been there, particularly by those who have practised medicine there Our regular letters from different Indian stations have, we believe, served to open the eyes of the British practitioner to the hardships of the situation which his colleague in India often occupies, while to the public these hardships have been made more or less familiar through the works of RUDYARD KIPLING, particularly in his collaborated novel "The Naulakha." Many will therefore appreciate the degree to which London, its health, and its hospitals may have impressed those oriental visitors whose sojourn among us has been lengthened by reason of the KING'S illness.

That illness has been the incident of the present year which has practically effaced all others and no doubt the part played by surgical science in the saving of the life of King EDWARD and the impossibility of developing surgical science without hospitals are the points which most readily rivet the attention of rulers of countries in which surgical science is a foreign import of recent date not always regarded with the fullest confidence. With us the presence of hospitals is a fact of our daily lives often forgotten in health by those who when sick or injured hasten to avail themselves of the aid offered To the Maharajah of JAIPUR, and also to the other distinguished visitors of high rank who came to London to assist at the Coronation we would point out that the treatment pursued in the case of King EDWARD would have been pursued equally effectually had His Majesty been a poor man who owing to his want of means had had to be conveyed to one of our great hospitals. Such considerations as these may well affect the mind of a benevolent ruler desirous to assist a science the developments of which are likely in an increasing degree to improve the lives of his own subjects. By Londoners the munificence of the Maharajah of JAIPUR will be accepted as useful practical assistance to the institutions of which they are justly proud and as a compliment to the monarch whose Coronation as King of Great Britain and Emperor of India has been for a brief period delayed while the full significance of a gift which emphasises the unity of India with the British Empire should be missed by none.

The Retirement of Lord Salisbury

THE present has been somewhat hastily regarded as an age of young men and it is true that here and there positions which our forefathers were wont to regard as the presumptive rights of seniority if not almost of senility are now taken by men in the prime of life But it is equally true that in many walks of life promotion now comes more slowly than it did to our grandparents. But this much is certain—in no age has there been seen to greater advantage than the present the combination of youthful attributes with advanced years. We might almost call the preservation of youth a special attribute of modern times and it is in this sense, rather than in the direct one of the advancement of men actually young that we may justly term the present a young man's age. It is a time in which old people remain still young to a degree that obtained less frequently formerly Her late Majesty Queen VICTORIA was a fine example of the way in which a trained exercised and well balanced mind can deride the encroachment of advancing years Mr GLADSTONE was in this respect perhaps a still more eminent instance, and Lord SALISBURY provides a third example An old man in years—for after the allotted span none may dispute the adjective old—Lord SALISBURY yet has an intellectual energy and keenness that many a younger man sighs for in vain. Forcible speech is a sign of youthful vigour and some of those short impressive sentences which often characterised the late Premier's remarks rank him still as among the young intellects of the day

But even those of the most vigorous mind are bound to feel the advance of years in some degree And deeply though all must regret the necessity for Lord SALISBURY'S retirement, yet it can be realised that possibly he has given in retiring one more proof of that sound judgment which makes his very retirement the more to be lamented Although he can bring to his political labours an energy equal to and an experience far surpassing that with which many younger men are endowed yet Lord SALISBURY no doubt feels now that his day is past for that resistless activity that easy adoption of a multitude of burdens which may be looked for in a younger man while he holds the position of Prime Minister Further the case is not the same as it would be were Lord SALISBURY'S successor a stranger or an opponent. Whatever objections may have been insinuated against the family nature of some Ministerial appointments at any rate at the present moment we must realise a great benefit in having in important positions men who will be able to avail themselves in necessity of Lord SALISBURY'S unrivalled experience. We need not doubt that his help will be forthcoming if wanted privately it may be, but in none the less an invaluable manner Assistance of this kind can be asked by and given to a near relative in a manner which would be awkward in the case of men less closely connected

To the medical profession Lord SALISBURY'S character as a man of science and a student has always rendered him a person of particular respect and admiration. More than the ordinary individual the medical man can sympathise with and admire, the attitude of mind of a man preeminently of affairs" who seeks diversion from his worldly business in thinking out the truths and penetrating the mysteries of scientific problems. Many a busy practitioner in his digressions into botany biology, or chemistry may have reflected sympathetically upon the recreations of the great Prime Minister himself an ardent practical student of the science of chemistry Moreover it is pretty certain that with this scientific mental bias Lord SALISBURY is little likely to have sympathised with, as he certainly did not support the indifference to medical questions which has on more than one occasion blotted the agenda of recent Parliamentary sittings. Mr. BALFOUR, we gladly and readily believe, is also disposed to regard with due seriousness any medical question that may be brought to the attention of the House of Commons. The influence of medical opinion upon that of the public has steadily increased in recent times together with the rise in the standard of medical education and with the enormous strides that medical and surgical knowledge has made. Medical men hold a position and medical matters have assumed an importance in the eyes of the nation at large that have never hitherto been reached. The interest in matters concerning our profession, and the confidence in its members which have been so manifestly displayed both by our late QUEEN and our present KING have done much to strengthen the public conviction of the importance and wide influence of medical affairs The time may still be far distant when this aspect of national affairs shall have the official representation which many believe it should carry We may have to wait a long time for a Governmental department or a Minister of Medicine, though such a development is far from being merely the wild dream of one prejudiced in favour of the medical profession. Nevertheless, even to-day no Government, no Prime Minister, can well afford to ignore the medical view of many questions of national importance, and we may congratulate ourselves that, if in losing Lord SALISBURY we miss a man by whom this aspect of things was never likely to be underrated, yet we have gained in Mr BALFOUR a Prime Minister who is sure to take the philosophic, the wisdom loving, view Mr BALFOUR is equally unlikely to under estimate the importance of the medical aspect of many political considerations

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Tuberculosis in Asylums for the Insane.

THE question of tuberculosis in asylums for the insane has in the course of the last three years passed from the academical to the practical stage and may now be regarded as having reached a position of importance second only to the general problem of the prevention of mental disease. In an annotation which appeared in THE LANCET three years ago[1] attention was called to some of the more important points in relation to the causation and spread of phthisis in the insane and to the need for prevention. In November, 1899, at a general meeting of the Medico-Psychological Association held in London the question of the necessity for isolating the tuberculous insane was discussed and an important motion was passed unanimously to the effect that it should be referred to the Council of the Medico-Psychological Association to consider as to the appointment of a committee for the investigation and collection of evidence and for practical suggestions as to the isolation of tuberculous patients in asylums At a meeting held in May, 1900, a Tuberculosis Committee was duly appointed to carry into effect the above resolution. This committee succeeded in collecting important facts and evidence as to the prevalence of phthisis in asylums Returns on specially drawn up schedules in the form of question and answer were received from 111 public asylums in Great Britain and Ireland, and interim reports based on these were from time to time drawn up after careful consideration and discussion by the committee. The complete report in its final form has just been published and is a document full of important facts and weighty suggestions

The main conclusions reached by the committee are that phthisis is prevalent in our public asylums to an extent which calls for urgent preventive and remedial measures, and that a large proportion of patients contract phthisis after admission into the asylums The susceptibility to acquire the disease seems to be higher in patients drawn from the large towns of England and Wales, with their factories and slums, than in those belonging to the rural population Thus it is found that, whereas the average death-rate from phthisis in asylums with patients from a rural population was 16 per 1000, it was 30 per 1000 in asylums the inmates of which had been town dwellers, and 25 per 1000 for a mixed population. The committee points out that overcrowding and the consequent deficiency of air-space are the most important factors conducing to the high death rate from phthisis in asylums It is "satisfied that there is not sufficient cubic space per patient in the great majority of our large asylums," and adverts to the fact that where the inmates are made to spend as many hours as possible in the open air the death rate from phthisis is appreciably lowered. In the interests of uninfected patients it is recommended that overcrowding must be checked before we can hope to lessen the death rate from phthisis More especially does this apply to the sleeping accommodation of our large asylums where large numbers of patients are congregated in huge dormitories "We are of opinion," add the members of the committee, "that the predisposition to, and the actual infection of, phthisis is to a very large extent started in the sleeping rooms of our overcrowded asylums" The committee, after fully discussing the matter in its report, recommends that an air space of 1200 cubic feet with efficient ventilation should be the minimum provided for each sleeping patient, and a supplementary report upon the heating and ventilation of asylums is appended which deals with the subject in a very practical manner

To prevent the spread of infection by the sputa of patients it is recommended that all the wards and sick rooms should be provided with special vessels or spittoons containing disinfectants into which patients should be taught to expectorate, and that the bedding and bed-mattresses of every patient should be freely exposed to fresh air and sunlight daily It is urged that regard should be had to the dietary of patients, so that sufficient variety of food may be secured and that a sufficiency of fats may be present in the food, a point the importance of which was demonstrated by Sir JAMES CRICHTON BROWNE during his directorship of the West Riding Asylum 30 years ago The diagnosis of phthisis at an early stage is surrounded with especial difficulties in the insane The plan of weighing every suspected case weekly to ascertain loss of body weight, and the daily taking of temperature every four hours to detect elevations of temperature in the afternoon or evening, are important aids to diagnosis Tubercle bacilli cannot, as a rule, be recognised in the sputa in incipient cases of phthisis, but it is pointed out that the tuberculin test is a valuable one if carefully and judiciously employed, and that in conjunction with the indications afforded by the weights and temperatures of patients a diagnosis may be made in many early cases When signs of early phthisis are thus found it is imperative that isolation should be practised, this is strongly emphasised in the report. As a matter of fact, in a few asylums isolation has already been adopted, and honourable mention should be made in this connexion of the County Asylum at Lancaster, where Dr D McK. CASSIDY, the medical superintendent, has employed it for the past 12 years, with the result that since its adoption the tuberculous death-rate of the institution has decreased 50 per cent.

New asylums in course of erection, such as those for the counties of Warwick, Leicester, and Rutland, and for the district of Belfast, are being provided with isolation blocks and detached villas for the open air treatment of phthisical patients. The ideal isolation hospital should stand on sandy or gravelly soil protected from north and east winds and should not be of too great a size. The committee wisely recommends that the accommodation of such a sanatorium should be for not less than 50 or more than 200 patients Finally it is urged that where permanent buildings for isolation and open air treatment are not available in existing asylums temporary structures erected in suitable situations should be made use of or special wards and airing courts should be set aside for such purposes. The committee concludes that it is only in some such way as the above that the hope of lessening the high death rate from phthisis in asylums for the insane can be realised If the principles of isolation and open-air treatment be recognised as imperative the details are easy of solution and the carrying-out of them may be safely left in the hands of the medical superintendents and the committees of management.

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[1] THE LANCET July 15th, 1899 p 167 "The Insane Population and Phthisis"

Annotations

"Ne quid nimis."

INSANITY AND THE DEATH PENALTY

WE have received some correspondence in addition to a letter which we published in our issue of June 28th[1] with regard to our leading article[2] dealing with the case of a man named Simmons, tried at Dorchester assizes for murder and acquitted on the ground of insanity We have little to add to what we then wrote. The case was one no doubt, upon the border line, and the defence which ultimately proved successful might have failed without any considerable surprise or comment being excited The question of the mental condition of the prisoner when the criminal act charged was committed if such a question be raised is one of fact for the jury to decide. Some criticism appears to have been evoked by the refusal of the learned judge who tried Simmons to allow medical evidence of his sanity to be given as part of the case for the prosecution and in anticipation of the evidence about to be given for the defence. The judge was strictly right according to law in refusing to receive this evidence at this point in the trial, although some judges we believe, have adopted a different course in similar circumstances. The accused person is assumed to be sane until the contrary has been shown, but if evidence of Simmons's sanity had been tendered later in rebuttal of the evidence of insanity given on behalf of the defence Mr Justice Bucknill would have had no choice but to accept it That such evidence, if there is any should be given as rebutting evidence seems to be clear from the procedure adopted in trying McNaughton to whose case we referred in our previous article (see 4 State Trials, New Series, at p. 924) but no rebutting evidence, we believe, was offered at the trial of Simmons. The administration of the criminal law neither is nor ever can be perfect. We aim at the dispensing of even-handed justice to all classes and degrees of wealth and poverty and as far as the integrity and zeal of our judges and the desires and ambitions of our advocates and officials are concerned we succeed. There is, however a personal element in such matters which becomes more conspicuous the more important the trial may be and cannot at any time be got rid of altogether In a murder case some judges feel more acutely than do others the responsibility for the life or the death of the accused person which undoubtedly rests upon them. Advocates are not of equal skill and experience. Prisoners are of different degrees, financially and socially as well as mentally Some have relatives able to afford the best possible legal advice and to bring the witnesses necessary to establish a defence, even those that at first sight seem hardly essential to the case set up, and willing to exert themselves to the utmost to secure an acquittal or to establish a defence such as that of insanity Other accused persons are poor, their relatives are tired of them or otherwise unwilling or unable to interfere, and although the Treasury will do anything reasonable to assist a prisoner in establishing his innocence it cannot be expected to help in raising a defence, such as that of unsoundness of mind unless those upon whose advice it relies are clearly of opinion that there is good reason for such a defence being raised. We are therefore left to draw the conclusion, quite apart from the particular case which we have been considering that some persons escape legal penalties which others of equal guilt or innocence but less favoured by circumstances undergo. It is not a satisfactory conclusion but if we take into consideration the human element that enters into crime and criminal trials we can arrive at no other and can only try to ensure that the element of chance, where it exists, shall be reduced to the smallest possible proportions. With regard to a letter which we printed last week from the solicitor entrusted with the defence of Simmons in the case tried at Dorchester we have no doubt of the accuracy of what he writes. It does not, however seem to us to affect in any way the conclusion to which we came in our leading article, which was that a murderer in whose case there has been an absence of self-control owing to mental infirmity may now escape the capital penalty which would have been meted out to him in days so recent as the middle of the last century We abstained from saying that his escape was in any way a matter of certainty and we cited the case of Simmons as an instance in which the law as laid down in McNaughton's case would hardly have excused the prisoner quoting with reference to his mental condition the evidence of Dr W B. Morton. Mr Malim does not correct us and we conclude that Dr Morton did not, in fact, go further than the expression of the view that at the time when Simmons committed the crime he had not a full appreciation of the nature and quality of the act. Absence of proof of motive where a murder has been committed in the circumstances described and the principal witness as to possible motive is consequently absent, should not form an important element among the considerations leading medical men to their conclusions as to the mental condition of the accused person.

THE SANITARY OATH IN BRITISH COLONIES

FROM a West Indian newspaper we learn that Dr R. C Bennett, a medical man practising at Trinidad, recently objected to kissing the Book as a preliminary to giving evidence in a murder trial. The judge informed him that he would like to see the law amended but that he was there to administer it as it stood and that unless the objection to the oath was on religious grounds affirmation was not permissible. Subsequently on Dr Bennett stating that he did not believe in certain portions of the contents of the Testament which he was asked to touch with his lips he was allowed to affirm. It will be remembered that in England there is no direct authority in any statute or rule of procedure for the kissing of a Testament by witnesses It is a practice of no great antiquity, the origin of which has, however, been forgotten, while the Oaths Act, 1888, permits any witness who chooses to do so, to take the oath in the Scotch fashion with uplifted hand, without any question being asked him as to his religious belief We commend this section of the Oaths Act to colonial legislative bodies The reasons which cause us to consider the kissing of a book that has been similarly treated by thousands of other persons of all ranks and degrees of cleanliness to be a nasty and possibly dangerous proceeding apply with no less force in hot climates and in the midst of populations neither cleaner nor more careful in their regard for the public health than are our own countrymen The section in question is as follows "If any person to whom an oath is administered desires to swear with uplifted hand in the form and manner in which an oath is usually administered in Scotland he shall be permitted so to do, and the oath shall be administered to him in such form and manner without further question" The oath in Scotland is usually administered by the presiding judge, both judge and witness standing, the latter raising his right hand and repeating after the former "I swear to Almighty God, as I shall answer to God at the great day of judgment, that I will speak the truth, the whole truth, and nothing but the truth" Few will be found to deny that this solemn formality, in addition to being more cleanly, is far more likely to bind the conscience of a witness of whatever nationality and colour than the perfunctory kissing of a Testament at the conclusion of a sentence repeated to, but not by, the person sworn

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[1] THE LANCET June 28th, 1902, p. 1839

[2] THE LANCET June 21st, 1902, p 1782.

THE DESTRUCTOR NUISANCE AT TORQUAY

WE have more than once had to comment in these columns upon the nuisance that is caused to certain of the inhabitants of Torquay under adverse atmospheric conditions by the fumes from the chimney of the refuse destructor We have received the following letter from Messrs Goddard, Massey, and Warner, Limited, with reference to the comments which we have felt it our duty to make —

The Editor
THE LANCET
1 Bedford street Strand W C

DEAR SIR —Our attention has been called to comments you make upon the Torquay Refuse Destructor, which has a tendency of seriously interfering with our business We have noticed these comments for a considerable time but thought they would be abandoned and if we see anything further we shall be reluctantly obliged to take such steps which are necessary to protect ourselves against such observations

We are yours truly
GODDARD MASSEY AND WARNER, LIMITED (per H M)

Considering how very serious is the position taken up by the writer of the above letter we do not think that much care has been shown in the wording Messrs Goddard, Massey, and Warner complain, it will be seen, that the Torquay refuse destructor is interfering with their business The destructor is situated in Devonshire and their business premises are in Nottingham, so that the inference to be drawn from their words is that the smell from the refuse destructor is worse than we have ever suggested We must not, however, be betrayed into flippancy, for we feel that when Messrs Goddard, Massey, and Warner took upon themselves to write to us in such terms they did a thing which must not be met with laughter For nothing less than the suppression of what we believe to be the truth is demanded of us Presuming, then, that it is our comments and not the fumes from the refuse destructor which are interfering with Messrs Goddard, Massey, and Warner in their occupation as engineers we take this opportunity of informing the firm that what we have written has been written upon public grounds We have not the slightest bias against them or the slightest desire to damage their business, but while the nuisance which is caused by the Torquay refuse destructor continues we shall consider it our duty to continue to call attention to it. And this we must do, despite all threatening, in discharge of our duty to the community It is, by the way, the situation of the destructor with which we have found fault, a point which, although Messrs Goddard, Massey, and Warner have "noticed these comments for a considerable time," appears to have escaped their attention We are perfectly happy to publish in THE LANCET any criticism of our words that is demanded by accuracy The subject has been dealt with in detail and can be contradicted in detail if we have been betrayed into error while writing in the interests of public health But we cannot promise Messrs Goddard, Massey, and Warner, as a reply to their ominous communication, that we will publish no more comments upon the Torquay refuse destructor

A NEW TREATMENT OF HOOLIGANISM

THE prevalence of ruffianism in the London streets is complimentary neither to our modern civilisation nor to our existing legal methods Magistrates have but little power and do not always use such power as they have. Mr Horace Smith, however has introduced a new treatment which we earnestly hope will prove successful. On July 14th he had before him two young ruffians named Beake and Young These with others of like kidney made themselves unpleasant in Chelsea on Sunday night and when arrested some of the gang shouted, "Off with your belts, lads, and put them through them" Young was wearing a heavy belt studded with brass badges and with heavy buckles Mr Horace Smith addressed them as follows —

> Had there been any evidence that the threat made use of was acted upon and that one of these formidable-looking belts had been taken off to be used I would have sent you both for trial for a riot and seen what a judge could do to stop this scandalous state of things in the London streets My powers are not so large as I could wish, for what is the use of a 40s fine to stop this sort of ruffianism? You would laugh at such a punishment There is, however, another way of dealing with such cases I am going to exercise it now and in future. You will each of you find two sureties in £25 each to be of good behaviour for six months and in default you will be kept in prison for that period

Personally, we think that 50 lashes would be a much more binding security than £50 or six months' imprisonment. If Beake and Young had been taken straight from the dock and had been given a sound flogging in the presence of no one but a constable and the administering warder their zeal would soon cool Preventive measures for the young and budding hooligan should certainly be undertaken, but the full grown plant must be reasoned with by appealing to his sense of pain and that in circumstances in which there is no gallery to play to

PUBLIC HEALTH OF TRINIDAD AND TOBAGO

THE official report of the surgeon-general of the colony shows that during the year ended March 31st, 1902, there was no epidemic prevalence of disease in Trinidad and Tobago, but there was more than the usual amount of sickness, especially in Port of Spain, the capital of Trinidad, the cases being principally acute diarrhœal disorders, measles, whooping cough, chicken pox, and typhoid fever Malarial fever occurred as usual in all parts of the colony but was generally of the benign type, only one case of blackwater fever presented itself During the period in question 6097 children were successfully vaccinated, the proportion of vaccinations to births was about 70 per cent., the lymph seems to have been sent from England and complaint is made of its inferior quality for the greater part of the year The quarantine authority placed 57 vessels under quarantine observation, the aggregate of crews and passengers being 3883 and 2001 respectively The present surgeon general of the colony is Dr James A De Wolf who was in 1901 appointed to the vacancy created by the retirement of Sir Francis Lovell The appendices to his report give a variety of statistical and other information relative to the public medical institutions of the colony—namely the Colonial Hospital at Port of Spain the San Fernando Hospital, eight district hospitals three hospitals for yaws, the lunatic asylum the leper asylum and the house of refuge. The total admissions to these various institutions during the year ended March 31st, 1902, was 12,392, and there were 1681 deaths. At the hospital for yaws 88 cases remained under treatment on March 31st, 1901, and 736 cases were admitted during the ensuing 12 months—namely 500 at St. Augustin 140 at St Clair, and 96 at Arima. There were, therefore, 824 cases under treatment, of which Dr De Wolf says that 526 were cured 13 died from various intercurrent diseases, and 285 remained under treatment on March 31st, 1902. He is of opinion that the segregation and treatment of the disease in hospital have led to satisfactory results and that the heavy expense incurred in establishing and maintaining this system has been justified. With respect to treatment Dr J R. Dickson of the St. Clair Hospital mentions that it consists chiefly of the internal administration of iodides, principally iodides of iron or arsenic and iron, together with daily baths in which soft soap is liberally used, and the local application of antiseptics such as carbolic acid lotion, zinc sulphate or copper sulphate, and an ointment or oil of iodoform carbolic acid, or mercury When the tubercles were large and exuberant the most prominent were from time to time excised. Dr F A. de Verteuil of the Arima Hospital has found treatment by thyroid extract to be of the utmost value, especially when the *eruption was tubercular* and a combination of salicylic acid and collodion proved itself a good local application to the hard crust-covered tubercles. Both these gentlemen agree that daily baths and a liberal diet are of the first importance in the *treatment of yaws* *The maximum* and minimum shade temperatures during the year were respectively 94·0° F in April 1901, and 61·0° in December 1901, and also in January 1902. The total rainfall for 12 months was 55·78 inches, The census of 1901 *showed that* the population of the colony was 273 899

THE HINDRANCE TO PROGRESS CAUSED BY THE EXPENSES OF TRANSPORT

IT is well nigh an axiom that England discovers but that other nations profit by the discovery In the race for industrial supremacy it is evident that the English nation must soon lag behind *if it does not bestir itself. Its* opportunities, which are not less favourable than those possessed by other countries, are not seized owing to a failure to realise their immense bearing on industrial success. One great aim of this country should be to acquire a *means of* transport which would cheapen the carriage of goods from one part of the country to another It is well known that it is cheaper to import many goods from abroad into England including articles of food, than to send them to London from the country districts near at hand Brittany butter is a good deal less expensive than English butter on account of the cheapness with which it can be transported. English railway rates have done more than anything else to cripple the resources of the land and yet transport abroad is sufficiently cheap to make growing to be profitable both for consumption in the country and for consumption out of the country as well. Surely this is an *anomalous and reproachable* state of things. Still we do not believe that the anomaly and the reproach cannot be removed England is a long way ahead of many other countries in regard to canal ways. We possess, indeed over 4000 miles of artificial waterways. But the method of working them is archaic and utterly out of keeping with the clear indications of modern progress The canal waterways of England it is true, are not idle, but they might as well be so considering the extremely unscientific way in which they are worked. It is hardly possible to estimate the extent of the influence upon our industrial position which the improved working of our waterways would have if transport could in this way be made reasonably rapid and cheap. And there is no reason why such a fillip to this method of transport should not be given. If railway companies pretend that they cannot cheapen rates some other method of transport must be found. In Germany and Holland transit both by railway and water is infinitely cheaper than it is in England Why is it so? Surely we might have a useful commission of inquiry upon this subject, which however we may anticipate would find as an answer apathy, mere apathy We are glad to see that this and cognate subjects have recently been discussed at the Liverpool meeting of the Society of Chemical Industry the discussion being opened by a paper by the President, Mr Livinstein who chose for its title, Education and Legislation their Influence on Trade and Industry "

THE NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN

THE latest annual report of the National Society for the Prevention of Cruelty to Children which is *published in this* month's issue of the society's journal, contains a highly satisfactory record of progress The total receipts for the year which has just closed amount to £73,875, and this sum does not include the funds collected by the Scottish branches which are under a separate administration. In England Wales, Scotland and Ireland there are now 934 centres of work New and commodious offices have been opened in Leicester square, London a large part of the cost incurred in this undertaking being met by colossal contributions from two friends of the society, Mr Astor and Mr Woolcott Thompson respectively These statements are in themselves remarkable Their effect is very greatly enhanced when we compare the present position of the society with that which it occupied at the date of its first report 13 years ago Omitting Scotland for the reason above given we find that there were then 52 working centres and the income reached a total of £8871. The number of cases under supervision was then 3947 Last year (over an immensely extended area) it was 32,767 When we remember that the object of the society is primarily that of *reformation, that it is teaching* reckless people to live reasonably and humanely with their own kind, and that its efforts towards this object are coming to be understood and approved even by the very people who might be expected to oppose them, we desire no further *proof that it is working* on the right lines and deserves all the prosperity which may come to it.

ACROMEGALY AND MYXŒDEMA IN THE MIDDLE AGES

ACROMEGALY and myxœdema are said to have been first described the one by Marie and the other by Gull in 1886 and 1873 respectively But the type of figure and *feature* produced by these two diseases must have been recognised as something markedly peculiar for many centuries. To go back no later than the eighteenth century every medical man must have been struck by the acromegalic type of many of Rowlandson's characters a fact which we have remarked upon in THE LANCET But we have recently come across a far earlier example which is so forcible in many ways that we think it worthy of note in our columns There is at present on *view in a little gallery in Ryder street, St. James's, S W* belonging to Messrs Carfax and Co an extraordinarily fine painting by Piero di Cosimo Many of our readers may know the Death of Procris" by this master in the National

Gallery, but the picture in the Carfax Gallery shows him in a very different light. The subject is the conflict between the Centaurs and the Lapithæ which took place at the wedding feast of Peirithous and Hippodame—a description of which is given by Ovid in the "Metamorphoses" According to the poet the bride was remarkable for her beauty—a quality not apparent in her picture But it is to the other Lapithæ represented in the picture that we wish to draw attention. Almost all of them, together with some of the Centaurs, have the typical facies of acromegaly, while the Lapith woman who is being carried off by a Centaur—she is standing on his back and is supported by a scarf round her neck—has in addition the pendulous belly of myxœdema Considering the date of the painting *circa* 1482, the anatomical drawing is wonderful. More especially is this marked in the strenuous figures of Theseus and Peirithous and in the masterly way in which the foreshortening of the various fallen bodies is managed. It is true that a dead Lapith lying near the centre and upper part of the panel is singularly badly drawn, but the representation of one of the fallen Centaurs in the foreground is surprisingly learned To return, however, to medicine, to us the internal evidence seems convincing that Piero di Cosimo was familiar with the facies of acromegaly and must have been struck with its fitness to express a certain brutishness of type It is more likely that he had seen the type than that he should have accurately evolved it out of his inner consciousness

THE DISTRIBUTION OF PLAGUE

THE weekly return of the Director General of the Sanitary Department of Egypt shows that for the week ending July 6th there were 9 new cases admitted, 2 of which occurred in Europeans The deaths numbered 7, the recoveries 4, and 8 cases remained under treatment With respect to sanitary measures 13,378 rooms were disinfected and 1581 were limewashed, 99 sacks of effects were disinfected and 1141 sacks of rubbish were burned The number of rats killed by burning was 1009 One of the fatal cases of plague occurred in a Greek at Port Said, where no cases have occurred since Sept. 26th, 1901. The Director General, however, says that "all the necessary measures having been immediately taken I am entitled to hope that the disease will not assume a large proportion" A telegram from the officer administering the Government of Hong Kong (received at the Colonial Office on July 15th) states that for the week ending July 12th there were 28 cases of plague and 27 deaths from the disease.

CLAYTON GAS

SOME remarkable experiments have demonstrated the superiority of Clayton gas to pure sulphurous or carbonic acid gas for the purpose of destroying rats as a prophylactic measure against plague. The practical results obtained under the supervision of Dr Edward Walford at Cardiff are described in our "Public Health and Poor-law" columns this week (p 178) The gas is essentially sulphur dioxide, but there occurs in it by the particular method by which it is obtained what may be called an impurity, without which, however, the effect upon rats would not be so disastrous. This impurity is sulphur trioxide, the presence of which is manifest from the fuming properties of the gas Clayton gas is produced by the combustion of sulphur in a current of air during which the temperature rises sufficiently high to lead to the formation of some amount of sulphur trioxide. The apparatus is handy and convenient and free from any element of danger and has been tried on a very large scale and in every instance the effects on rats have been most destructive and vastly superior to those obtained with pure sulphur dioxide. The gas is used mixed with air in the proportion of 10 to 15 per cent. It is stated that less than 5 per cent. of the Clayton gas will destroy rats and other vermin, while at least 15 per cent of pure sulphur dioxide is required for the destruction of vermin life Odd as it may appear, Clayton gas has no appreciable action on coloured materials, foodstuffs, paints, or dry metals except in a moist atmosphere The fire-extinguishing properties of Clayton gas are also remarkable, a mixture containing 8 per cent rapidly extinguishing burning materials. For the purpose of disinfecting ship holds or for destroying vermin the fact that this gas puts out fire gives it a double advantage. The apparatus is thus available for either disinfecting purposes or for the extinction of fire as the case may be. The method was devised by Mr T A. Clayton of the Clayton Fire Extinguishing and Ventilating Company of 22, Craven street, London, W C

FIVE INSTANCES OF GENERAL PARALYSIS IN BOTH HUSBAND AND WIFE

IN the *Archives de Neurologie* for June last Dr P Keraval, medical superintendent, and Dr G Raviart, assistant physician, of the asylum at Armentières, record five instances of general paralysis in married couples, husband and wife being equally affected with the disease Syphilis was not present in every case, probably because it is not, say Dr Keraval and Dr Raviart, the sole or exclusive cause of general paralysis The following is a brief epitome of the five cases The first case was that of a man, aged 41 years, without hereditary predisposition to insanity He contracted syphilis while serving with his regiment He was married but had no children The symptoms of general paralysis began 15 years after infection His wife was a healthy woman of temperate habits The symptoms of general paralysis appeared in her case shortly after the death of her husband in 1896, but for some time prior to that she had symptoms indicative of tabes The second case was that of a man, aged 50 years, free from syphilis or from any hereditary taint of insanity His married life was unhappy as his wife deceived him and finally left him to abandon herself to a loose life He grew depressed thereafter and within 15 years developed general paralysis The wife who abandoned him to lead a life of prostitution became a general paralytic, but it could not be positively ascertained whether she had become infected with syphilis Her habits were, however, for years markedly intemperate before general paralysis appeared The third case was that of a man, aged 48 years, a waiter by occupation. There was a hereditary tendency to gross brain disease Shortly after marriage he developed melancholia with suicidal ideas He then passed through a state of mental enfeeblement and lapsed rapidly afterwards into general paralysis His wife, aged 49 years, was addicted to alcohol but had no hereditary taint of insanity She developed melancholia and passed through a stage of depressive delusions into general paralysis The disease was rapidly fatal in this case in both husband and wife. In the next case the man was aged 38 years and presented no traces of syphilis He had an accident to the head in March, 1889, which made him ill and caused him to suffer from terrifying hallucinations of wild beasts and the like He got rapidly worse and he was placed in an asylum. He subsequently developed symptoms of general paralysis and the disease ended fatally in March, 1897 His wife seemed a woman of good health, free from alcoholism and syphilis. After her husband was placed in the asylum she lost a daughter and suffered much from grief and destitution. In July, 1894, she developed delusions of grandeur and other symptoms of general paralysis and died four years later from the disease. The fifth and last case was that of a man, age

47 years, who presented no evidence of syphilis and was of temperate habits A twin brother developed general paralysis at the age of 39 years consequent upon worries and grief. The patient was married and was the father of five children He developed symptoms of general paralysis at about the age of 44 years and died after having been in an asylum for two years and six months. His wife was a woman of temperate habits and free from hereditary predisposition to insanity In her case the only cause that could be found to account for her illness was grief and anxiety at her husband s illness and at his being placed in an asylum. Two years after her husband s sequestration she developed distinct signs of general paralysis. The disease ran a very rapid course and proved speedily fatal. The observations made and recorded by Dr Keraval and Dr Raviart are by no means exhaustive and complete but lend support to the view that, apart from syphilis other factors, such as alcoholism grief and destitution, head injuries and an obscure bodily predisposition to the disease not as yet well understood, lie at the roots of the causation of general paralysis of the insane.

THE APPOINTMENT OF MEDICAL OFFICERS TO WORKHOUSES AND OTHER INSTITUTIONS

The Rev George A. Seymour has sent us a letter with the above heading in which he makes some judicious observations on the unreasonableness of the system according to which the salaries of Poor law medical officers may be made inclusive of the cost of the medicines and surgical appliances required by the patients. The letter is too long for publication in full, but its general tenor will be apparent from the following extracts.

> I would observe upon the subject of the appointment of medical officers to workhouses and various benevolent institutions that it has become a very frequent practice to unite under one head of payment the stipends of such officers with the supplies of medicines and perhaps also of some appliances required by sick persons, this method being adopted under the plea of avoiding trouble and of saving expense. But with no certain knowledge beforehand of the amount or nature of the sicknesses to be dealt with in any given time, how can justice be done either to the medical officer or to his patients under these circumstances, and how can the use of the expensive medicines required in some cases be expected? Does any intelligent person having cattle in his fields, or any trainer having valuable horses in his stables, enter into terms with the veterinary surgeon to deal with cattle or horses after this manner? No sensible person would venture on such a scheme. These arrangements are made under the plea of saving expense, an intention justifiable enough when the case is equitable and right, but in economics it is a grave question whether wrong and unjust methods are in the long run really more profitable, that is, more saving in a money point of view than just ones ”

A CASE OF AORTIC ANEURYSM SUCCESSFULLY TREATED BY THREE HYPODERMIC INJECTIONS OF GELATINISED SERUM

In the *Archives de Médecine et de Pharmacie Militaires* for June Surgeon Major Dusolier reports a case of aneurysm of the abdominal aorta which was successfully treated by the subcutaneous injection of gelatinised serum according to the method recommended by Dr Lancereaux. On the morning of Sept. 7th 150 grammes of artificial serum containing 1 5 grammes of gelatin were injected into the left flank. There was no local reaction but in the afternoon the patient s temperature rose to 38° C. and his pulse increased from 85 to 95. There was also slight retention of urine The following morning these symptoms had gone and two days after the injection the patient, who till then had been greatly depressed, declared that he felt very much better The severe pain was considerably diminished and he could now remain in a sitting posture as long as he liked without being shaken by electrical discharges in his legs. ’ There was however, no improvement as regards the tumour Its volume remained the same and the throbbing vibration and systolic murmur were unaltered. On the 14th 200 grammes of artificial serum containing three grammes of gelatin were injected into the right thigh. Towards midday the patient experienced a violent rigor, his temperature in the space of two hours rose to 39° C and his pulse to 98. On the next morning not only was the general condition improved but there was also distinct amelioration in the local signs. Two days after the second injection the tumour had palpably shrunk its expansive force was much less and the space over which the murmur was audible had considerably diminished. On the 23rd 200 grammes of serum containing two grammes of gelatin were injected into the right flank. That evening the temperature reached 40° C while the following morning it was still 38° C The patient's pains had entirely vanished, he no longer suffered from lumbago, headache or vertigo. The troublesome feeling of anal protrusion of which he used to complain had also disappeared as well as the sensation of pricking and tingling in his lower extremities. On Oct. 4th he was discharged practically well. In conclusion Surgeon Major Dusolier draws attention to the febrile reaction which increased in severity after each injection. These operations were performed with strict antiseptic precautions and no local complication of any kind supervened. He regards the rising temperature as the index of the curative action of the gelatin and is also of opinion that the aneurysm was sacciform with a very narrow neck, thus lending itself to an exceptionally rapid cure.

HIGH FREQUENCY CURRENTS IN THE TREATMENT OF MALIGNANT DISEASE

In the July number of the *West London Medical Journal* Dr James Allan publishes an account of four cases of malignant disease in which great relief was obtained by the application of electric currents of high frequency and potential. The first patient was a female aged 48 years who was operated upon in July 1699 for sarcoma of the antrum invading the nasal cavity There was a recurrence in August, 1900 and some further growth was removed under cocaine. In July 1901 there was a fresh recurrence with much dragging pain which prevented her from sleeping and she was advised that a further very serious operation was necessary The growth was easily seen in the nasal passages. Dr Allan applied the current by means of a small condensor electrode passed into the nostril for 15 minutes each sitting using a primary energy of five ampères After the second application the pain began to subside and the growth to become less. In all the patient had 15 sittings, at the end of which the visible growth had disappeared and the pain was entirely gone, she returned to her home in the country and has since had no recurrence. The growth was a spindle-celled sarcoma. The second patient was a woman aged 37 years whose breast was removed for carcinoma in November, 1901 the axilla being cleared out very freely and a very bad prognosis being given. Three weeks after the operation Dr Allan commenced the high frequency treatment locally by the unipolar method using a primary energy of five ampères. The patient s weight was then nine stones and nine pounds. Her appetite speedily returned and she felt much better At the present time four months after the operation, she is in excellent health, her weight is 10 stones and one pound, and there is no sign of recurrence. She has had 30 applications of 10 minutes each sitting The third patient was a woman aged 63 years whose left breast was excised for scirrhus in August 1901. Two months after the operation signs of recurrence began. In the first week of November Dr Allan commenced the unipolar treatment locally for 15 minutes each sitting, using a primary energy of three and a half ampères After the fourth application the pain began to subside and the indurated parts to soften The patient's general condition improved rapidly, sleep returned, and her appetite became good. After 28 applications all trace of the recurrence had disappeared. The fourth patient was a woman suffering from epithelioma of the cervix too far advanced for operation. The case being a desperate one Dr Allan pushed the treatment much further than he had ever done before, and gave from 40 to 60 minutes treatment daily, using a primary energy of five and a half ampères A unipolar or condensor electrode was passed into the vagina and made to impinge against the growth The treatment was continued daily up to Jan 2nd, 1902, when the patient became very ill and it was not resumed till Jan 26th At present the growth seems to be entirely arrested and the patient feels very comfortable. Dr Allan uses an induction coil giving a 12 inch spark, with a mercury jet interrupter, working from the house main at a pressure of 210 volts with a D'Arsonval-Oudin high frequency apparatus

COLOUR AND COLOURING MATTERS

THE popular conception of the nature of colour is somewhat curious Perkin's discovery of the preparation of aniline dyes from coal tar (the first one, mauveine, was obtained in this way in 1856) is very generally attributed to his observation of the play of colours seen on the surface of a river into which tarry matters had been discharged Gasworks at one time were a common source of such a discharge. Colour, of course, is not an entity—it is an effect, like the rainbow, or shadow, or light itself The colour effects seen when any substance of an oily nature floats on water are due to the formation of a thin film following the natural spreading action of the oil on the water A thin soap film gives colours in the same way The fine play of colour is produced by the mutual interference of the light reflected from the two surfaces of the thin film. White light by undergoing a series of reflections and refractions, as through a prism, is split up into its colour components in accordance with the degree of refrangibility of each elemental colour The colours thus seen are not due to any specific substance which, like a green leaf, is endowed with the power of the selective absorption of light. The film is an analyser of white light, laying bare all its primary colours, a leaf is green or a flower red because of selective absorption The particular colouring matters known as dyes are, however, not only eminently endowed with the power of selective absorption in regard to light—a power which causes them to appear coloured—but their particles or atoms possess a strong faculty for wandering into fibres and fabrics, and moreover, of becoming dissolved therein. This wandering power and solubility in solid materials, possessed to such a high degree by dyes, distinguish them sharply from ordinary coloured substances In the former case the particles travel into fibre and are actually soluble in it, in the latter case, although penetration proceeds the actual solution of the colour in the material is not effected In short, a dyed fabric is nothing more than a solid solution of the dye stuff in the substance of a fibre Clearly Perkin's discovery had nothing to do with the pretty light phenomena of films. The number of artificial colouring matters prepared since that discovery, now nearly 50 years ago, has been enormous. It is estimated that at the present day over 3 000,000 different individual dye stuffs are easily accessible to our industries, while at least 25,000 form the subject of patent specifications The number of colouring matters furnished by natural agencies is comparatively small and those that do exist threaten soon to be ignored in favour of coal tar derivatives Perkin's great discovery has led to a complete revolution of the colour output of the world and has placed at our disposal an infinite series of colours of every variety and shade Moreover, it is interesting to remember that the aniline dyes have proved of great service in determining the nature of disease The germ theory of disease could not have developed so rapidly and on such definite lines as it has done had not aniline stains been discovered which were soon found to possess the power of marking and individualising the specific organism by dissolving in it and thus enabling in several instances an exact bacteriological diagnosis to be made

THE NEW MEDICAL STAFF COLLEGE

AS our readers are aware, the establishment of an army medical school or institution in this metropolis was a point on which we laid much stress in the series of articles which appeared in THE LANCET in connexion with the proposed army medical reorganisation, and it was one of the measures recommended by the War Office committee over which the War Minister presided This was in due time, followed by the announcement that the next session of the Army Medical School will be held in London But we have not yet had any official announcement as to what is about to be done to give effect to it or as to what is to become of the present school at Netley, with its teaching equipment and its professional staff The establishment of a medical staff college in London, if properly organised and carried out, will, for the reasons we have already given, be a great step in advance and will bring about important and progressive changes in the direction of developing the position and efficiency of the army medical service as a whole, but it will, we fear, be a somewhat costly undertaking In view of the competitive examination held this month, for which, we are glad to hear, the number of candidates is large, there is not too much time at the disposal of the War Office authorities to make their arrangements

CALEDONIAN MEDICAL SOCIETY

WE have already mentioned[1] the awards of the Gunning prizes of the Caledonian Medical Society The first prize of £20 was gained by Dr H. Cameron Gillies of London for an annotated reproduction and translation of a Gaelic medical MS in the British Museum, while the second prize of £10 was gained by Mrs K. Whyte Grant of New Zealand for an essay on the Influence of Scenery and Climate on the Music and Poetry of the Highlands Mrs Grant's essay is published in the July number of the *Caledonian Medical Journal*, of which it occupies rather over 40 pages Incidentally referring to the Ossianic poems she maintains that they are authentic productions of antiquity and quotes similarities between passages in them and in the East Indian Mahabharata and Ramayana. In conclusion she gives a long account of the myth of Cailleach Bheur which is interwoven with the folklore of several nations Mr Donald Mackinnon, professor of Celtic literature in the University of Edinburgh, contributes a genealogy of the medical family of the Macbeths or Beatons of Islay and Mull, together with a bibliographical account and two photographs of a Gaelic medical MS in the University of Edinburgh Under the heading of Medical Notes from Berlin Dr Donald Bremner Waters supplies some miscellaneous information which may be found useful by persons visiting Berlin with a view to medical study In the advertising pages of the *Journal* it is announced that by the kindness of Dr Stewart of Bacup the society is enabled to offer a prize of £10 for an essay on Old Highland Therapy The essays are to be written in English, are not to exceed 20,000 words, and are to be sent by May 1st, 1903, to Dr S Rutherford Macphail Rowditch Derby The twenty second annual meeting of the society will be held during the present summer—namely on August 15th—at Inverness

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[1] THE LANCET Feb 15th (p 465) and June 7th (p 1618) 1902.

THE PREVALENCE OF SMALL-POX

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned on Saturday July 12th there were 3 fresh cases on Sunday the 13th, there were 2 fresh cases on Monday the 14th there were 11 fresh cases, on Tuesday the 15th there were 4 fresh cases and on Wednesday the 16th there were 11 fresh cases.

PROPOSED JOURNAL FOR THE ARMY MEDICAL SERVICES

THE Director General of the Army Medical Service has issued a circular regarding the proposed establishment of a journal for the Army Medical Services. Sir William Taylor believes that a journal devoted to matters of professional and scientific interest would confer many advantages and be generally welcomed by army medical officers. Such publications are issued by the medical services of Continental Powers It is hoped that a journal conducted upon such lines as are set forth in the circular in question would not only enable medical officers to keep in touch with what is going on in the British service but with the advances and changes that are taking place in other armies The proposed journal would to a great extent take the place of the present appendices of the Army Medical Department Reports, but would contain, in addition to original articles of a medical surgical and scientific nature bearing upon army hygiene, reprints and translations from military medical, and other journals. In these and other respects such a publication would serve to draw out much information now latent and to focus a large amount and variety of useful and interesting knowledge which is now comparatively lost or rendered unavailable from being dispersed in so many different directions The Director General is naturally desirous of eliciting the views of his department on the subject and of ascertaining the amount of support which the proposal would be likely to meet with

ADMINISTRATION OF HIGHLY VOLATILE ANÆSTHETICS

WE noted in a recent issue an apparatus used in France for the exhibition of the more volatile anæsthetics such as chloride of ethyl It is stated that the apparatus in question hermetically seals the mouth and nose." That chloride of ethyl and some of its congeners and mixtures must be given by some apparatus which enables the administrator to minimise the access of air is obvious owing to their great volatility but we think that it is open to grave question whether the danger of their use is not accentuated when the patient is permitted to breathe only such air as is contained in his lungs at the time of the administration. It is patent that the requirements of the normal man are, as regards oxygen more than met by ordinary respiration and that even a temporary exclusion of atmospheric air may safely be permitted The danger lies in the fact that not only are many people unable to forego their supply of oxygen for any period without peril but that the struggling which not uncommonly is associated with complete exclusion of air is in itself liable to produce syncope. The tide of fashion, which exists in anæsthetics as in other sublunary matters is at present setting in favour of chloride of ethyl under various disguises and there is only too great a liability to forget that such volatile bodies are depressants and that their capacity for danger culminates when the mouth and nose are 'hermetically sealed "

MEDICAL EXCURSIONS TO GERMAN WATERING-PLACES AND HEALTH RESORTS

WE understand that the committee which organises medical excursions to German watering places and health resorts has arranged an extensive and varied programme. The number of the party is limited to 400 and it is stated that a great many names have been already received, so that early application on the part of those intending to join the excursion is advisable. Every information may be obtained from the secretaries, Dr W H Gilbert, Baden Baden and Dr P Meissner 81 Kurfürstenstrasse, Berlin The amount of the subscription is 150 marks (£7 10s.)

THE NAVAL MEDICAL SERVICE

THE communication from the Warden of the London Hospital Medical College which appeared under the above heading in the *Times* of Monday last, July 14th is worth the attention of our readers The letter has already been published in our columns[1] and commented upon, but our remarks will bear repetition The Warden very wisely and pertinently recommends that a naval surgeon should be allowed to hold a house surgeoncy for six months at his hospital after and not before, entering the naval medical service whilst counting his time and pay during the time he holds that post. By so doing the loss of time and seniority entailed by his taking up the appointment of house surgeon to a civil hospital before entering the naval service would be overcome. This as matters stand at present, deters medical candidates for the navy from seeking such posts. We have already expressed our concurrence in this view and we may add that we likewise concur in the other proposals contained in the Warden's letter If his suggestions were adopted we think that they would prove valuable and a considerable number of very desirable candidates who are now lost to the service would be secured

THE CEREBRO-SPINAL FLUID

THE nature of the cerebro-spinal fluid has recently been the subject of investigation by Professor E Cavazzani of the University of Ferrara, who gives his results in the first fasciculus for 1902 of the Archives Italiennes de Biologie." First, in regard to its alkalinity which he determined by lacmoid," he finds that in the dog the mean is 0 093 per cent. of NaOH and in the ox 0 104 per cent. the fluid being obtained from animals killed by bleeding In other cases the fluid was obtained during life by aspiration through the atlanto-occipital ligament. In dogs that were curarised the mean was 0 089 NaOH per cent. and in two normal rabbits it was 0 099 and 0 085 per cent. The importance of these numbers consists in the evidence which they afford that the cerebro-spinal fluid is not a mere filtration of the plasma of the blood, since it presents less than half the alkalinity of the blood In the next place the effects of various reactions such as tincture of guaiacum hydrochinone, gallic and pyrogallic acids, peroxide of hydrogen, and ortho-toluidine have led him to the conclusion that the cerebro-spinal fluid contains a ferment to which he has given the name of cerebro-spinase. This ferment possesses the power of destroying the reducing agent which is normally present in the cerebro-spinal fluid and is capable of oxidising glycose Professor Cavazzani adduces reasons for supporting the views of Knoll attributing variations of pressure in the cerebro-spinal fluid to venous influence At the beginning of asphyxia there is a diminution but subsequently an increase of pressure in the fluid and if the central stump of the vago sympathetic nerve is stimulated in the dog the fluid ceases to flow through a fistula. The results of his experiments have convinced Professor Cavazzani that the cerebro spinal fluid is a true secretion and is not lymph in the ordinary sense of the word As additional evidence in favour of this view Professor Cavazzani has studied the action of the substances termed "lymphagogues" by Heidenhain—namely, peptone and the extract of the heads of leeches, glycose, and chloride and iodide of sodium In no instance was there any acceleration in the flow of the cerebro-spinal fluid from fistulous openings

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[1] THE LANCET May 3rd 1902, p 1221

WE have been informed that the Law Fund, the subscriptions to which have been regularly announced in our columns for the last few weeks, will be closed at the end of the month. Any of our readers who propose to subscribe should, therefore, not delay any longer, while we may remind them that a few more subscriptions will now make the fund a complete success.

Mr Alexander G R. Foulerton, director of the Cancer Research Laboratories, the Middlesex Hospital, London, W, has been appointed a member of the German Cancer Investigation Committee, the Comité für Krebsforschung

Sir A. Conan Doyle, M D, has been appointed Deputy Lieutenant of the county of Surrey

THE ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1901

PART I REPORTS

FIRST NOTICE.

THE annual report of Dr Arthur Whitelegge, the chief inspector of factories and workshops, is published in the form of a blue-book of 292 pages Statistical tables are to be issued separately and a few necessary figures only are included in the volume which is now issued.

The present book contains a general report upon the work of the Factory Department during the year 1901 and a valuable summary written by Dr Whitelegge (pp iii.-xix) This is followed by the sectional reports of the superintending inspectors of the five districts into which the country is divided (pp 1-150), the reports of the principal lady inspector (pp 150-192), and those of the examiner of textile particulars (pp 192-194), of the inspector of cotton cloth factories (pp 194-204), of the engineering adviser (pp 204-206), and of the medical inspector (pp 206-245) The annual report for 1900[1] contained an interesting series of special reports which appeared in the form of appendices. The present blue-book contains two special reports, the first a very interesting one on the fencing of machinery as seen at the Paris Exhibition of 1900 and the second on accidents in docks. The remainder of the volume is occupied by a reprint of the statutory orders concerning factories and workshops which were made during the year 1901 (one of which was issued in regard to home work and the other in regard to birth certificates), a summary of the appeal cases in which the Board of Trade was interested (pp. 272-284), the special rules (established after Arbitration 1901) which are to be in force in the manufacture of earthenware and china, the amended special rules in force in trades in which the handling of hides and skins form a part, and finally the circular letter addressed to occupiers of factories and workshops in which such operations are carried on. The table of contents comprises one page only and, as in the case of the last report, there is no index. This omission, as we have had occasion to point out before, very seriously lessens the value of the report as a work of reference and causes a great waste of time to anyone who wishes to investigate any one particular subject, for such information may be found scattered through the various reports. For example, it may be necessary to look through the reports of each of the five superintending inspectors in order to be sure that no piece of information is missed It is to be hoped that an index will be published with Part II of the report, but it would have been much better had it been included in the present volume

At the end of the year 1901 the number of registered factories was 97,845, as compared with 95,664 in the previous year, and the number of workshops was 143 095 as compared with 137,648 Laundries are included in these estimates, but men's workshops, docks and warehouses are excluded The amount of work which is done by the department may to some extent be appreciated when it is said that during the year it had to deal with no less than 322,000 statutory reports from occupiers of premises affected by the Factory Acts Of these reports, 83,760 had relation to accidents, 936 to poisoning contracted in either a factory or a workshop, and 167,000—a large proportion of the whole number it will be observed—had relation to overtime

The monthly summary of reported accidents is now published weekly in the *Labour Gazette* and in regard to the statistical part it may be sufficient here to give a table comparing the number of accidents reported in the years 1900 and 1901 During the year 1901 there was some improvement in the methods of "fencing" used for the protection of those who work near dangerous machinery, but it was found in many cases that the workmen either rejected or misused the guards which were provided to ensure their safety from injury Employers, it was found as a rule, were willing to carry out the instructions given to them, but it frequently happened that in the case of newly introduced machinery which had obvious dangers nothing was done to guard the workers until the attention of the manufacturers was called to the peril by the inspectors The very valuable report by Mr C R. Pendock on the machinery exhibited at the Paris Exhibition incidentally gives some curious information bearing on this subject It appears that in the case of newly invented machinery the English manufacturers as a rule do not provide efficient fencing as part of the machine. It is not until the dangers are pointed out that the necessary protective fencing is provided In this respect some of the new German and French machinery forms a marked contrast to that of England and the report rather leads to the inference that some at least of the foreign makers rather unnecessarily emphasise the importance of the protective guards which they supply with their new invention. The general fact, however, remains that in the case of newly-introduced English machinery fencing is usually unduly neglected and in the case of similar foreign products such fencing is usually provided although, it may be added, it is by no means always particularly effective for the purpose which it is designed to effect. In one district (Blackburn) an accident insurance company has been of service in forcing on manufacturers the use of efficient protection for the operatives The Employers' Liability Assurance Company requires that those who take out its policies shall fence all dangerous machines.

Accidents in docks continue to cause much loss of life. Shipbuilding is, apparently of necessity, a dangerous trade. An experienced inspector at Newcastle gives it as his opinion that operations in ship construction are, and he fears always must be, more or less of a hazardous character Serious risk is run in rigging staging at great heights. Moreover, there is danger in working on the raised stages, for they are rarely fixed and they have no protecting rail. These platforms are often as much as 40 feet above the ground and the planks of which they are formed are loose. In some cases, also, a series of such stages is erected at different levels, so that the workers have a double risk—they may either fall off their perches or they may be struck by things falling down upon them from above Many of the accidents are due to the fault of the workers themselves and it appears that five out of a total of 22 fatal cases which occurred at Newcastle in the year 1901 in connexion with the actual building of ships were due to "carelessness on the part of the other operatives, such as the careless handling or throwing of materials and tools, removal of fastenings, &c." As a rule the men themselves fix the staging on which they work and it seems that in many cases they do not adopt ordinary precautions to ensure the efficient stability of the supports on which their lives depend In the opinion of Mr Low of Newcastle this criminal laxity is due to the laziness or to the meanness of the men. "I am afraid," he writes, ' the question is merely one of so many minutes lost in unproductive work "

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[1] THE LANCET Sept. 28th (p 868) and Oct. 12th (p 998) and 26th (p 1145), 1901

The report of Mr A. G H Thatcher on accidents in building operations and of the means which should be adopted for their prevention appeared in the annual report for the year 1900 We were able to speak of Mr Thatcher's work[1] in terms of unqualified praise and we recommended that a copy of his report with its illustrations should be in the hands of all builders. The report has at length been embodied in the shape of a memorandum addressed to builders and others concerned and was issued in February last.

The increasing number and importance of electrical generating works and the well recognised danger which threatens those who work in them have engaged the serious attention of the department but up to the present time the chief work done by the inspectors has apparently been confined to the southern division of England—at any rate the report of the chief inspector for the southern division is the only one which is specifically referred to in the chief inspector's prefatory remarks on the question. The whole subject is, of course a comparatively new one and it may be of use here to describe in brief outline the way in which the electrical industry became to some extent under the control of the department. It need hardly be said that the generation of electricity as a commercial enterprise was not foreseen by those who framed the earlier Factory Acts, and finally electrical works only came within the purview of the factory inspectors because they were places in which a dangerous trade was being carried on A committee was appointed to advise as to the regulations which should become obligatory in factories carrying on this trade and certain recommendations were drawn up and the attention of the owners and managers of electrical works was drawn to them.[2] In future there will be no difficulty as to the question as to whether electrical generating works do or do not fall within the scope of the Factory Acts for the matter is made clear in the Act of 1901 which defines as a factory any place in which electrical energy is generated or transformed—the only exception being that made in the case of private houses. The report of Mr W D Cramp the superintending inspector for the southern division of England, contains information derived from London Southampton and Bristol, and in addition some valuable notes by Mr Fearon (*peripatetic inspector*) who visited a large number of electrical generating works to inquire and to report as to how far the recommendations of the Dangerous Trades Committee had been carried out. The result of his visits was on the whole satisfactory He found that the electrical engineers welcomed the recommendations as being thoroughly practical and that in a very great many cases they had as far as possible, adopted them in the management of plant which had not been designed with a view to comply with them Mr Fearon adds three suggestions of his own. The first two of these appear to be of special value and the first at least is so easy of application and so obvious in intention that there seems to be no reason why it should not be immediately and universally adopted It may perhaps be useful to give these recommendations *in extenso* in the hope that they may be seen by some engineers concerned in the work who may not have leisure to wade through a big un indexed blue-book.

1. All spanners or other tools for work on or near live metal should have moulded handles and box spanners only should be used
2. The cases of all instruments to which there are high pressure connexions should be earthed for the same reasons as transformer cases are.
3. Experienced men only should be allowed to work in sub-stations or behind switch boards. (P 30)

In the matter of fire prevention it is satisfactory to record the fact that the Chief Inspector reports that there is a steady advance in the direction of securing adequate provision of the means of escape.

A great part of the work of the factory inspectors consists in investigating the conditions under which the more dangerous trades are carried on. There are at the present time 26 codes of special rules in force for the regulation of these industries, and during the year 1901 7833 works existed in which definite rules were enforced. The number of trades placed under special regulations increases year by year and the number of works to be visited increases also

During the year 1901 only four cases of phosphorus poisoning occurred in connexion with the manufacture of lucifer matches and in one of these cases the patient had ceased to work at this trade for more than a year The diminution in the number of these distressing cases is most marked, it is chiefly due to change in the processes of manufacture of matches. The poisonous lucifer match is happily almost extinct.

Twelve cases of arsenical poisoning were notified and of these no less than seven occurred in galvanising works

An increase in the number of cases of anthrax has of late years caused special attention to be directed to discover the source of origin of the infection—that is to say from what part of the world the diseased skins are obtained. Special rules were enforced in factories in which skins were handled in the years 1898–99 and in 1901 a conference was held at the Home Office with the employers of the labourers engaged in the trade. A new code of rules was drawn up and these are now in force in 122 works in which there is danger of infection from hides and skins The result of careful inquiry showed that the chief places from which infected skins were imported were China and the west coast of India.

It may be remembered that the factory report for the year 1900 contained an account of a special investigation made in aerated water factories to determine the cause of the frequency of the accidents which occurred in them It was found that many of the operatives did not use the eye-guards which were provided for them and that many of the workers, especially the East Anglians, complained that the guards were injurious to the sight. Careful inquiry proved that the supposed ill effects of the guards had no basis in fact. The inspectors of factories therefore received definite instructions to insist that the rules drawn up for the protection of the workpeople should in this as in other cases be rigidly enforced.

The factories in which wall papers are made have been conducted under voluntary regulations since September 1901 The report on this trade which was made by Commander Smith was printed in the annual report for the year 1900 The fact that those engaged in the business agreed to the regulations without proceeding to arbitration was doubtless due to a great extent to the tact displayed by this officer The number of factories is not great—22 in all—and *it is extremely satisfactory that the rules have been adopted* without the exercise of compulsion and that those responsible for the business are alive to the advantages of efficient sanitary precautions in carrying on their trade. There is probably no branch of industry in which more real progress has of late years been made in this direction.

AT the meeting of the Gloucestershire county council held on July 7th it was reported that during the past quarter 116 samples had been analysed by the public analyst, only five of which were found to be adulterated.

DINNER OF THE INCORPORATED MEDICAL PRACTITIONERS ASSOCIATION —The eleventh annual dinner of this association was held on July 9th at the Holborn Restaurant, London, W C when Dr W G Dickinson (the President) occupied the chair In proposing the toast of The King Dr Dickinson said that humanly speaking the King owed his present recovery to the progress of the science and art of surgery during the last few years. In proposing the Houses of Parliament Mr George Brown said that the medical profession was very much indebted to Mr R. Ambrose, M P and other Members of the House of Commons for what they had done in amending the Midwives Bill. Mr Ambrose in response said that there was no profession which had fewer friends in Parliament than the medical profession. If the profession wanted sympathy and help in the House of Commons it ought to organise outside. He hoped that the day was not far distant when the medical profession would be as well represented at Westminster as was the legal profession. Dr F J Allan proposed the toast of the Incorporated Medical Practitioners Association " and referred to the inadequate representation of the general practitioners on the General Medical Council.

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[1] THE LANCET Oct 26th 1901 p 1147

[2] The committee which drew up the regulations consisted of H. J Tennant May Tennant, Thomas Oliver M.D C. V Boys F R.S., and H P Smith

Obituary.

JOHN CURNOW, M D, F R C P LOND,

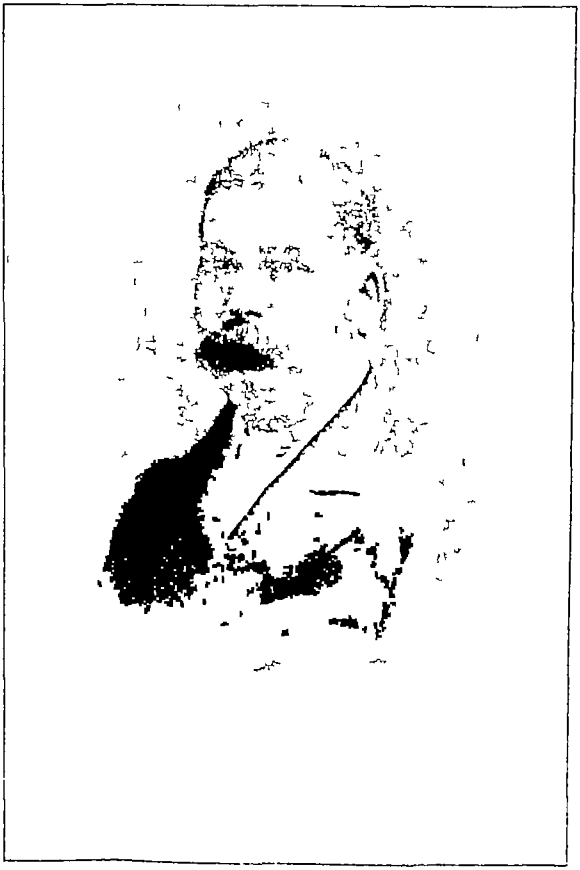
PROFESSOR OF CLINICAL MEDICINE IN KING'S COLLEGE LONDON AND PHYSICIAN TO KING'S COLLEGE HOSPITAL

DR. JOHN CURNOW, whose death was announced in our columns last week, was born at Towednack, near St Ives, Cornwall, in 1846 His father, Andrew Curnow, was a Cornish yeoman and belonged to an old Cornish family—indeed, Curnow signifies "of Cornwall," a name which is also perpetuated in Port Curnow He was very proud of this Cornish descent and throughout his life kept up his connexion with Cornwall, never failing in his summer holidays to visit Penzance, on which occasions he was largely called into consultation by the local practitioners, and indulged in long spells of his favourite amusement, sea fishing Before coming to London Curnow was a pupil with a local practitioner, a Dr Doidge, one of the leading medical men in the west of Cornwall, and thus early became acquainted with pharmacy and with general practice Often in later days he spoke of the practical advantages he had derived from the somewhat rough work that he was called upon to do That he was diligent and careful is shown by the local name bestowed upon him "Dr Doidge's young intelligent" When he came to London in 1864 he joined the medical school of King's College, gaining an entrance scholarship, the other scholars in that year being the late Professor Baxter and Professor A H Garrod, a son of Sir Alfred Garrod At the end of the first year of studentship these three were again awarded scholarships, their early association led to the formation of friendships which were only terminated by death

In 1865 Curnow matriculated at the University of London and was awarded honours, thus inaugurating a university career of almost unexampled brilliancy In 1868 at the Intermediate M.B examination he gained the exhibition and gold medal in anatomy and the exhibition and gold medal in organic chemistry materia medica, and pharmaceutical chemistry In this year also he qualified as a Member of the Royal College of Surgeons of England In 1870 he passed the M B examination and obtained the University scholarship and gold medal in medicine and the University scholarship and gold medal in obstetric medicine, together with honours in forensic medicine In 1871 he passed the M D examination and was awarded the gold medal. It is a characteristic fact that, although working to the best of his ability he never expected to take honours at these examinations and often remarked to his fellow students that he was "going to do nothing this time" This modest self-depreciation was often expressed even after the examination was completed and before the publication of the result Curnow did not say these things that they might be contradicted, modesty was a true characteristic of the man, and he really did not know what an excellent grasp he had of his subjects At the M D examination, when complimented by one of the examiners upon his diagnosis of a very difficult case, he simply remarked, "Oh, but I am plucked in the logic paper" In fact, in his own experience he showed, as he often remarked, that the best candidates do not know how well they have done, and he would add with a smile, "The converse holds good."

In 1870, with Mr J B Perrin, he was made demonstrator of anatomy at King's College under Professor Partridge, whom he succeeded in 1873, the year in which he became a Member of the Royal College of Physicians of London We mention this fact because it proves that by this time Curnow had definitely decided upon entering the medical side of his profession, and it is very rare for a physician to make a special study of anatomy Curnow held this professorship until 1896—that is to say, for 23 years—when he was elected professor of clinical medicine The methods of Partridge and Curnow presented a curious contrast, the former amused and instructed his audience at the same time, enforcing his point or fixing a fact by anecdote, by practical quotations (often diverted from their original meaning), or by some trivial joke, the latter, with what has been aptly termed "the seriousness of youth," kept rigidly to the subject, demonstrated, tabulated and catechised until he felt sure that knowledge had been transmitted As a professor of anatomy Curnow never spared himself, he multiplied lectures and demonstrations according to the needs of his class, and in the dissecting room, especially while conducting the lengthy demonstrations for the candidates for the First Fellowship of the Royal College of Surgeons of England, he acquired that personal interest in his students which led him to follow their subsequent careers with an almost paternal eye. One of the best anatomists in England, now occupying an important professorial chair of that science, writes to us as follows "Curnow was an enthusiastic teacher and a keen observer He maintained the traditio of the school so intimately associated with the research of the late Professor John Wood Amongst his mo important contributions to anatomical literature were h papers on 'Variations in the Arrangement of the Extens Muscles of the Forearm,' 'Muscular Irregularities,' ar 'Notes on Irregularities in Muscles and Nerves' He al from time to time recorded many interesting examples osseous, vascular, and muscular anomalies He had th gift of clothing the bare facts of anatomy with an interes which so impressed his pupils that many to this day wi recall his telling demonstrations and apt illustrations B more than all Curnow will ever be remembered by his friend and pupils alike for his broad minded sympathies an willingness to help where help was needed" In shor Curnow was unsparing of his own pains and sympathet with the troubles of his pupils—a combination that mak the really great teacher as well as the really fair examine The universities of London, Durham, and Victoria a different times availed themselves of his services a examiner

In 1874, when there was a vacancy at King's Colleg Hospital for an assistant physician, Dr E B Baxter an Dr Curnow were both candidates and the council solve the difficulty of making a selection between two suc men by appointing them both assistant physicians an leaving them to share the work In 1878 Curno became physician to the *Dreadnought* Seamen's Hospita and used the opportunities afforded him by the appointment to become familiar with many of the phase of tropical disease. He severed his connexion with th institution in 1897, after nearly 20 years' work, and whe he was senior visiting physician, in circumstances whic caused much controversy and which were fully reported i our columns There is no doubt that he felt keenly givin up a post which he had held so long and work whic interested him so much, but the situation, as he conceived it requiring his resignation he tendered it without hesitation In 1890 he was made physician t King's College Hospital with care of in patients As physician his skill speedily gained the confidence of hi patients, and this was deepened into affection by hi obviously genuine fellow feeling with them when in trouble In the wards he taught well, both by precept and b practice Students often marvelled at the ease, rapidity, an accuracy of his diagnosis, forgetting that his anatomical wor had cultivated in him the habit of close observation and th employment of every sense In treatment his tendency wa to avoid many of the newer remedies, but the advice tha he gave was always marked by simplicity and firmne which commanded respect and ensured confidence I prognosis he was often startling and bold One of hi friends in writing of him to us tells us how once a physicia in a provincial hospital took Curnow round his wards an was much surprised at the prognoses that he gave in man cases but some months later he had to confess that in each instance the prognosis had been verified Curnow was a man who could keep the essentials of a medical problem before him He did not lose sight of detail but he knew how to keep detail in subordination—a faculty which no doubt helped him in making his accurate forecasts. Although he never had a large consulting practice, friends, colleague and former students (the terms are synonymous) continually sought his professional aid and were invariably helped by his cheery optimism and by his readiness to sacrifice his own convenience in their service To consult Curnow was not like consulting many physicians, his personality robbed the ordeal of its solemnity There never was a man who talked and looked less like the popular conception of the resourceful physician or studious man of science, and no doubt this absence of conventionality counted for something in the fact that Curnow's position in the medical world was never that which he ought to have commanded He laughed heartily



JOHN CURNOW, M.D., F.R.C.P. LOND.
FOR 23 YEARS PROFESSOR OF ANATOMY IN KING'S COLLEGE, LONDON.

and talked freely he had no repose or dignity of manner as the phrase is generally understood but, on the other hand, he abounded in shrewdness, he spared no pains to ascertain the cause of trouble, and the dullest of his patients could not fail to see that he was receiving the most careful attention from a man who was honestly determined to help him if it were possible

Curnow was dean of the medical department at King's College from 1883 to 1896 and was unremitting in his endeavours to promote the interests of the school. It will be remembered that this period embraced the initial stages of the movement for extending the scope of university teaching in London. Curnow felt deeply on this subject, and as a member of the annual committee of the university and as representative of King's College on the committee of the deans of the medical schools he thoroughly mastered the details of a complicated subject entangled by conflicting interests, and though he spoke comparatively rarely he expressed his views very forcibly in these columns. As dean of the medical department of King's College he was perhaps too intent upon guiding matters in the directions that he believed to be right, his judgment was rarely at fault, but his administration was too zealous to be impartial He followed his own dictates of right and wrong and his evident sincerity commanded the respect of all, even of those who differed from him in opinion.

Although he wrote with facility Curnow's signed contributions to medical literature are not very numerous. In 1879—the year after he was made a Fellow of the Royal College of Physicians of London—he delivered the Goulstonian Lectures, taking for his subject The Lymphatic System and its Diseases.' These lectures were published in our columns. In the *Journal of Anatomy and Physiology* he wrote Notes of Some Muscular Abnormalities and Nerve Irregularities, and a paper on Variations in the Arrangement of the Extensor Muscles of the Forearm in the same journal contains the result of the original researches to which allusion has already been made above. He also contributed several articles to the first edition of Quain's Dictionary of Medicine, and published in our columns lectures on the Treatment of Typhoid Fever by Alcohol and the Cold Wet-pack, and on Cardiac Failure and Dilatation of the Heart. In the King's College Hospital Reports he published a most interesting historical sketch of King's College and King's College Hospital.

For more than 25 years Dr Curnow was a member of the editorial staff of THE LANCET and we were wont to rely much upon his judgment and good sense. He was a man who could maintain his own view without quarrelling with those who differed from him and as we have indicated, who could master the intricacies of a question without losing sight of the broad essentials. He was therefore, a man to whom an important subject could be relegated with a singular sense of security we felt that no pains would be spared that were necessary to make all the points clear to our readers and we knew that every side of the question would be weighed before judgment was pronounced, and that such judgment would follow the writer's sense of right and not be dictated by any private bias. He placed our readers in a position to understand all the arguments for and against the reconstitution of the University of London in a series of articles full of close reasoning and other communications to our columns upon many different aspects of medical education have been widely read and quoted. Our object and his—viz. to secure for the London student the same facilities for obtaining a medical degree that are enjoyed by the Scottish student and the student at the provincial medical schools—has not yet been attained, but, at any rate, the London student owes to the pen of John Curnow the persistent advancement of his just claims that has appeared in THE LANCET During the last decade his contributions to our columns have been much less frequent and a disinclination towards the actual labour of writing which he always admitted to be strong upon him grew still stronger. But to the day of his death he remained a member of our staff upon whose great experience we could rely for all information respecting educational questions.

The story of the life of John Curnow will be incomplete without reference to his work in Freemasonry in which he took a great deal of interest. He was initiated many years ago in the Mount Sinai Lodge, No. 121 Penzance. He was a Founder and first I G of the University of London Lodge No 2033, and subsequently passed through the chair of Worshipful Master of that Lodge. He was, moreover a Founder and one of the first Stewards of the Cornish Lodge No. 2369 of which also he was a Past Master He was made a Royal Arch Mason in the Weyside Chapter (Woking) No. 1395, and served as M E.Z. of that chapter for two years in succession and he had the honour of being a Past Grand Registrar in the Provincial Grand Chapter of Surrey By a curious coincidence the next name to his in the Deaths" in the *Times* was that of Colonel John Davis A.D C, the Provincial Grand Master of Surrey, who also died suddenly from pneumonia.

Dr Curnow who was only 56 years of age, had been in failing health for the past year and for some weeks before his death was troubled with cough and vague thoracic pain He did not observe any precaution, apparently never understanding how ill he was, and the end when it came was very sudden. He went round his wards at King's College Hospital on Friday July 4th when he was noticed to be suffering severely and complained of pain beneath the clavicles. Acute pneumonia supervened and he died from syncope on Saturday morning Dr Curnow was unmarried he leaves two sisters but no male relatives and we desire to express to those ladies our sincere sympathy with them in their great loss.

EDMUND DELAFOSSE BOND M A M.B., B CH OXON M.R.C S ENG L.R.C P LOND

WE regret to have to record the death at the early age of 28 years, of Dr E. D Bond, a young physician of great promise, who expired on July 1st at the London Fever Hospital Islington after a short illness, having contracted scarlet fever in the course of his duties He was the youngest son of the late Rev Frederick Hookey Bond M.A. who for 25 years was headmaster of the Marlborough Grammar School and of Mrs. Bond now of 16 Brock street, Bath, and was a near relative of Dr Francis Thomas Bond, honorary secretary of the Jenner Society He was educated at St. Peter's School, Weston super Mare, and at Clifton College after which he became an undergraduate of Keble College Oxford. He had a distinguished career at the University and obtained first-class honours in natural science. He next entered St. George's Hospital with an entrance scholarship and was there at the time that he fell ill, filling the post of resident assistant house officer Dr Bond was not only highly valued and respected for his ability by all his colleagues, but his amiable and gentle nature had secured for him a wide circle of attached friends.

THE SIXTH INTERNATIONAL CONGRESS OF HYDROLOGY, CLIMATOLOGY, AND GEOLOGY

DOUBTLESS it is very wrong but there is no concealing the fact that congresses, especially international congresses provide an excellent excuse for holiday excursions and picnics From this point of view the Sixth International Congress of Hydrology Climatology and Geology holds out more than usual temptations. It is to assemble at Grenoble during the first days of October Now Grenoble is not only a fine and large town but it is certainly one of the most picturesque cities in France. Just outside is the fashionable thermal station of Uriage the Moucherotte" and thence there are excursions to the valley of Graisivaudan," the valley of the Isère the celebrated monastery of the Grande Chartreuse and the abyss and bridge of Saint Bruno. The glaciers of La Meije, Aix les-Bains, and the beautiful scenery of Savoy are all close at hand. The lovers of mountainous and romantic scenery could scarcely select a more suitable base for their excursions than the town of Grenoble and as members of the Congress they will not only obtain reductions in the railway fares but various facilities for visiting places of interest. But if the pleasurable side of thi gathering is most attractive the Congress will be none the less important and interesting from the medical and the scientific point of view It will be the sixth international congress of this description that has been held. The first congress met at Biarritz in 1886. The second congress attended by the official representatives of 14 different Governments and unofficial representatives from

England, the United States, Switzerland, and other countries, met in Paris during the Universal Exhibition of 1889[1] The last congress was held at Liège in Belgium The Organising Committee of the forthcoming congress has its headquarters at Paris and its President is Dr Albert Robin who is President of the General Association of Medical Men practising in the health resorts of France Then there are Dr Leudet of Eaux Bonnes, ex President of the Hydrological Society, Professor Fredet of the Medical School of Clermont Ferrand, Dr de Ranse, and others But all communications must be addressed to the Secretary General of the congress, Dr Fernand Berlioz, École de Médecine de Grenoble, Isère, France To be a member of the congress it suffices to forward a subscription of 20 francs and all the printed reports will be sent gratuitously to the members Reports on the following subjects will be presented to the Congress and discussed The Action of Mineral Waters on the Tissues, by Professor J Renault of Lyons, Practical Methods for the Bacteriological Analyses of Mineral Waters, by Dr Bordas, Chemical Analyses of Mineral Waters and their Therapeutic Applications, by Dr Garrigon, and the Legal Measures that should be taken to Prevent Frauds in the Sale of Mineral Waters, by Dr Bouloumie These papers come under the head of "Scientific Hydrology" Then there is to be a section of "Clinical Hydrology" in which reports on the Hydromineral Treatment of Pulmonary Phthisis, by Dr Leudet and Dr Schleumer, and other papers on the Treatment of Skin Diseases, Diseases of the Digestive Organs, and of Constitutional Weakness in Children by the Use of Mineral Waters, Baths, &c., will be read A fourth section deals with Climatology and reports will be submitted on the Influence of Temperature and Altitude on the Respiratory Functions, on the Meteorological Conditions Necessary for the Installation of a Sanatorium, and on the Indoor and Outdoor Treatment at Sanatoriums Finally, there is a Geological section where the question of the preservation of mineral waters, the relations of the mineral waters of the Dauphiné and the geology of the soil, the statistics of the the mineral springs of Savoy and the Dauphiné, and the geological conditions and the origin of the mineral waters of Oriol and La Motte (Isère) will be discussed Of course, many other questions will arise out of these French papers, particularly as members representing other nationalities will also read papers It is likewise to be hoped that there will be some discussion on the sanitary condition of the various health resorts, for this is a very important question which many local authorities are apt to neglect. In view of the interest of the congress itself and the splendid opportunity of visiting some of the most celebrated and beautiful thermal stations of Europe it is very probable that the meeting will be numerously attended

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Election of President

A quarterly meeting of the Council was held on July 10th, the President, Sir Henry G Howse, being in the chair

The President reported the re election of Mr Howard Marsh, and the election of Mr John Hammond Morgan, C V O, Mr Henry Hugh Clutton, and Mr Charles William Mansell Moullin as members of Council

The President stated that Mr Moullin being fourth on the poll would be the substitute member of Council for the late Sir William Mac Cormac

Mr Marsh, Mr Morgan, Mr Clutton, and Mr Moullin were introduced, made declarations in the terms of the oath prescribed by the Charter of 1800, and took their seats as members of the Council

Sir Alfred Cooper was nominated a trustee of the Cancer Research Fund to represent the Royal College of Surgeons of England.

The Council nominated the President and Mr John Langton and Mr Henry Morris as members of the Executive Committee to be constituted under the Cancer Research Fund scheme and these members were instructed to elect in the name of the College the president and the vice-presidents of the Cancer Research Fund. Mr Henry Morris was appointed treasurer of the fund subject to the approval of the Royal College of Physicians of London

A Member of the College who had previously been struck off the Medical Register by the General Medical Council was removed from being a Member of the College.

The President stated that the committee appointed to receive a deputation from the Association of Licentiates of the Royal College of Physicians of London and Members of the Royal College of Surgeons of England would submit a report at the next meeting of the Council.

Sir Henry Greenway Howse was unanimously re elected President of the College and Mr John Tweedy and Mr A W Mayo Robson were elected Vice Presidents. The following appointments were made —Hunterian Professors Mr Charles Stewart, Mr William McAdam Eccles, and Mr Arthur Keith, Arris and Gale Lecturer Mr John Herbert Parsons, Erasmus Wilson Lecturer Dr Charles Bent Ball, Hon F R C S Eng

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD

REPORTS OF MEDICAL OFFICERS OF HEALTH

Birmingham Urban District —Dr Alfred Hill records a satisfactory diminution in the number of cases of enteric fever, a result which he ascribes largely to the provision of isolation accommodation for this disease The general death rate of the city for 1901 was 19 9 per 1000, as against an average for the last quinquennium of 20 4 The ward rates for 1901 ranged from 29 7 to 13 1 per 1000 In the three wards having the lowest general rate measles caused a death-rate of 0 28, as against a rate of 0 99 per 1000 in the three wards having the highest general death-rate Somewhat similar divergencies occurred in the case of whooping cough and diarrhœa With scarlet fever, on the other hand, the wards with the lowest general death rate yielded a higher scarlet fever case rate than the wards with the highest general death rate. The highest rate with respect to enteric fever and diphtheria was, however, in the three wards with the highest general death rate From phthisis the death rate was 2 70 per 1000 in the bad wards and only 1 14 in the good ones The cancer and heart-disease rates in the two groups were nearly identical Diphtheria antitoxin is distributed gratuitously by the sanitary authority and a very gratifying diminution of fatality rate has been apparent. The women health-visitors have, as usual, done good service in Birmingham, and amongst other things they have turned their attention to children who were sent home from school in consequence of having vermin in their hair The house accommodation for the labouring classes in Birmingham is, Dr Hill reports, quite inadequate, and he urges the town council to undertake the provision of such dwellings He has also made a representation under the Housing of the Working Classes Acts in respect of an unhealthy area possessing a population of some 2429 The mean death rate of the whole area for the last two years was 39 5 per 1000

Manchester Urban District —In his last quarterly report Dr J Niven states that during the period in question eight cows were proved to be suffering from tuberculous udders Of these eight, one was killed, two are still at the farms, concerning three there is no information available, and the remaining two were sold in the open market The want of all proper control over cows with tuberculous udders is deplorable and it is to be hoped that some reform in this direction will soon be brought about. When milk is taken from the Manchester railway stations and, on examination, is found to be tuberculous, the farm which furnished the sample is forthwith visited, and milk from cows with suspicious looking udders is examined, first microscopically, and secondly, by means of inoculation No action is taken until the milk has been definitely established to be tuberculous

Cardiff Port Sanitary District —The disinfection of the holds of ships and the destruction of rats therein are matters of such importance from the point of view of the prevention of diseases that a further reference[1] to certain e recently carried out at Cardiff with the Clayton fire-extinguishing apparatus may be useful. Dr. Edward Walford who supervised the experiments caused a number of rats confined in a cage to be placed in different parts of the hold of a ship and the sulphur dioxide generated by the Clayton apparatus was forced in at an average strength of 10 per cent. The rats placed at the bottom of the hold were killed almost immediately and those placed about three feet below the level of the deck were dead after three hours In addition to these experiments strips of fabric were soaked in liquid cultures of plague, cholera enteric fever, and anthrax organisms and were exposed in small glass dishes with loose covers After an exposure of 12 hours to the sulphur fumes all save the anthrax culture were killed From this it is inferred that all the non-sporing organisms were killed and that hence the experiments were satisfactory as sporing and harmful organisms are not likely to be encountered in practice in the holds of ships.

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[1] See The Lancet, Oct 19th 1889 p 813

[1] The Lancet June 21st 1902 p 1501

Brighton Urban District —Dr A. Newsholme furnishes in his current annual report figures showing for each of the last three years the number of cases of diphtheria amongst scholars attending the several elementary schools in Brighton The board school rates for 1901 averaged from 0 2 to 7 7 per cent. of the average attendance, while the voluntary school rates ranged from 0 8 to 4 3 per cent. As to this discrepancy between the board and voluntary schools Dr Newsholme fails to find an adequate explanation in geographical distribution or in structural defects. He is of opinion that there must be differences in administration more particularly in the direction of the eagerness on the part of the school board authorities to whip up absentees, and hence the liability to bring together children suffering from slight sore-throat, &c. This is certainly an interesting speculation but we should be glad to see the comparison made in other towns before altogether accepting the thesis. We are glad to see that Brighton is in common with many other towns now affording facilities for the supply of diphtheria antitoxin and that a supply of this material can be obtained at the public health offices during the day and at the police-offices during the night. Dr Newsholme very properly urges the early administration of antitoxin, and he points out the desirability of not waiting until the nature of the disease is definitely established Certainly very valuable time may be lost by waiting and the delay is not unlikely to turn the scale between life and death. Dr Newsholme has never seen any injurious effects from 500 units administered as a prophylactic, and the Brighton Corporation has sanctioned a payment of 2*s* 6*d* for every dose thus administered at the request of the medical officer of health to children living in the same house as a child already suffering from diphtheria—that is to say if the parents are too poor to bear the expense.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 76 of the largest English towns 8661 births and 4120 deaths were registered during the week ending July 12th. The annual rate of mortality in these towns, which had been 14 9 15 1, and 15 4 per 1000 in the three preceding weeks, declined to 14 5 per 1000 last week. In London the death rate was 14 6 per 1000 while it averaged 14 4 in the 75 other large towns. The lowest death rates in these towns were 7 6 in King's Norton 6 2 in Walthamstow 6 5 Grimsby and in Rotherham 7 1 in Great Yarmouth, 8 0 in East Ham and in Leicester 8 3 in Hornsey and 9 3 in Handsworth the highest rates were 20 1 in Bootle and in Sunderland, 21 1 in Manchester 21 9 in Newcastle-upon Tyne and 23 3 in Coventry The 4120 deaths in these towns in the same week included 533 which were referred to the principal infectious diseases against 478 and 522 in the two preceding weeks of these 533 deaths 131 resulted from whooping cough 124 from diarrhœa, 116 from measles, 54 from diphtheria, 45 from scarlet fever 45 from fever" (principally enteric) and 18 from small pox. In Hornsey Reading Leicester and four other smaller towns no death from any of these diseases was registered, while they caused the highest death rates in Norwich, Bootle Wigan, Warrington, Burnley Barrow in Furness and West Bromwich The greatest proportional mortality from measles occurred in Bristol Birkenhead Bootle Rhondda, Rochdale, Plymouth, Warrington, and Barrow in Furness from scarlet fever in Burnley Stockton-on Tees and West Bromwich, from whooping-cough in South Shields, Bootle, Barrow in Furness and Norwich from 'fever in Ipswich and Barrow in Furness, and from diarrhœa in Preston and Bootle. The mortality from diphtheria showed no marked excess in any of the large towns. Of the deaths from small pox registered during the week 13 belonged to London two to Swansea, and one each to Croydon, Tottenham and Walthamstow but not one to any other of the 76 large towns The number of small pox patients under treatment in the Metropolitan Asylums hospitals which had been 861 837 and 677 at the end of the three preceding weeks, had further declined to 579 at the end of the week, 57 new cases were admitted during the week against 107, 129 and 58 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday July 12th was 2352, against 2450 2496 and 2432 in the three preceding weeks 272 new cases were admitted during the week, against 378 276, and 255 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London which had been 173, 194 and 168 in the three preceding weeks further declined to 159 and were 12 below the corrected average number The causes of 41, or 0 9 per cent. of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham Portsmouth Leicester Bolton Salford Bradford Leeds Cardiff and in 48 other smaller towns, the largest proportions of uncertified deaths were registered in Ipswich, Liverpool and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19 2 and 16 3 per 1000 in the two preceding weeks further declined to 16 2 per 1000 during the week ending July 12th but showed an excess of 1 7 per 1000 over the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 13 5 in Aberdeen and 14 4 in Greenock to 17 9 in Edinburgh and 19 2 in Paisley The 523 deaths in these towns included 22 which were referred to measles, 15 to diarrhœa, 14 to whooping-cough, six to fever" three to diphtheria, and two to scarlet fever but not one to small pox. In all 62 deaths resulted from these principal infectious diseases in the week, against 54 57 and 66 in the three preceding weeks. These 62 deaths were equal to an annual rate of 1 9 per 1000, which was also the death rate in the week from the same diseases in the 76 large English towns. The fatal cases of measles which had been 18 15, and 13 in the three preceding weeks, again rose to 22, and included 12 in Edinburgh four in Glasgow and three in Paisley The deaths from diarrhœa which had been 17 16, and 24 in the three preceding weeks fell again to 15 and included eight in Glasgow and four in Edinburgh. The fatal cases of whooping-cough which had been 14 and 16 in the two preceding weeks, again declined to 14 and included six in Glasgow and three in Edinburgh and in Aberdeen. The deaths from scarlet fever numbered two while the fatal cases of diphtheria were three and showed a slight decline from recent weekly numbers The deaths referred to diseases of the respiratory organs in these towns which had been 101 and 87 in the two preceding weeks, further declined to 74 and were just below the number in the corresponding period of last year The causes of 19 or nearly 4 per cent. of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin which had been 17 9 19 9 and 19 1 per 1000 in the three preceding weeks, further declined to 16 9 per 1000 during the week ending July 12th During the previous four weeks the death rate had averaged 19 2 per 1000, the rates during the same period being 14 6 in London and 17 4 in Edinburgh The 123 death of persons belonging to Dublin registered during the week under notice showed an excess of 16 from the number in the preceding week, and included 17 which were referred to the principal infectious diseases, against 10 eight and nine in the three preceding weeks of these six resulted from measles, four from fever' and also from diarrhœa two from whooping-cough, and one from diphtheria, but not one from small pox or scarlet fever These 17 deaths were equal to an annual rate of 2 3 per 1000, the death-rate last week from the same diseases being 2 0 in London and 3 9 in Edinburgh. The fatal cases of fever were again four last week, and the deaths from measles, which had been four and two in the two preceding weeks, increased to six. The 123 deaths in Dublin last week included 19 of children under one year of age and 28 of persons aged upwards of 60 years The deaths of infants were one fewer than the number recorded in the previous week, while those of elderly persons showed a decrease of seven. Four deaths from violence and four inquest cases were registered, and 48, or more than one third, of the deaths occurred in public institutions The causes of two, or nearly 2 per cent of the deaths registered in Dublin last week were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified —Surgeons C R Rickard to the *Moorhen* and E R L Thomas to the *Boscawen* for the *Dolphin*.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel John Martin retires on retired pay Dated June 26th, 1902.

Captain T P Jones joins at Aldershot for duty and Lieutenant M A. Cholmeley (Militia) takes over medical charge of the 2nd Infantry Brigade at Aldershot. Lieutenant Stirling takes over the charge of the Louise Margaret Hospital at Aldershot and also assumes medical charge of the troops encamped at Garrison Gorse Captain J Grech assumes medical charge of the troops at Bisley Major G F Alexander is appointed to the medical charge of the Isolation Hospital at Aldershot Major G H. Barefoot has left Aldershot for a tour of duty in the West Indies Major F J Greig is appointed Instructor at the Depôt Training School at Aldershot Captain W E P V Marriott is appointed to the medical charge of the Cavalry Brigade at Aldershot and Major R. Caldwell joins at Aldershot for the medical charge of Royal Horse and Royal Field Artillery

ARMY MEDICAL RESERVE OF OFFICERS

Surgeon Captain A. P Arnold to be Surgeon-Major

ROYAL ARMY MEDICAL CORPS (MILITIA)

The undermentioned Captains to be seconded —T W G Kelly, H E. Mortis, and J E O'Connor

IMPERIAL YEOMANRY

Duke of Lancaster's Own Surgeon Lieutenant Leonard Greenham Star Molloy resigns his commission and is appointed Lieutenant. West Somerset Charles Farrant to be Surgeon Lieutenant.

VOLUNTEER CORPS

Royal Garrison Artillery (Volunteers) 1st Cornwall (Duke of Cornwall's) Surgeon Lieutenant J Ratcliff-Gaylard, from 2nd Volunteer Battalion the Manchester Regiment, to be Surgeon Lieutenant. 1st Devonshire Oliver Eaton to be Surgeon Lieutenant 1st Norfolk Surgeon-Lieutenant A. M. Ross resigns his commission

Rifle 3rd Volunteer Battalion the Queen's (Royal West Surrey Regiment), Surgeon Lieutenant J F Hall to be Surgeon Captain 4th Volunteer Battalion the Queen's (Royal West Surrey Regiment) Surgeon-Lieutenant A. M Hickley to be Surgeon Captain 1st (Exeter and South Devon) Volunteer Battalion the Devonshire Regiment Surgeon Captain R. Pickard is borne as Supernumerary whilst serving with the Bearer Company of the Devon Volunteer Infantry Brigade. 3rd Volunteer Battalion (the Prince Albert's Somersetshire Light Infantry) Surgeon Captain F St J Kemm resigns his commission. 1st Volunteer Battalion the Worcestershire Regiment Surgeon Lieutenant J H. Wilkinson resigns his commission. 3rd Volunteer Battalion the Duke of Wellington's (West Riding Regiment) Surgeon Lieutenant D Walker to be Surgeon-Captain. 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry) Surgeon-Major E Lee to be Brigade Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the South Yorkshire Volunteer Infantry Brigade 2nd Volunteer Battalion the Manchester Regiment The resignation of Surgeon Lieutenant J Ratcliff Gaylard, which was announced in the *London Gazette* of May 27th, 1902, is cancelled at his own request.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

Leeds Company Algernon Edward Luke Wear to be Lieutenant

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

Devon Surgeon Captain E P A Mariette, from the 2nd Volunteer Battalion the Devonshire Regiment, to be Surgeon Captain, and to command under paragraph 55A Volunteer Regulations South Wales Border The undermentioned gentlemen to be Surgeon Lieutenants John Francis Dwyer and Reginald Cowie.

THE ORDER OF ST JOHN OF JERUSALEM

The Prince of Wales, as Grand Prior of the Order of St. John of Jerusalem in England, presided at a meeting held at St. James's Palace on July 14th, when His Royal Highness presented a special medal bestowed by the Order for conspicuous service during the late war, the long service medal, and other medals and certificates for acts of gallantry in saving or attempting to save life on land The following received awards for conspicuous services to the ambulance department of the Order —

(*a*) In connexion with the mobilisation of the detachments of the St John Ambulance Brigade who proceeded on active service to South Africa, and with the despatch of ambulance material and medical comforts for the sick and wounded troops at the seat of war

Viscount Knutsford, G C M.G , Director of the Ambulance Department and Chairman of the St. John Ambulance Association

Viscountess Knutsford, Chairman of the Special Committee formed to despatch medical comforts to the brigade units

Colonel Sir Herbert C Perrott, Secretary of the Order and Chief Secretary of the Ambulance Department.

Colonel C Bowdler, Chief Commissioner, St John Ambulance Brigade

Lieutenant-Colonel C J Trimble, V D, L R.C P Edin	Deputy Commissioners St. John Ambulance Brigade
Mr Stuart C Wardell	
Lieutenant-Colonel George S Elliston, V D, M R C S Eng	
Inspector General Belgrave Ninnis, M D St. And, R.N	
Mr William Vernon, M R C S Eng	
Major Charles H Milburn, M B Durh	

Mr W J Church Brasier, Brigade Chief Superintendent

Lieutenant-Colonel Richard Holbeche, Librarian of the Order, and

Mr William G Barnes, jun, who both supervised for many months the dispatch of ambulance material and medical comforts for the troops

Mr William R. Edwards, A.C A., Accountant of the Order and Accountant and Storekeeper of the St. John Ambulance Association

Mr William H. Morgan, Chief Superintendent of the Metropolitan Corps, St. John Ambulance Brigade.

(*b*) In recognition of long and efficient service to the St. John Ambulance Association and in the St John Ambulance Brigade.

William Henry Irvin Sellers, M B Edin, Honorary Associate of the Order, Chief Surgeon, Preston Corps, St. John Ambulance Brigade.

Archibald Alexander George Dickey, M D R.U I., Honorary Associate of the Order, Honorary Surgeon, Colne Division, St. John Ambulance Brigade.

John Perry, Honorary Serving Brother of the Order, Chief Superintendent, Northampton Corps, St John Ambulance Brigade.

John George Stevenson, Private, Northampton Corps, St. John Ambulance Brigade.

Albert Edward Gordon Cox, Private, Northampton Corps, St. John Ambulance Brigade

Thomas Daniel Higgens, Private, Northampton Corps, St. John Ambulance Brigade.

Clement Heathcote, Honorary Serving Brother of the Order Superintendent, Winsford Division, St. John Ambulance Brigade

SOUTH AFRICAN NOTES

Civil Surgeon Ellenbogen is reported to be progressing favourably at Elandsfontein

THE BACTERIOLOGY OF THE SWEEPINGS COLLECTED FROM ITALIAN MEN-OF WAR.

The *Annali di Medicina Navale* for May last contains an article with tables showing the result of a bacteriological investigation of the sweepings on board a number of war vessels, the author being Dr C. M. Belli medical officer of the first class in the Italian navy The total number of germs found varied considerably not only in different ships but also in different parts of the same ship. As might be expected, the dust collected in the passages was very prolific, but strange to say fewer micro-organisms were obtainable from the men's kitchens and latrines than from anywhere else. In the officers quarters the mean number of gelatin cultured germs was 283,000 per cubic centimetre, while in the kitchens it was 45 000 and in the latrines only 15 000 Finally, Dr Belli contrasts the health of the navy with that of the army During the 20 years ending 1894 the average losses per annum per 1000 of strength were as follows —

—	Died per 1000	Invalided per 1000.
Italian Navy	4·40	6·93
Army ..	9 62	14 01

It would no doubt be a grave error " says Dr Belli in conclusion to suppose that the greater foulness of the air in land barracks as compared with its purity in war vessels is the only or indeed the principal factor to be taken into consideration when treating of the superior sanitary condition of the navy There are other and important coefficients which cannot now be discussed It nevertheless seems certain that the point in question is worthy of consideration."

VICHY WATER

Dr J Carayon, who is in charge of the military hospital at Vichy concludes a paper in the *Archives de Médecine et de Pharmacie Militaires* for June with the following list of diseases in which Vichy water may be regarded as (1) useful, (2) useless and (3) hurtful. 1. Chronic paludism palustral cachexia, dysentery (of hot climates) chronic articular rheumatism, visceral rheumatism rheumatism complicated with Heberden's nodes (except in the acute stage) intractable gout, uric gravel oxalic (phosphaturic) gravel saccharine diabetes (constitutional hepatic, nervous) anæmia (colonial) neurasthenia (when symptoms of dyspepsia are prominent) dyspepsia (especially of hepatic origin) dilatation of stomach chronic diarrhœa (muco membranous enteritis) congestion of liver hypertrophy of liver chronic hepatitis atrophic and hypertrophic cirrhosis catarrhal icterus biliary lithiasis, hepatic colic, renal lithiasis nephritic colic. 2. All rheumatic affections other than the chronic variety, wasting diabetes (so-called pancreatic, ") neurasthenia when unaccompanied by dyspeptic symptoms lesions anatomical or functional consecutive to wounds. 3. All acute affections all cachexias, save that due to paludism, pronounced senility cancer (irrespectively of site) chronic diseases of the brain or of the spinal cord, chronic pulmonary affection diseases of the heart and of the great vessels constipation (in old people due to insufficiency of muscular coat) nephritis, stricture of the urethra and its complications syphilis recent or of long standing accompanied by visceral lesions especially of the nervous centres.

MAGERSFONTEIN A PSYCHOLOGICAL STUDY OF WAR.

Among the numerous articles which have been written in connexion with the late war in South Africa we may call attention to one in the *Fortnightly* for this month on the battle at Magersfontein because it treats of it from a new and interesting point of view The article mainly deals with the effect of external conditions upon the man as distinct from the soldier and studies the psychological aspect at Magersfontein in order to emphasise a neglected factor in the equation The writer describes the effects of the climatic heat the severe thunderstorm the extreme darkness of the night and the other conditions that prevailed—all of which had a tendency towards lowering of the moral strength. He points out that, over and above the material presented on that occasion for the consideration of those who are re-organising the army there remains the conviction that with the improvement of the weapon the man who holds it becomes more, and not less, a study There was hardly a phase of possible war he asserts that was not illustrated in the two days fight at Magersfontein which presented the most impressive lesson for the future that the Boer war has afforded.

THE RUMOURED RETIREMENT OF ARMY OFFICERS.

It will be interesting to notice whether any appreciable number of medical officers will retire from the service on their return to this country from South Africa now that the war is ended. It is believed that a considerable number of officers belonging to the combatant ranks of the army are, or will be, seeking their retirement—indeed if we may credit current rumours, a big exodus is to take place. According to our service contemporary—the *Army and Navy Gazette*—the profession of arms has grown unpopular owing to the amount of adverse, and as the officers think unfair criticism to which they have been subjected. There is no doubt that much of the criticism has been unreasonable and exaggerated especially on the part of those who failed to realise the enormous difficulties of the war and who did not stop to ask themselves whether the army of any other country would have done as well or better in the circumstances.

THE WELSH HOSPITAL.

On August 14th Lord Penrhyn will unveil a memorial brass to the deceased members of the staff of the late Welsh Hospital in South Africa which is to be placed in St. David's Cathedral, and his lordship will also hand over the hospital flag to be permanently placed in the nave of the cathedral.

THE NAVAL HOSPITAL AT DARTMOUTH.

The Naval Hospital at Dartmouth will be ready for the cadets occupation at the commencement of the September term. Fleet Surgeon A. W May is to enter into occupation of his quarters immediately It is estimated that the total cost of fitting up the hospital will be upwards of £6000.

MENTIONED IN DESPATCHES.

The full name of Civil Surgeon Ellis who was brought to notice in Lord Kitchener's despatch of March 8th 1901 published in the *London Gazette* of May 7th 1901 (and in THE LANCET of May 11th 1901), is as follows —Civil Surgeon Alfred Pytches Blanchard Ellis

DEATHS IN THE SERVICES.

Deputy Surgeon General Robert Gillman Lord, I.M S (retired) at his residence Ambersgate " Chelston Torquay after a short illness in his eighty-second year

Correspondence.

"Audi alteram partem."

THE CAUSE OF INEQUALITY OF PUPILS IN CASES OF THORACIC ANEURYSM

To the Editors of THE LANCET

SIRS,—In the elaborate, and also no doubt important paper by Dr R. C. B Wall and Dr E. W A. Walker in THE LANCET of July 12th, p 68, there is a misconception of my published opinions as to the significance of disparity of the pupils as a sign of aneurysm which it may be as well to make note of at once, because in point of fact I have no real controversy with the authors as regards either the opinions or the experimental data which they have brought to bear upon the question They attribute to me (p. 69) that I am apparently convinced that inequality of the pupils associated with thoracic aneurysm is *in all cases* due to implication of the sympathetic, and they fortify this remark by a quotation which I will not give here as it is quite clearly irrelevant and I mean to show presently that, so far from being apparently convinced as above, I have never taught, or sought to teach anything of the kind. The case which I published in 1854 was one of what we should now call spinal myosis " (although the name was not at that time in use the myosis being to a marked degree abnormal, permanent and practically unvarying over a long period of observation the opposite pupil being moreover mobile and normal in every respect. The coincidence of this condition with an aneurysm proved subsequently by post-mortem examination to have exerted permanent and destructive pressure on the lower sympathetic ganglion in the neck was a fact which had to be recorded and explained and its great importance in respect of the diagnosis of aneurysm in this situation was not only manifest but was fully discussed in reference to all the information at that time available

But the very importance of the diagnosis which might thus be supposed to emerge from a disparity of the pupils in aneurysm served to quicken my sense of the fallacies which might arise from physiological and other causes of disparity apart from aneurysm. So far from becoming "convinced that inequality of the pupils is in all cases due to implication of the sympathetic," it was not long before I became convinced of exactly the converse proposition Case after case of aneurysm was observed in detail with regard to the pupils, and it was not long before I became convinced that slight and variable degrees of disparity (which were far from being rare) were almost of no account in the diagnosis, it being a not unusual experience to have the larger of the two pupils on the aneurysmal side, and variations taking place in this respect in the same case at different times The valuable and exhaustive memoir of my friend Dr John Ogle was in this respect only unconvincing to me as it seemed to lay equal stress (or almost so) on dilatation and contraction of the pupil, the former being assumed to be (as in experiments) the result of irritation of the cilio-spinal nerves, the latter of pressure or destruction of them. It was difficult to disprove or to controvert the former mode of action from the theoretical point of view, and therefore I never attempted to do so, but as a matter of personal experience I have not succeeded in convincing myself that relative *dilatation* of the pupil is of any importance in the diagnosis of aneurysm, and *myosis* is only of importance when, as in my first case, it is manifest, permanent, and accompanied by such abnormalities of reaction as are referred to in detail in the article in Vol. VI of Clifford Allbutt's "System of Medicine," p 400 *et seq* If Dr Wall and Dr Walker will do me the favour to read carefully the cautionary statements in p 404, or the summary of my experience in p 406, they will, I think, entirely acquit me of having yielded to any such prejudice as they attribute to me It would be easy to make this clearer by quoting more in detail, but as the work in question is very accessible to almost all your readers I forbear from burdening your space

I am, Sirs, yours faithfully,

W T GAIRDNER

Edinburgh, July 15th 1902.

CIDER AND GOUT

To the Editors of THE LANCET

SIRS,—Should the gouty drink cider? This is a question often put to medical men The opinion of the authorities appears rather conflicting I myself have prescribed cider in cases of atonic gout with great benefit. I am sure that you would do a great service to us if you would let us have the benefit of your opinion on the subject.

I am, Sirs, yours faithfully,

THOMAS DOBSON, M.D St And

Windermere July 9th, 1902.

DIPHTHERIA AND ITS TREATMENT AT COLCHESTER

To the Editors of THE LANCET

SIRS,—As a year has now fully elapsed since the beginning of the epidemic of diphtheria in the borough of Colchester it may be advantageous to review this *annus mirabilis* so far as the disease in this locality is concerned in regard to its rise, progress, and decline, with any other circumstances of interest affecting it during the year Commencing in the first week of May, 1901, it has continued to the present time and no intermediate month has been free from its presence The number of notifications from the beginning of the year 1901 to its close was 287 and 43 were notified up to the end of May of that year, whilst 77 have been returned for the same period of this year, being 18 for January, February, March, and April, and 25 for May, 1901, and for this year, for January, February, March, and April, 62, and for May, 15, and only four for June, showing that the disease is now passing away Like all epidemics it was small in amount, sporadic, and of a comparatively benign character at its beginning, but speedily showed a sudden large increase, virulent in type and located in well defined special localities, in May and June, afterwards assuming in July and subsequent months a less virulent form though the numbers did not lessen till November and December

23 deaths occurred in May, June, and July out of a total of 137 notifications for that period in the borough, 111 patients were removed to the Infectious Hospital during these three months and 26 were treated at their own homes—66 had antitoxin administered with 17 deaths, 45 were treated without antitoxin with three deaths, and 26 outside the Infectious Hospital, also with three deaths Three of these deaths which occurred without antitoxin being used had the disease in a hopeless hæmorrhagic form on entering the hospital and others from organic disease either from the rapidity of the course of the malady or not being removed to the hospital soon enough for any remedy to restore the vital powers or to save life, and if antitoxin had been used in such cases it would only have increased the death-roll of those who died after receiving that remedy The total number of cases notified during the diphtheritic year commencing in May, 1901, and ending on April 30th, 1902, is 331—271 being notified from May to December, 1901, and 62 from January to April 30th, 1902, the deaths for the eight months in 1901 being 34 and those of the four months of 1902 eight, giving a total of 42 and a death rate of 12 69 for the entire period

There is probably no disease, taking it in all its phases, requiring more discrimination in its diagnosis or discretion in its treatment than this, the diseases affecting the throat being very numerous and difficult to differentiate, especially in their first stage—the time most important, especially in diphtheria, in securing the best chance of success in preventing a fatal result and a long convalescence It seems also only natural that diphtheria should be at once attacked at its point of origin and the system of cure which ignores this fact is not based on true physiological principles Remove the cause and the effect ceases, and this can easily be done at the onset and the result is everything that can be desired in a speedy removal of the dangerous poison and a short convalescence The *cilia* or brushing apparatus with which the mucous membrane of the throat and back part of the mouth is lined are soon clogged with dead matter and bacteria and their action arrested, thereby furnishing a fitting nest for the hatching of the toxins which enter the system and which give rise to all the evil consequences of the disease The first line of attack is therefore to be put in force at once by clearing the throat of these lethal products and enabling these minute organs free play in resuming their natural function of keeping the throat clean So essential are these minute organs in the animal economy and their vitality is so great that they continue in action after removal from the throat and even for three or four days after death do not lose their power of movement It is therefore a most important point in the treatment of the disease to restore their function at the soonest possible time and thus allow a means of exit to their imprisoned poisons This means of cure also lessens the chance of infection being conveyed to others, for whilst only one case of infection occurred during the 17 years previously to 1901 at the infectious hospital, seven nurses and one ward attendant were attacked by the malady during the present epidemic and the antitoxin treatment does not prevent the disease spreading to others after the patient is said to be cured

It appears derogatory to the science and practice of medicine and surgery that it should be imperative as some practitioners hold that there should be only one system of cure to a specific form of disease, that there should be no progress in the healing art, and that the most ignorant and the most experienced should be bound by a hard-and-fast rule to pursue a course of treatment which frequently entails more misery on the sufferer than the original disease itself could produce There are many mild cases of diphtheria—indeed, the majority are such—that require little treatment and some that defy all human skill, as there are cases of malignant scarlet fever and like diseases that exhibit the same tendency and are extremely fatal in the young After July 2nd, 1901, the disease was generally of a mild form and 26 cases were admitted into the hospital from that date without a single death up to the 19th and since then only occasional cases of a virulent character occurred, the cases both inside and outside the hospital being of the same description. It is a well-known law in medical science that if one disease is already in the system another as a rule is denied admittance, or if introduced its action is greatly modified or suspended till the first has run its course. Cases of scarlet fever occurred in this way and in many cases were fatal after the diphtheria

On the other hand, some children were admitted with diphtheria and in two or three days after admission chicken-pox made its appearance and though one of them had a very bad throat all recovered. Dr Jenner 100 years ago was cognisant of this fact and it is interesting to find in his biography that he was foiled in his attempt to vaccinate some patients in Colchester owing to this law His biographer relates that ' on the 15th of April 1800 His Royal Highness the Duke of York sent a message to Dr Jenner to request him to go to Colchester to vaccinate the 85th Regiment. He was under the necessity of waiting a considerable time before he could communicate the disease to anyone He found the whole of the regiment, together with the women and children labouring under the itch. He commenced his inoculations but they all proved unsuccessful. On the 2nd of May he found that one child had taken the cow pox and he adds that all the men are cured of the itch and in two days will be washed and fit for vaccination. These anticipations proved rather premature, for he observed on the 13th of May that he could not succeed in communicating the true cow pox to those whose constitutions had been under the influence of the itch His biographer states ' It appears to me of moment to allude to these assurances because they afford very convincing proofs of the truth of a doctrine which Jenner subsequently adopted and invariably maintained to the last hour of his life—namely that any cutaneous disease however slight in appearance, was capable of interfering with the regular course of cow pox and from preventing it from exercising its full protecting influence. Though Dr Jenner could not himself undertake to vaccinate the regiment at Colchester he went twice to that place to inspect the progress of the practice. It would be of immense value to mankind if such a remedy were found to give immunity from diphtheria and the same course could be pursued and with the same certainty of success as vaccination gives in small pox. Antitoxin is said to give immunity for three weeks just as we may surmise that any other disease such as chicken pox *might* have the same effect. As a prophylactic the remedy of antitoxin in mild cases is often worse than the disease and even as an adjunct to the topical treatment in producing tetanus severe urticaria, and other serious maladies it cannot be pronounced as altogether safe. Surely the resources of the human mind have not yet arrived at that state of sterility to preclude the idea of such a remedy being discovered in our own age and it is even possible that another Jenner may arise to find out a safe speedy and pleasant cure for this dreaded disease in anticipating its coming and neutralising its effects and lessening its mortality

The disease followed the usual course of an ordinary epidemic, and though a bacteriological office was instituted in September and *it was stated that the disease would be* extirpated in six weeks yet it did not have any marked decline till last month. An isolation home was also inaugurated and patients who had been treated with antitoxin in the infectious hospital but whose throats were still infected with bacteria were placed there till their throats were free from these germs. Those modes of checking the disease have been an enormous expense to the borough and cannot be considered of a therapeutic value equal to what has been claimed for them or the results have shown. The copious showers which have fallen during the past three months have been the chief cause of the decline of the disease and have been far more potent in their effects in checking it than any number of artificial schemes instituted for its suppression The science and art of surgery have no doubt advanced greatly during the latter half of last century and its boundaries have been greatly extended by the painstaking and elaborate schemes pursued in investigating the secret causes which produce and influence disease, yet the rapid progress may tempt some to cling to a theory which more extended inquiry and research *may* prove to be fallacious and thus they lead them to worship an *idolum specus* as a true divinity Antitoxin has in this way been held up as a therapeutical save-all. It is needless to say that its use given indiscriminately traverses Jenner's great law that the protective principle must be introduced into the system before the disease for which it is used breaks out

Though then, great advances have been made in the profession yet it does not appear that the ordinary life of the professional medical man has much improved In Pearson's Life of Hey who practised 100 years ago, the author throws some light on the way the world went at that time. He says that there are scarcely any opinions or modes of treatment that do not lie open to censure and animadversion no method of managing a disease of which it may not be pronounced if unsuccessful Had this been done or that left undone the issue would have been more fortunate. Hence a man disposed to detract from the merit to disparage the qualifications of his professional brethren to impute mistake or incompetence to them may easily find specious pretences for arraigning their conduct and a willing audience to listen to his ignorant, interested or malicious insinuations " Civilisation it is said, advances in a circle and it may be that the moral powers lag in the race in contrast with the intellectual.

I am Sirs, yours faithfully

Colchester July 1st 1902. GEORGE BROWN M D Glasg

PERITYPHLITIS

To the Editors of THE LANCET

SIRS,—Educated at Guy's Hospital before 1886 and familiar from my student days with the starting point of perityphlitis it has seemed to me that one meets with more cases in the post mortem room since operative treatment has become so common The few fatal cases seen by so careful an observer as Sir William Gairdner in the days before the disease was considered to be mainly surgical supports this view By making such a suggestion one does not intend to reflect upon the value of surgery in perityphlitis but the dogmas of surgery must be the result of experience, and in gaining experience it sometimes happens that the few have to suffer for the many Removal of the appendix in the quiescent stage is obviously a simple matter in the hands of an able surgeon like Sir Frederick Treves, but too often probably an operation in the acute stage, as suggested by Hilton Fagge who had ' twice seen an exploratory operation performed in suppurative peritonitis starting from ulceration of the vermiform appendix [1] may remove ' the last chance of life, ' especially when the peritonitis is not general and adhesions are commencing to localise the inflammation If surgery only for a short period in the past increased the fatality of perityphlitis one can understand how the increased opportunities thus afforded for study may have appeared almost to have led to the discovery of a new disease.

It may be added that some surgeons at least at Guy's Hospital were familiar before 1886 with the morbid anatomy of perityphlitis I remember a clinical lecture given by Sir H Greenway Howse upon perityphlitis two or three years before that date in which the origin of the trouble in the appendix was mentioned and the *rarity of foreign bodies emphasised.* The lecturer told us how when staying in a cherry growing district in France where the abundant swallowing of cherry stones was seen by their number in the fæces of peasants which were left in the fields he had been unable to find any indication that this habit of swallowing the stones led to perityphlitis being more common there than elsewhere.

I am Sirs yours faithfully

Clifton Bristol July 12th 1902. THEODORE FISHER.

To the Editors of THE LANCET

SIRS,—I hardly think that it is worth while writing and complaining about Sir Frederick Treves describing the above as a new or recent disease for by reading his lecture closely one discovers that he gives a long history to it. Perhaps on the whole Guy's men have been more alive to the important part which the appendix has played in the disease than men of other schools on account of the teaching of Addison Wilks and Fagge. What I take *Sir Frederick Treves seek* to bring out in his lecture is that surgically it is a new disease or rather that modern surgery has given a new and practical importance to it This I think is no doubt true I was at Guy's Hospital some 25 years ago and during my stay there of six years I never saw a case of appendicitis operated upon although I believe very soon indeed after my leaving Sir Charters Symonds operated successfully upon a case under the care of the late Dr Mahomed

What is important to remember still is as Sir Frederick Treves insists upon that the vast majority of cases recover and again as Sir W R Gowers points out, the severest attack is commonly the curative one Personally I have had two attacks, to describe them would take up too much of your space But let it suffice that in both, I believe, many surgeons would have operated on both occasions There is no disease about which it is so necessary to possess medical and surgical knowledge as the above, it is essentially one in which the physician and surgeon should meet, and it is often most difficult to decide which plays the more important part. I am, Sirs, your faithfully,

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[1] Principles and Practice of Medicine first edition, vol ii, p 712.

W J TYSON

Folkestone

To the Editors of THE LANCET

SIRS,—The correspondence on perityphlitis which has been going on in THE LANCET is one of very great importance to general practitioners. These cases present the greatest difficulty to us in dealing with them. The question which always presents itself to us is, What is the right thing to be done in the particular case before us and is it advisable to have recourse to surgical interference? Unfortnately though surgeons seem to think that this disease belongs exclusively to their domain, yet they are by no means united amongst themselves as to how to deal with it I was speaking some months ago to a well known surgeon attached to one of our largest hospitals in London on the treatment of this disease, and he was very dogmatic on the point that all cases as soon as they were diagnosed to be appendicitis should be operated upon immediately Now, however this may be in theory it does not work out in actual practice, for we see often cases presenting alarming symptoms which yet get well under ordinary medical treatment. There are times, however, when we are compelled to ask ourselves whether the case might not have been saved by operation. On the other hand, I have had occasion to wonder whether the patient might not have lived if he had not been operated upon On reading the Cavendish Lecture by Sir Frederick Treves one cannot help admiring the wide and comprehensive view he takes on the question of the surgical treatment of appendicitis, and though he lays down certain general rules as to treatment, yet, nevertheless, the result to the patient must depend on the intelligence and acumen of the medical man in attendance in advising the line of treatment to be adopted One word more. Just as there are differences of opinion among surgeons on the treatment of this disease, so also among physicians we find the same diversity One will advise salines and purges, another opium and enemata, while a third class object to drugs of any kind, but put their faith in local applications It would be well, I think, therefore, if physicians, instead of recording the antiquity of the disease, would enlighten us as to the mode of treatment they have found most successful.

I am, Sirs, yours faithfully,

HERBERT H HORDEN, M D Lond

Water lane Brixton, S W July 15th 1902

OBSERVATIONS ON DIET

To the Editors of THE LANCET

SIRS,—Dr Harry Campbell's very clear and practical answer to Dr Forbes Ross's letter really includes any answer to the strictures passed on my communication in Dr Forbes Ross's letter in THE LANCET of July 12th (p 110), so that I will not ask for space to deny the interpretation placed upon "spare diet" by him I may, however, point out (doubtless by a printer's error) that I am made to have 30 years' experience, whereas in my letter I wrote 20 years I have only been qualified 24 years, which makes me anxious at once to point out the mistake. I am, Sirs, yours faithfully,

Manchester square, W, July 13th 1902 THOMAS DUTTON

"THE ELEMENTS OF MIND"

To the Editors of THE LANCET

SIRS,—Your reviewer, after enumerating my claim to having made discoveries with regard to mind, life, the deity, and the atomic theory, says the study of such books "is weariness of the flesh It is also entirely unprofitable" Why unprofitable? *Is not* the knowledge of the composition of life a thing worth striving after? And would not a medical man be in a better position to cure the ills of life if he were better acquainted with what life really is? The question is Are my hypotheses with regard to the phenomena above mentioned sound? That I have produced both a definite and a new theory is accepted by all those—and there are many highly qualified to judge—who have studied my book sufficiently to grasp its meaning

I am, Sirs, yours faithfully,

Radnor place W, July 14th 1902. H. JAMYN BROOKS.

HORSE-DUNG IN LONDON STREETS

To the Editors of THE LANCET

SIRS,—In your issue of to day one of your annotations deals with the question of horse dung in London streets, and as a remedy you propose "some light form of mechanical scavenger" This undoubtedly would be of use. But surely the essential principle of sanitation must be prevention rather than cure, and in this instance the possibility of prevention has recently arisen in the legalisation and steadily increasing use of motor cars The horse, like the privy-midden, is a nuisance, and the ideal before the medical profession for the alleviation of this nuisance, as well as before the public for the improvement of their traffic is that by degrees the horse should be entirely ousted from the larger towns and his place taken by steam, oil, and electricity I trust that the medical profession and the medical press will do all that is in their power to promote this object, and bodies like the Betterment of London Association, whose aims have been just laid before your readers by its president, Sir W B Richmond, as well as the statutory sanitary authorities, should lay this object down as one of the most useful and practicable of their propaganda By removal of all obstacles to the use of motors, by stimulation of mechanical research and of the practical industry concerned in the development of motor cars, and by a system of licensing and heavy taxation of all horses employed in large towns this ideal is within our reach The horse is no longer a necessity, to its owner he is a luxury, and to the public he is a nuisance.—I am, Sirs, yours faithfully,

FRANCIS E FREMANTLE, M B Oxon,
M R C P Lond.,
Medical Officer of Health for the County of Hertford.

St Bartholomew's Hospital, E C, July 11th, 1902

THE LOCALLY ENGAGED CIVIL SURGEONS AND THE SOUTH AFRICAN WAR

To the Editors of THE LANCET

SIRS,—May I venture to give publicity through your columns to what is felt as a grievance by the pretty considerable number of "locally engaged civil surgeons" who have served during the war, some of them from the very commencement? The grievance is that they have been entirely passed over in the successive distributions of honours R.A.M C, of course, have had their share Medical officers in the irregular and volunteer corps have not been forgotten. English civil surgeons have been honoured in the person of at least one of their number The consulting surgeons, quite rightly, have received high distinctions Not a single decoration has been given to one of the "locally engaged" class Now these men have, in most instances, been doing exactly the same work as the irregulars and the English civil surgeons, at the same pay as the latter, at less than most of the former Many of them, at the call of patriotism, abandoned good practices when the authorities were at their wits' end to get men in the dark days of the beginning of the war Why should the fact that of two South African practitioners, one becoming a surgeon captain in an irregular corps or the C M S C and the other taking up exactly the same work without stars or rank, make such a difference? A single C M G given to one of their number would do much to allay the feeling that a deserving class of men have been badly treated

I am, Sirs, yours faithfully,

Capetown June 24th, 1902 EX CIVIL SURGEON

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

The Rebuilding of the Infirmary

A MEETING of the Manchester corporation special committee *re* the Royal Infirmary was held on July 7th, when it was by no means unanimous in its approval of the project for rebuilding on the present site There was a long discussion, but no resolution was arrived at as it was considered undesirable that the corporation should take any action before the meeting of the trustees Letters also appear in the papers criticising the scheme as to various points, such as the dise of the greatly increasing traffic, the vitiated atmosphere, nd the encroachment on the open space round the building is by no means certain that the trustees will approve of building in Piccadilly One suggestion is that the corpora on should sell the Art Gallery and Free Library and urchase the infirmary site. This, however is not a new ne. Perhaps the only new one is that the infirmary should e removed to Heaton Park, but the distance renders this reposterous Among many there is a leaning to the tanley-grove site, probably the best available. It would be ree from many of the obvious objections to the Piccadilly ite and would not be too far from the centre of the city

Small-pox at Nantwich Hospital

Our national slackness as regards vaccination is con nually being followed by its natural consequences Two ases of small pox have occurred at Nantwich workhouse nd on the second case being removed from the workhouse ospital to the urban council's temporary hospital at Ravens-moor a letter was sent to the board of guardians by the lerk to the council pointing out that the man was conveyed hither without the authority of the urban council and that hough the council wished to assist the guardians as far as hey could the accommodation was very limited and they vould not be able to take any more patients On this eing read at the meeting of the guardians one of he members made the rather serious statement that the wo patients were housed in two insanitary houses which vere dilapidated to an unfortunate degree, and life for the un ortunate nurses in charge of the place was hardly bearable." Dr T D R. Munro the medical officer of health, said that he first patient was removed to Ravensmoor by arrangement vith the urban council and he thought the best thing was lone when the second patient was taken there. He asked he guardians what provision they intended to make in the vent of a further outbreak. After considerable discussion he medical officer and the master were empowered to make rovision and were directed to apply to the urban council or permission to erect a tent on land adjoining the hospital t Ravensmoor and the clerk was instructed to call a pecial meeting to consider the matter further At a meeting of the urban council held on July 11th the tatements as to the insanitary state of the temporary hospital were contradicted by Dr Munro who said that the premises were sweet and clean and sufficient up to the present, while the surroundings were quite healthy The nurses had complained of the presence of mice and a few rats had been seen but they had not complained of the condition of the premises. All this illustrates the old adage as to one story being good till the other version is told. It looks as if a little common sense and the presence of a good cat would soon improve matters. With the strong evidence of the distance to which the infection can be carried the difficulties of providing accommodation for cases of small pox without endangering the people in the neigh bourhood are greatly increased The proposal to establish a small pox hospital meets with the strongest local opposition, naturally enough but it may happily perhaps give the inhabitants a strong inducement to welcome vaccination and revaccination The prevalence of this disease is a national humiliation, from which we should be freed in spite of the clamour of the small minority of sincere but ignorant fanatics

A Lady Sanitary Insp ctor at Hyde

At the meeting of the Hyde Council, held yesterday two additional sanitary inspectors were appointed one of them being a woman The chairman of the sanitary committee said that the female inspector would devote most of her time to the endeavour by various means to le sen the infant mor tality of the borough which in recent years has been very high Judging by the good work done by the health women' employed under the supervision of Dr J Niven in Manchester this is a step to be strongly commended The ignorance of the young mothers of the working class and the mill hands of our cotton towns as to the treatment of infants is something almost incredible and can be dealt with far more successfully by a sympathetic and intelligent woman than by a man.

Railway Servants Ambulance Instruction.

Ambulance work is popular among the railway servants of Manchester classes having been organised at many of the local railway centres one recently formed being in connexion with the Great Central Company at Ardwick Station. A course of lectures and experimental teaching have been given by Mr R. H Wright of Ardwick and 24 members of the class recently presented themselves for examination all being successful

July 15th

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Small-pox

THE epidemic of small pox at Swansea is assuming alarm ing proportions, 43 cases having been notified during the week ending July 12th on which date there were 51 patients under treatment in the small pox hospital. The population of Swansea is under 100 000 The medical officer of health (Mr Ebenezer Davies) appears to be of opinion that there is some connexion between the sudden increase in the number of cases and the crowding of the town at the time of the carnival which was held in Coronation week This view is probably correct, but there can be no doubt also that the health department of the corporation has been considerably handicapped by the evident desire of some persons in the town to minimise the serious character of the epidemic. Although such action was probably well intentioned it pos sibly had the effect of lessening the number of persons who sought revaccination as well as of engendering among the inhabitants a spirit of indifference towards the disease. Mr Davies has suggested that the board of guardians should approach the employers of labour with a view to having their workpeople revaccinated and the board has decided in addition to open more vaccination stations though it is to be regretted that the public vaccinators are to be asked to accept reduced fees Although up to the present time the accommodation at the small pox hospital has proved to be adequate to the needs of the outbreak it is probable that it will soon be overtaxed even with the additional temporary block which it is proposed to erect at once. For many years the corporation has been urged to erect a permanent isolation hospital, but from mistaken motives of economy it has neglected to do so and is now suffering for that neglect. The county assize is held alternately at Cardiff and at Swansea, and the next assize should commence at Swansea on July 28th but Mr Justice Ridley after obtaining information from the under sheriff communicated the circumstances to the Lord Chancellor with the result that it has been decided to hold the assize at Cardiff On July 8th a case of small pox was discovered at Bridgend the patient being a showman who had been in Swansea up to June 23rd and on the following day a second case was reported, the patient in this instance having recently visited Swansea Both men were removed to the small pox hospital At Brecon there have been during the past month eight cases of small pox one of which has terminated fatally All the patients were treated in the small pox hospital There has been one case of small pox at Pontardulais near Swansea the patient, a tin worker was removed to the Neath small pox hospital on July 13th. The volunteers from Brecon and from Swansea will not go into camp on Salisbury Plain owing to the presence of small pox in their district

Insanity in Glamorganshire

The two county asylums at Bridgend have accommodation for 1700 patients and serve the whole of Glamorganshire, where there was a population in 1901 of 860 800 persons In the year 1898 the corporation of Cardiff decided to build an asylum exclusively for Cardiff lunatics and plans have been prepared for an institution to accommodate 700 patients. The cost is estimated at £247 000 exclusive of the site, the boundary wall and furnishing a sum equal to £353 per bed but the administrative accommodation is sufficient for an additional 500 patients. This asylum is expected to be completed by the end of March 1904 until which date the corporation has the right to send 430 patients to the county asylums. In the report for 1901 of Dr Henry T Pringle, the medical superintendent of the county asylums he states that the proportion of pauper lunatics in Glamorganshire has increa ed from 159 per 100 000 of the population in 1891 to 318 per 100 000 in 1901. In the whole of England and Wales the increase in the same period was from 208 to 302 per 100 000 There are eight Poor-law unions in the county and in two only Merthyr and Pontardawe has there been any decrease in the proportionate amount of lunacy during the 10 years The cost of maintenance at the Bridgend asylums was 9*s* 4*d* per patient weekly, the recovery rate was 32 5 per cent. on the admissions, and the death rate was 9 8 per cent of the average number of patients resident during the year Dr Pringle deplores the fact that one fourth of the cases admitted should be due to a preventable cause—intemperance in drink—and he considers that it is disappointing that education seems to do so little towards the building up of character or the promotion of self control

Death of Mr Patrick Alexander Kelly, L R C P Edin , L R C S Irel

Mr P A Kelly, whose death occurred at Barry on July 11th after only a few days' illness, was attached to the French ambulance service in the Franco Prussian war of 1870 On the termination of the war he qualified in Dublin and in Edinburgh and subsequently practised in South Africa, where he was a justice of the peace. On returning to England he came to Barry in 1891, where he established a lucrative practice He took a prominent part in local affairs and the regard in which he was held by his fellow practitioners is shown by their electing him as their representative on the hospital committee of the district council He leaves a widow and six children

Vaccination in the West of England

At the meeting of the St Austell (Cornwall) board of guardians held on July 11th it was reported that the charges recently made against two of the public vaccinators of the union had been fully investigated by a committee appointed for the purpose which had found that the charges made in reference to one of the gentlemen were so trivial that it was not necessary to take any action In regard to the other official he had admitted various inaccuracies in the register whereby the claim of £57 was reduced to £47 These inaccuracies, he stated, were due to inadvertencies and carelessness, but the committee did not regard his explanation as satisfactory and recommended that he should be reprimanded and cautioned as to his future conduct as public vaccinator A letter was read from the public vaccinator referred to, expressing deep regret, willingness to forego the whole of the past quarter's vaccination fees, and a desire to earn back the confidence of the board The guardians after some discussion adopted the recommendation of the committee

Dorchester and Sir Frederick Treves

At the meeting of the Dorchester town council held on July 8th it was unanimously resolved that a vote of congratulation should be forwarded to Sir Frederick Treves on his elevation to the baronetage Sir Frederick Treves is a native of Dorchester and was recently presented with the freedom of the borough Mr W B Cosens, who seconded the proposal, said that he had received a communication from Sir Frederick Treves stating that he had chosen to be known as "Sir Frederick Treves of Dorchester," an announcement which was received with great applause

July 14th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Death of Mr Joseph McNinch, M D R U I

I REGRET to announce the death of Dr Joseph McNinch, which took place at his residence, Larne, co Antrim, on July 3rd, from acute pneumonia, after a very brief illness. A member of a well known Larne family, where his ancestors had lived for several generations, Dr McNinch studied at Queen's College, Belfast, and graduated as M D of the Royal University of Ireland in 1883 Returning to his birth place he practised in Larne and enjoyed a large *clientèle* until a few years ago, when owing to failing health he was not able to do so much work. He was consulting medical officer of the urban district of Larne and his decease at a comparatively early age is a matter of deep regret He was buried on July 5th at Kilwaughter Cemetery, near Larne He leaves a widow and three children to mourn their loss

Presentation to Dr John Campbell

On July 7th, in the Samaritan Hospital, Belfast, Dr John Campbell, surgeon to that institution, was presented on the occasion of his marriage with a silver tea and coffee service by the committee, matron, and nurses of the Samaritan Hospital as a token of gratitude for his unfailing kindness and attention. Many members of the medical profession, on the invitation of the committee of the hospital, were present

Anahilt Dispensary District

Dr David Clarke Campbell has been appointed medica officer of the Anahilt Dispensary district by the Lisbur board of guardians in place of the late Dr W Thomson

Death of Mr William Warwick, M D Aberd , M R C S Eng

One of the oldest medical practitioners in Belfast, Dr W Warwick, died at his residence in that city o July 10th, at the advanced age of 76 years, surrounded b all the members of his family Obtaining the M R C S Eng in 1851 and the M D of King's College, Aberdeen, in 1860 Dr Warwick was for over 50 years a medical practitioner i Belfast where he enjoyed an extensive practice. The deceased was most kindly and genial and of rather a retiring disposition, declining on several occasions invitations to join the City Corporation of Belfast and refusing the offer of the Commission of the Peace for the city He leaves two sons and one daughter (married to Dr E C Bigger, Local Government Board medical inspector) to mourn their loss

July 15th

PARIS

(FROM OUR OWN CORRESPONDENT)

The New Maternity Hospital

M MOURIER, the director of the Assistance Publique contrived matters so that the new Maternity Hospital should be opened on June 28th which was the centenary of the School of Obstetrics The new buildings have been erected under the superintendence of the architect of the new Academy of Medicine The building consists of three blocks united by a large central gallery The plan is that elaborated by Professor Budin in 1897 The first block is for new admissions, the second for women in labour, and the third for women during the puerperium In the first block the new arrivals are put through a vigorous cleansing process and they are not allowed to pass out until the latest hygienic regulations have been duly attended to In the second block is the lying in ward, with 10 beds , it is of ample size and is beautifully lighted Here at least 3600 cases of labour per annum will be taken in hand and here the pupil midwives will undergo the practical instruction which is the necessary complement of their theoretical training Every pupil will in turn be on duty for 24 hours All the appointments of the ward are in the latest fashion and there are facilities for sterilising instruments and a plentiful supply of sterilised water both hot and cold The pupils will take their meals in the basement of this block, which is well lighted and airy, so that there may be no excuse for leaving their patients for any length of time In this block, also, is a theatre for lectures and operations In the third block are four large wards for women who have been confined, containing in all 72 beds One ward with 16 beds is for patients requiring particular care and there are also one or two private rooms for patients who for one cause or another do not wish to be seen The Tarnier ward for patients who have to be isolated has 10 beds only and is, together with its operating theatre and nursing staff cut off from the rest of the building The nurses have separate rooms which are comfortably furnished and so have the midwives The buildings are lighted throughout by electricity and the cost is 800,000 francs

The New Cochin Hospital

On July 3rd two new medical blocks were opened at the Cochin Hospital They are named after Claude Bernard and Potain respectively These buildings are the commencement of the total reconstruction of the hospital, which will be carried through as soon as funds permit. A large portion of the present buildings consists of wooden erections which were provisionally put up at the time of the war of 1870 They did well enough on an emergency but as permanent buildings they were most unsuitable, the patients suffering extremes of heat and cold, to say nothing of the buildings being infested by rats and fleas The patients will be moved into the new buildings as soon as possible. The

Claude Bernard block is made up of four wards well lighted and looking on to pretty gardens. Everything is constructed with a view to being easily kept clean. There is, moreover an amusement ward in which the walls are hung with water-colours while the games provided include draughts, lotto, and dominoes. In the ward superintendent's rooms are the poisons used—all kept in special bottles The night stools for the patients are made of painted iron and have a moveable seat which can be easily cleaned They are fitted with an attachment for a table at which the patient can eat or write in bed Plates, forks, and spoons are made of aluminium as also are the tumblers. These last-named were formerly of glass and the substitution of aluminium will effect a great saving for an enormous number used to be broken every year The arrangements for the disposal of dirty linen are excellent and there is a plentiful supply of hot water The Potain block at present consists of only one ward intended for female patients The cost of the Claude Bernard block was 400 000 francs of which 40 000 were expended on the foundations.

The Clinical Chair of Syphilis and Dermatology

The Council of the Faculty of Medicine, which has been asked to nominate a candidate for the Clinical Chair of Syphilis and Dermatology vacant, by the retirement of Professor Fournier has decided at a meeting of 36 members, by 17 to 16 votes, to send up the name of Dr Gaucher Dr Gaucher whose name has thus been submitted to the Minister concerned, is *agrégé en exercice* and physician to the St. Antoine Hospital. The 16 votes were given to M. Hallopeau who is *agrégé libre* and physician to the St Louis Hospital Three professors did not vote.

July 16th

BERLIN

(FROM OUR OWN CORRESPONDENT.)

The Illness of King Edward VII

THE news of the postponement of the coronation and of King Edward's illness was received in Berlin with great concern. The Berlin daily papers have published detailed telegraphic accounts of the case and discussed the probable course of the illness and effects of the operation Sir Frederick Treves's lecture on appendicitis which was published in THE LANCET of June 28th was translated literally by two of the leading Berlin daily journals and paragraphs from THE LANCET and the *British Medical Journal* concerning the King's illness have been frequently quoted recently in the Berlin daily papers Portraits and biographies of the King's medical attendants especially of Sir Frederick Treves (who is invariably described as "Sir Treves") and of Lord Lister were inserted in the illustrated papers and Lord Lister is generally referred to with great respect as the founder of modern surgery

The Centralisation of Nursing

The number of trained nurses has considerably increased lately 30 years ago there were scarcely any trained nurses in Berlin apart from those employed in the hospitals. Nursing at home was mostly done by untrained people or by members of religious bodies especially by the Sisters of St. Elizabeth commonly called the Grey Sisters. Nursing at that time was of course, an easy task chiefly consisting in the administration of medicine and in the preparation of food Nowadays in the era of physical treatment, when hydro-therapeutic measures massage, dietetic, and other cures are prevailing nursing is an art and has become more and more the domain of a special profession—i.e. of the trained nurse. This class now includes a lot of people some of whom belong to the religious or other associations some to institutions based on the coöperative system, and others who are quite independent Notwithstanding the great number of nurses and male attendants it is often difficult to obtain the services of one especially when the case is urgent and the help of a nurse is required at once. At times when influenza, scarlet fever &c. prevail the family medical man may telephone to a dozen institutions without being able to procure a nurse Especially is this the case where the institution has a good reputation, although nurses belonging to other institutions may still be disengaged. To avoid this inconvenience the editor of the *Deutsche Medicinische Wochenschrift* Dr Schwalbe, proposes to organise the nursing profession by instituting a central office where the public and medical men may be able to learn at any moment when nurses are temporarily unemployed. In the central office a register is to be kept where the names of all nurses whether they belong to religious or other institutions or not, are to be booked The managers or matrons of such institutions will have to inform the office every morning as to the number of nurses unemployed and to correct their statements by telephone at once when during the day a nurse has been called to a patient or has returned, any person desiring a nurse will then only have to apply to the central office. If a nurse of a certain corporation or a particular private nurse is required the office will then be able to say whether the desired nurse is available or which other nurse can be supplied A good deal of time and trouble may be saved in this way Dr Schwalbe further indicates other advantages of the system—namely that it will exercise some sort of control over the so-called "free" nurses who do not belong to any corporation These nurses, as well as nearly all the male attendants, are not under the control of a matron or a managing board and therefore though the majority are as respectable as the nurses of the corporations they may include persons of a low moral or professional standard Hitherto if such persons have neglected their duties or have behaved in an unfair way it has been very difficult to make this known to the public. When dismissed by one family they have had every chance of being employed by another on the next day it having been very unlikely that in a big place like Berlin their misdeeds would become known. Henceforth when a patient has reason to complain of a "free" nurse he will only have to inform the central office and the nurse's name will then be removed from the register Dr Schwalbe further proposes that the central office for nurses shall be in connexion with the First Aid Society This society apart from its other undertakings, has instituted an office provided with a special telephonic system whereby the public may get information at any hour of the day or night as to the number of beds at disposal in all the hospitals of Berlin and its suburbs As this office works perfectly well and is very popular the public will probably not hesitate to apply to it for nurses The First Aid Society being under medical patronage bribery and other unfair methods of the nurses to get employment will be prevented The managing board of the First Aid Society is said to agree with Dr Schwalbe's proposals. Berlin will thus be the first town to establish a central organisation including every branch of nursing

First Aid in Railway Accidents

A remarkable improvement of the accident service in the Prussian State railways has now taken place by order of the Minister of Public Works Lately there have been several instances of railway disasters where, medical aid and dressing material have not been available within a reasonable time owing to the delay in providing the necessary material and conveying it to the place of the accident. The medical men residing in the neighbourhood of the accident could thus not do very much for the immediate relief of the wounded, especially when the accident happened at some distance from a station or town whence the necessary material could be obtained The new regulations regarding railway accidents on the State railways (which include nearly 90 per cent. of the railways in general) order that in 77 stations wagons must be kept ready which are specially furnished with everything necessary for the relief of a large number of injured people. A model wagon was lately shown to a meeting of railway officials and medical men. According to a description by Dr Brähmer one of the medical officers of the State railways published by the *Aerztliche Sachverständigen Zeitung* the wagons consist of two compartments separated from each other by a wooden partition The first room is intended for dressings and urgent operations the other for the accommodation of the injured The wagon is provided with apparatus for hot water heating and ventilation, and is lighted by acetylene gas. In the dressing room there are an operating table 1 70 metres long and 0 70 broad a wash stand for the medical men, cabinets for instruments and dressing material an ice safe a steriliser and other apparatus The instruments include of course only those necessary for first aid and very urgent operations and not those for amputations and most major operations as it has been proved by careful inquiry that a well furnished hospital may be reached from any railway station within from an hour to one and a half hours The second room of the carriage contains eight stretchers for those seriously wounded and four chairs for the slightly hurt, besides a number of woollen covers, so that at least 12 disabled people may be conveyed by the wagon. The medical officers of the railways are instructed to supervise the wagons, to keep the instruments and other appliances in good order, and in case of need to see to their renewal. In the stations where the wagons are kept a number of railway servants are to be trained in first aid, and they will have to accompany the wagons when they are required, together with the railway medical officer on duty

July 14th

NEW YORK

(FROM OUR OWN CORRESPONDENT)

A Naval Medical School

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Bacteriological Laboratory of the United States Marine Hospital Service

Preparations are in progress for the erection of a bacteriological laboratory in Washington, D C, under the control of the Marine Hospital Service. By an Act of Congress $35,000 have been appropriated for this purpose, together with five acres of ground, being a part of the reservation now occupied by the Naval Museum of Hygiene which will be the site Heretofore experimental research has been carried on with much difficulty on the top floor of the building devoted to the administration of the Marine Hospital Service, all this work will be done in the future in the new laboratory Very wisely, the plans for the building are so drawn as to provide for future expansion, and the appropriation just made will be used for the erection of a part only of the proposed building In view of the probable expansion of its powers into a national bureau of public health, laboratory facilities such as are planned will be quite necessary to carry on properly the work of the Marine Hospital Service.

Results of Compulsory Vaccination in Porto Rico

Dr Azel Ames, commanding the United States Vaccine Corps and director of the Vaccination Department, Porto Rico, has made an interesting report on the results of vaccination in that island. In October, 1898, small pox was endemic in Porto Rico, in December it was epidemic, in January, 1899, it had "honeycombed" the island, by February there were over 3000 recent cases and the disease was spreading at a gallop In February systematic compulsory vaccination, carefully and scientifically conducted and recorded was begun simultaneousl, and with pretty equal efficiency in all parts of the island It was vigorously prosecuted for four months only, till July 1st, when 860 000 vaccinations had been made in a population of about 960,000 Of this number 87 5 per cent. were successful. The work then ceased because completed, the disease had practically disappeared, the fuel for it to feed upon had been consumed by the "head fire" of vaccination. In the two and a half years that have since passed, instead of the former annual average death rate of 621, the mortality from small pox has been but two per annum in a population of nearly a million Summing up his experience Dr Ames notes that the very remarkable and carefully recorded experiment determined conclusively several basic facts as to vaccine lymph and its use—viz. First, that vaccine lymph, especially when glycerinated and in tubes, will not retain its efficacy when exposed, even very briefly and without great variation of temperature, to change from a temperate to a tropical climate Though the reason does not appear the fact cannot be disputed and all countries in the tropical zone should produce their own virus, if so fortunate as to start a "stock." Second, that given virile initial lymph and good cattle the very best of lymph can be produced by practically the same methods in the tropics as in colder countries, provided care is taken to protect it as soon as taken and until used from alternations of temperature. Third, that the glycerinated virus has nothing to recommend it for tropical use, if it has anywhere, and that glass tubes are worse than useless Fourth, that a good, carefully kept virus has in the tropics equal if not greater activity and efficacy than that in northern latitudes, though it ought not to be kept as long Fifth, that it is much better in hot countries especially to confine the vaccination upon animals for virus to a definite number (say 20) of abrasions on each side rather than to make linear incisions and secure thereby many lines of vesicles In the first place the specific fever created is too great and is most undesirable, while the ravages of the screw worm, if it effects a lodgment in such extensive incisions, are difficult to manage Sixth, that in field work nothing is so good with which to vaccinate an animal as the ivory point, the tube being useless, and nothing is so good with which to take virus Surely nothing is so serviceable for the vaccination of the people or practicable in a hot country Seventh, there is every warrant for positively asserting that although syphilis, tuberculosis, elephantiasis, and tetanus are common in Porto Rico, in no case has it followed that any of them, or any other disease, bovine or human, was imparted to an individual by the process of vaccination With tetanus so common in the island that 818 cases occurred in seven months of 1900-1901, a single case only (in an infant) occurred after vaccination in 860,000 vaccinations and this, of course, would have occurred as readily with any abrasion

July 7th.

AUSTRALIA

(FROM OUR OWN CORRESPONDENT)

The Plague

THE bubonic plague seems to be on the wane In Sydney the authorities are hopeful that the epidemic is practically stamped out. No case has been reported for over a fortnight from fresh areas, but a few have occurred in infected ones. The health officer of the city of Sydney, Dr W G Armstrong reported to the health committee early in the month that the cleansing operations were nearly completed, the disinfected portions constituting a broad belt running through the city from north to south and including all the parts which have been shown by the occurrence of plague, either among human beings or rats, to be infected Dr Armstrong advised that the number of men employed in cleansing operations might be reduced and a few gangs retained to deal with isolated areas Rat catching is to be carried on and inspection and prosecution of householders and property owners for sanitary shortcomings will be continued, in spite of protests by citizens as to the summary methods employed In Brisbane conditions are not so satisfactory Fresh cases continue to be reported, though not to the same extent. Among the victims were the Government medical officer, Mr O J H Wray, and Dr MacLean, resident medical officer, Brisbane Hospital Mr Wray it is supposed contracted the disease through making a post-mortem examination of a plague patient. Unfortunately, his case proved very severe and ultimately fatal Dr. MacLean caught the disease from examining a patient who died from plague at the hospital gates He has recovered from the attack and is convalescent Up to date 136 cases of plague with 36 deaths have occurred in New South Wales, and 77 cases with 23 deaths in Queensland In Western Australia several cases have occurred at Fremantle with two deaths Melbourne and Adelaide remain free.

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A special meeting of the Friendly Societies Association of New South Wales was held early in June to consider a letter from the New South Wales Branch of the British Medical Association *re* a conference between the two associations. The letter declined a conference as useless the British Medical Association considering that the Australian Natives Association was not a legitimate friendly society It was then moved that—

> The Australian Natives Association be asked to retire from the Friendly Societies Association as their aims and objects are detrimental to this association.

After some discussion, in which several members expressed approval of the motion and said that the Australian Natives Association were trying to enlist the support of working men for political purposes the motion was ruled out of order as it had not been placed on the notice paper —The forty fifth session of the grand annual moveable committee of the Independent Order of Oddfellows Manchester Unity was held in Sydney at the beginning of May The report of the delegates to the Friendly Societies Association was read and a motion was submitted that the Manchester Unity Association withdraw from the Friendly Societies Association Much discussion ensued chiefly with regard to the Australian Natives Association and its dispute with the British Medical Association. Finally the motion was lost. The following recommendation from the Inter state conference of representatives of the Order was approved

> That it is desirable wherever population in any centre will admit to establish medical institutes and dispensaries, either alone or in combination with kindred societies whereby medical men may be directly employed and medicines dispensed under the supervision of the societies.

It was thought that such action would overcome the difficulties with the British Medical Association. The President of the Friendly Societies Association was also accorded a hearing He said that one of the dangers ahead of the institution was the dispute between societies and the British Medical Association As grand secretary of one lodge and president of the Friendly Societies Association he was in receipt of frequent communications from secretaries of suburban and country lodges, to the effect that medical men in country towns were opposed to the admission of men who were in receipt of over £200 per year He would like to point out that if the British Medical Association were to become masters of the situation and they introduced the wage limit it simply meant that the friendly societies would descend into working men s benefit societies instead of representative institutions.—At the annual session of the grand council of the Protestant Alliance Friendly Society a lengthy discussion took place concerning the attendance of medical officers on members recuperating in the country Cases occurred where a member was ordered into the country by a lodge medical officer in the metropolis, and then the medical officer of the local lodge in the country would refuse to attend him. No conclusion was reached on the general question but in a specific case a motion was carried that a medical man at Newcastle be requested to put the name of a member of the metropolitan lodge on his list. —At the last meeting of the Balmain United Friendly Societies Dispensary Dr Calder was appointed medical officer A representative of the Australian Natives Association was present and referred to the trouble with the British Medical Association. It was pointed out that other lodges kept faith with their medical men, the Australian Natives Association did not. It was decided that an endeavour should be made to bring about a conference between the British Medical Association and the Australian Natives Association. This dispensary has over 3000 members on its books.

A Hospital for Consumption for Sydney

On May 16th a deputation of members of the medical profession waited upon the Treasurer of the State of New South Wales to urge the Government to take action in connexion with a hospital for consumption and especially to grant a site for the buildings. It was pointed out that some months ago a meeting was held at the Sydney town hall and one of the resolutions passed was That the medical profession should ask the treasurer to place a sum on the estimates for providing a consumption hospital." The honorary treasurer (Mr Ser) promised to do so and also suggested certain sites and desired that the medical profession would inspect them and advise as to their suitability This had been done and a portion of Crown land, 50 acres in extent, at Hornsby was considered an eminently suitable site The deputation asked if the Government were prepared to grant this land for the purpose. The Treasurer said he would personally forward the matter He saw no difficulty with regard to the land and had no doubt that a sum would be placed in the estimates for the erection of the building This announcement led to the usual outcry by the residents of Hornsby against the erection of a hospital near them

Queen Victoria Home for Consumptives

At the last meeting of the executive committee of the Queen Victoria Home for Consumptives Dr M Intyre Sinclair was appointed resident medical officer of the new sanatorium at Wentworth. Dr Sinclair is M D of Glasgow and D P H of Cambridge and has been resident medical officer at an open air sanatorium in Gloucester Tenders were accepted for the erection of the new buildings at Wentworth at a cost of £2420.

Eye and Ear Hospital Melbourne

The committee of the Eye and Ear Hospital Melbourne is anxious to enlarge the building but has no available space. The committee has been trying to obtain a piece of ground adjoining and the property of the Metropolitan Board of Works The Premier was recently asked to induce the Board of Works to give up the site in exchange for another He intimated his willingness to assist, but the Board has to build offices on the site in question and such an erection would shut out light and air from the hospital.

Albury Hospital New South Wales

Mr M O Shaughnessy one of the paid medical officers of the Albury Hospital (New South Wales) lodged a complaint against Mr A. Andrews one of the honorary surgeons to the hospital and the Government medical officer of setting the rules at defiance and reflecting by inference on the capacity of the paid medical officers. Mr Andrews explained that he was instructed by the police to attend a patient in the hospital in his capacity of Government medical officer although it was against the rules and he said that in similar circumstances he would do the same. The committee resolved

That Mr Andrews be notified that his services as honorary surgeon were no longer required at the hospital," as he had deliberately set the rules at defiance

Death of Mr Robert Dalzell Ward M.R.C.S. Eng

Mr Robert Dalzell Ward was one of the oldest residents of North Sydney where he had lived for 50 years and where he died at the age of 83 years. He arrived in Sydney in April 1852, and settled at North Shore, where he was the first, and for some time the only medical practitioner He soon acquired a very lucrative practice and endeared himself to a large circle by his largeness of heart and active sympathy He was for many years a member of the New South Wales Medical Board.

June 10th.

Medical News.

UNIVERSITY OF GLASGOW —The following have passed the fourth (final) professional examination for the following degrees —

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M B Ch B.—William Kirkpatrick Anderson William Armitage, Robert James Arthur, †Alexander Grey Banks §James Campbell Bringan Margaret Elizabeth Bryson, *Angus Campbell, Robert Harold Campbell John Shedden Dale, Alexander Dick Donald Douglas M.A., Andrew Robertson Dow James Drummond §George Ferguson John Ferguson M.A., §Eric Dalrymple Gairdner William White George, John Miller Gordon John Guthrie John Andrew Hagerty §Ronald Dingwall Hodge John Brown Dalzell Hunter, Neil M'Coll Hutchison †Ernest David Jackson §George Rutherford Jeffrey §William Fletcher Kay John Kennedy *Andrew Miller Kerr §Robert Laurie Archibald Leitch Stanley Ferrand [illegible] Russell James Smith John Williamson Smith Robert Cassel Smith David Spence John Stevenson John Barbour Stewart Joseph Swinburn Townley §William Wagner Turner §Thomas

be reached from any railway station within from an hour to one and a half hours The second room of the carriage contains eight stretchers for those seriously wounded and four chairs for the slightly hurt, besides a number of woollen covers, so that at least 12 disabled people may be conveyed by the wagon. The medical officers of the railways are instructed to supervise the wagons, to keep the instruments and other appliances in good order, and in case of need to see to their renewal In the stations where the wagons are kept a number of railway servants are to be trained in first aid, and they will have to accompany the wagons when they are required, together with the railway medical officer on duty

July 14th

NEW YORK

(FROM OUR OWN CORRESPONDENT)

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Irby Wallace Alexander Brown Watt, †Joseph White, M.A., B Sc., and David Ashley Wilson

Passed with distinction—* in surgery and clinical surgery, practice of medicine and clinical medicine, and midwifery; † in surgery and clinical surgery and practice of medicine and clinical medicine ‡ in surgery and clinical surgery and midwifery; § in surgery and clinical surgery, ‖ in practice of medicine and clinical medicine, and ¶ in midwifery

University of Dublin Trinity College—At examinations held at the School of Physic, Trinity Term, the following candidates were successful —

Previous Medical Examination.

Botany and Zoology—Walter G M Anderson Edward O Stoney, Thomas J Cobbe, Robert B Wright, Alfred G Alexander, Charles T Atkinson Francis A Coppinger, Alexander L Otway, Crosbie Maurice B Talbot, John C P Beatty, Rev Thomas Brook, John W Tomb, Thomas H. Peyton, George E G Vickery Reginald Holmes, Edwin B Bate Harry Ff Johns, William Nicholson, Dudley F Torrens Thomas M Crawford, and Charles G Sherlock

Physics and Chemistry—Frank R Seymour Francis R Coppinger, Edward O Marks John D Sands, Thomas J Cobbe, Ralph S Oldham Theodore C Somerville, John W Tomb Henry D Woodroffe, Samuel G S Haughton, Gustav W Thompson Richard Connell Cecil Conyngham, John C P Beatty, Henry J Keane, Reginald Holmes, Robert B Jackson, James E MacFarlane, George E G Vickery Basil Brooke, George B M'Caul Thomas L. de Courcey Edward Gibbon Howard S Millar, Henry D Drennan, Thomas H Peyton, and Ernest C Phelan

The following prizes and scholarships have been awarded —

Prizes—Surgical travelling prize Charles A. K. Ball and special prize, Richard A Stoney

Scholarships—Anatomy and Institutes of Medicine James G Wallis (Trinity College scholarship), and John Cunningham (Stewart scholarship) Physics Chemistry, Botany and Zoology Francis O B Ellison Purser Medal in Institutes of Medicine: William J Powell Diploma in Public Health Part I Francis W Lamb

Foreign University Intelligence—*Madrid* Dr Sebastian Recaséns Gerol has been appointed to the chair of Midwifery and Gynæcology—*Munich* Dr von Kupffer, director of the Anatomical Institute, is retiring His successor will be Dr Bonnet of Greifswald, who was formerly for many years *privat docent* in Munich—*Vienna* Dr. Riehl of Leipsic has been appointed to the chair of Dermatology formerly held by the late Dr Kaposi.—*Würzburg* Professor A. von Kölliker is giving up part of his work which will be taken over by Dr Philipp Stöhr, the Professor of Anatomy

School of Medicine of the Royal Colleges, Edinburgh—At a meeting of the governing board of the School of Medicine of the Royal Colleges, Edinburgh, the secretary, Mr R N Ramsay, reported that the number of students attending the school during the winter session 1901–1902 was 1143, and during the summer session 1902 the number was 1148

University of Cambridge Long Vacation Courses, 1902—The work of the long vacation courses in pathology, public health, chemistry, and pharmacology was commenced on July 7th In the pathological department Professor G Sims Woodhead will lecture on general pathology, giving demonstrations on morbid anatomy from formalin and post mortem room specimens, while Mr T Strangeways Pigg will treat special pathology, Mr A. E Shipley animal parasites, especially those affecting man, and Dr G H F Nuttall the general and special bacteriology of infective disease Mr T Strangeways Pigg also lectures on clinical pathology for senior students only Mr J E. Purvis is giving demonstrations in elementary physical and meteorological principles and in laboratory practice in the chemical and microscopical examination of water, air, gases, foods, disinfectants &c. This course is suitable to the requirements of the Diploma in Public Health and will be given in the University chemical laboratory Professor Bradbury and Mr W E Dixon are giving a course of lectures and demonstrations in pharmacology

The Coronation Bazaar—The hospitals which minister to the needs of the sick and suffering poor of the metropolis have always been sure of Royal sympathy in their endeavours, and, as our readers well know, Her Majesty the Queen takes a special interest in hospitals for children It was, we are certain, with real pleasure that Queen Alexandra performed the inaugural ceremony at the Coronation Bazaar which was opened at the Royal Botanical Gardens on July 10th in aid of the Hospital for Sick Children, Great Ormond street, W C The weather was not at all kindly, but despite this fact large crowds assembled along the line of route from Buckingham Palace in order to gain a glimpse of the Queen and the other Royal personages [illegible] her to the bazaar The arrangement of the stalls [illegible] pretty and novel. In place of the tawdry draperies [illegible] are usually associated with affairs of this kind stalls [illegible] erected of green lattice work covered with creepers a roses, a scheme which was quite in keeping with t grounds in which the bazaar was held. A [illegible] was present and in addition to most of the leaders of socie were to be seen the faces of many well-known [illegible] and Americans, including some of the Indian [illegible] who are on a visit to this country. On her arrival [illegible] the bazaar the Queen was presented with a [illegible] of orchids by Miss Joan Lucas, [illegible] chairman of the hospital, and [illegible] than an hour in walking round the stalls and [illegible] various purchases the Royal party, which included [illegible] Victoria, Princess Christian and her daughter, Prince Henry of Battenberg, the Duke and Duchess of [illegible] naught with Princess Margaret of Connaught, the Du and Duchess of Aosta, and Prince and Princess Charles [illegible] Denmark, left the grounds Various entertainments were [illegible] progress during the three days on which the bazaar was he and several prominent members of the theatrical [illegible] gave their assistance. We understand that the hospit will benefit by a very large amount, but as the proceeds fro all the stalls have not yet been sent in it is impossible [illegible] give the exact figures

Joint Small-pox Hospitals—It is very nece sary that all towns and urban districts should be prepare to treat by efficient isolation the first case of small pox may arise in their midst. It is unnecessary to state th the majority of districts are not prepared with a suitab hospital that complies with the requirements of the Loc Government Board, and those that are so provided, or consol themselves by thinking that they are, have an old [illegible] mansion or a dilapidated wooden structure without prop and efficient sanitary arrangements and not far enoug removed from inhabited houses. To remedy this state matters Mr E Sergeant, the medical officer of health to th county council of Lancashire, has interviewed a number the urban district councils in his district, afterwards summon ing a conference of representatives of these bodies whic could conveniently combine for isolation purposes Th meeting took place in Wigan on July 10th and was we attended Mr R. Sophton, chairman of the health com mittee of the Lancashire County Council, presided, an was supported by several members of the committee. M Sergeant pointed out the necessity for early isolation the first case, he stated that the presence of the diseas within half a mile of a populous community was a sourc of danger and he mentioned the requirements of the Loc Government Board in regard to the situation of a small-po hospital He pointed out the desirability of authoritie combining for small pox purposes. In this way, he stated economy was secured for each authority as they would pa much less towards the initial structural charges and the was a reduction in the annual cost of maintenance, &c Efficiency also was secured, for a larger number of beds woul always be available for the wants of each district than coul reasonably be provided individually Then the security having the provision would be worth all the establishmen charges The proposed hospital area was comprised withi a radius of 10 miles and the population was 222,937 in th administrative county and with the county borough Wigan it was 283 701. For this 40 beds would be sufficien in the first instance, with provision for extension. Th cost exclusive of land would be £20,000 and the up-kee when not occupied would be £500 per annum, and M Sergeant estimated that with money at 3¼ per cent it would take £1600 per annum, or less than ½d. i the £ on the assessable value of the whole district for the total expenditure and repayment of capita in 30 years with interest. A similarly combined distric exists at Elswick and it was stated that a penny per head the population per annum was ample for the purpose. A interesting discussion followed, but as the representative were only empowered to hear Mr Sergeant's views the promised to report to their authorities and the meeting wa adjourned to a date in August The [illegible] area suggested by Mr Sergeant, is a [illegible] tion purposes. The urban district [illegible] under the Isolation Hospitals Act, [illegible] an advantage for them to do so, [illegible] advantage also if the county borough of Wigan will join the combination.

IN Devonport dockyard men are in future to be employed only on condition that they are revaccinated

DONATIONS AND BEQUESTS —The Samaritan Free Hospital has received a grant of 30 guineas from the Corporation of the City of London

PRESENTATIONS TO MEDICAL MEN —At the meeting of the St. Austell board of guardians held on July 11th the guardians presented Mr William Mason, L.R.C.P L.R.C.S Edin. district medical officer with a marble and bronze clock and ornaments on the occasion of his marriage. The chairman (the Rev H. N Purcell) in making the presentation, said that the guardians regarded Mr Mason as an old friend and that he was known throughout the union for his kindness to the poor —Mr J E Richards, M R.C.S Eng L.R.C P Lond., assistant surgeon to the Pentoe collieries, has been presented with a gold watch and chain on the occasion of his leaving the district.

ST THOMAS'S HOSPITAL MEDICAL COLLEGE —The prizes gained by the students successful at the examinations held during the past winter session were distributed on July 10th by Sir Henry F Norbury K.C.B Director General of the Medical Department of the Royal Navy The chair was taken by Mr J G Wainwright J P treasurer of the hospital. Sir Henry Norbury subsequently referred to the question of the disposition of the medical officers on the eve of a naval action and considered that it might be advisable to leave a few on board the fighting ships and remove the others to the hospital ships who would return fresh after the fight. He acknowledged the deep debt of gratitude that the navy owed to St. Thomas's Hospital which had produced many distinguished naval men and he invited the attention of young medical men to the advantages of the Medical Department of the Royal Navy as a career among which he said were provision for the present and for old age, no working expenses and little or no nightwork.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Midwives Bill

THIS Bill has now passed through all its stages in the House of Lords and has been returned in its amended form to the House of Commons in order to be dealt with there.

Mine Accidents

The Home Secretary has decided to appoint a departmental committee to inquire into accidents in mines arising from the use of electricity

HOUSE OF COMMONS

THURSDAY JULY 10TH.

The Metropolitan Police Head-dress

Mr RITCHIE, in reply to Mr REGINALD LUCAS said that the question of supplying the Metropolitan Police with a special head-dress during very hot weather had been the subject of consideration on many occasions but it had not been found possible to provide a substitute for the helmet at present in use which would afford better protection both from heat and from blows.

Transport for Small-pox Cases in London

[illegible] transport; whether any estimate of the cost had been submitted by the ambulance committee or the Asylums Board; and whether, having regard to all the circumstances the Local Government Board would abstain from sanctioning these proposals until the councils of the metropolitan boroughs had been consulted —Mr LONG replied I have seen reports of the ambulance committee of the Metropolitan Asylum District bearing on these matters, but no proposals on the subject have been submitted to me by the managers As I understand no definite decision has been arrived at by them. In the event of any application being made to me for sanction to proposals of this kind I should not fail to give careful consideration to the various interests involved but until the proposals are before me I could not say what course I should adopt with regard to them.

The Employment of Children

Mr RITCHIE asked leave to introduce a Bill to make better provision for regulating the employment of children. He explained that the measure in the main embodied the recommendations made by the departmental committee which last year inquired into this subject. He had no hope of being able to get the Bill passed during the present session but he introduced it in order that those who were interested in the matter might ascertain and have an opportunity of studying the proposals of the Government Power was given to county councils and borough councils to regulate by by-laws the employment of children Of course those by laws would not apply to children already protected in their employment by the Factory Acts and the Mines Act. The making of the by-laws was entirely at the option of the councils but when made they would require the sanction of the Home Office before they could come into operation and the Home Office before giving its sanction would ascertain the local opinion with regard to the by laws It was proposed to prohibit the employment of children in carrying weights which were injurious to health and also in other occupations likely to be injurious to life limb, or health —Sir WALTER FOSTER congratulated the Home Secretary on having brought forward legislative proposals on this subject For some years he said children in this country had been employed in conditions conducive neither to health nor to morality

Leave was given and the Bill was introduced and formally read a first time.

Work in the Fruit preserving Trade

Mr TALBOT moved that the special order of the Secretary of State for the Home Department dated June 17th 1902, prescribing conditions for the fruit-preserving trade be annulled He explained that he made this motion in order to take exception to the sixth section only of the order which regulated the hours of girls under 16 years of age He submitted that the age limit should be 18 years.—Mr TENNANT said that he would rather see the whole order sacrificed than sanction this section under which young girls and women might be worked for 22 hours out of the 24 —Mr RITCHIE, in reply said that the order was applicable to the jam trade only in the fruit season of June July August and September and if the motion were adopted the industry would be carried on during the present season under no regulation whatever His right hon friend must remember that this was an entirely new departure and that before the Act of 1901 there was no limitation at all of the hours of labour in these factories. He had now made regulations both as to hours of labour and as to sanitation which he hoped would result in considerable improvement but he had felt bound to proceed tentatively in this matter He would point out that the order provided that a register must be kept in these factories which would be useful in showing whether at a later date the Home Office would be justified in making the rule more drastic. His right hon friend might feel certain that he would watch the operation of the order with the greatest care and would do his best at a future time to deal with any such scandals as those which he anticipated might possibly arise. He hoped he would not press his motion.—The motion was carried to a division and defeated by 63 against 76 votes.

FRIDAY JULY 11TH.

Enteric Fever among the Troops in South Africa

Sir WALTER FOSTER asked the Secretary of State for War whether he would state the total number of deaths from enteric fever amongst our troops in South Africa from Oct. 11th, 1899 to Oct 10th, 1900 the first year of the war; from Oct. 11th 1900 to Oct. 10th 1901, the second year of the war; and from Oct 11th 1901 to May 31st, 1902, when the war ended; and what had been the mortality from enteric fever per 1000 mean strength during these periods.—Mr BRODRICK replied: The statistics are as follows:—

	Deaths		Rate per 1000
Oct. 13th, 1899 to Oct. 12th 1900 ..	3774	.. ..	20 07
Oct. 13th 1900 to Oct 11th 1901 ..	2561	.. ..	10·63
Oct 12th, 1901, to May 30th 1902 ...	1656	...	6 84

London Water Question.

Sir M BHOWNAGGREE asked the President of the Local Government Board whether sub-clause 6 of Clause 15 of the London Water Bill which was inserted by the Joint Committee would have the effect of preventing any equalisation of water charges —Mr LONG replied, I think not The Water Board will acquire all the rights and powers of the several water companies and with a view to the equalisation of the water charges they will be able to alter within the limits prescribed by the Acts relating to any particular company the rates now charged by that company for the supply of water subject to this, that [illegible]

the Government, opposed the amendment arguing that the Water Board to be successful must have charge of the financial arrangement —After the amendment had been discussed at considerable length it was rejected by 192 against 101 votes

MONDAY JULY 14TH

Postmen and the Hot Weather

Mr ARTHUR LEE asked the Secretary to the Treasury as representing the Postmaster-General, whether he would consider the advisability of providing postmen with lighter clothing and head gear during the present hot weather —Mr AUSTEN CHAMBERLAIN replied: Postmen [illegible]

is necessary

The Preservatives Question.

Mr LAMBERT asked the President of the Local Government Board whether his attention had been called to a circular dated June 10th which had been issued by the sanitary authority of the borough of Eastbourne setting forth the recommendations of the Preservatives Committee and expressing the intention of that authority to act upon them whether seeing the division of opinion that existed as to the practicability of the adoption of those recommendations, he could issue a circular to public authorities recommending them to await the decision of the Government before adopting them as a basis of procedure and whether he could inform the House when he proposed to deal with the subject —Mr LONG replied I have seen a copy of the circular referred to in the question I am not at present in a position to make any statement as regards legislation on the subject of the report of the Preservatives Committee I have no power to require the adoption of any particular course by local authorities with respect to the enforcement of the law as to food adulteration and it does not appear that there would be any advantage in my issuing a circular as suggested

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office directed to the Sub-Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number*

BUZZARD E FARQUHAR M B Oxon M.R C P Lond has been appointed Pathologist to the National Hospital for the Paralysed and Epileptic.

CHALDECOTT JOHN HENRY L R C P Lond F F P S Glasg has been appointed Honorary Anæsthetist to the Italian Hospital Queen s square W C

CLAYTON T M M B B S Durh has been appointed Medical Officer of Health to the Gateshead Town Council

COATES W H M.B Durh has been appointed Public Analyst to the Withernsea Urban Council

GRINDROD J A M R C S Eng has been re-appointed Medical Officer of Health to the Horden Urban District Council

MURRAY J G, L R C P L R C S Edin L F P S Glasg, has been appointed Certifying Surgeon under the Factory Act for the Scarborough District

PRIDMORE JOHN WALTER M R C S L R C P Lond, has been appointed District Medical Officer and Public Vaccinator of the Ryde District of the Isle of Wight Union

SINCLAIR M M INTYRE M.D Glasg D P H Cantab has been appointed Resident Medical Officer to the Sydney New Sanatorium for Tuberculosis Wentworth Falls, Blue Mountains N S W

SLADER GEORGE BURGESS L R C S and L M Irel, L S A Lond, has been re-appointed Medical Officer of Health to the Gainsborough Rural District Council and Medical Superintendent of the Rural District Council s Isolation Hospital Gainsborough

TOYE, C J M D Lond has been appointed Medical Officer of Health for the Northam (Devon) District Council vice Mr Mahood, resigned

WYNNE, WALTER, M B M S Edin has been re appointed Medical Officer of Health to the Rye Corporation

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

AYR COUNTY HOSPITAL —House Surgeon Salary £70 per annum with residence board and washing

BIRKENHEAD UNION INFIRMARY WORKHOUSE, AND SANATORIUM —Resident Assistant Medical Officer Salary £120 per annum with board washing and apartments

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL —House Surgeon Salary at the rate of £50 per annum

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN —Resident Surgical Officer Salary £60 with board washing, and attendance

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST Victoria park E —Resident Medical Officer Salary £100 per annum with board, &c.

CITY POORHOUSE AND HOSPITAL Parliamentary road Glasgow —Medical Officer (Male Junior Assistant) Salary £90 per annum with board and apartments

COUNTY ASYLUM Mickleover Derby —Junior Assistant Medical Officer Salary £120 rising to £150 per annum with furnished apartments board washing and attendance

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E —Assistant Surgeon Also Assistant Physician

EAST SUFFOLK AND IPSWICH HOSPITAL.—Second House Surgeon unmarried Salary £80 per annum with board, lodging and washing

GRAVESEND HOSPITAL.—House Surgeon Salary £90 per annum with board and residence

HALIFAX UNION POOR LAW HOSPITAL —Resident Medical Officer Salary £130 per annum with apartments rations and washing

HAYDOCK LODGE ASYLUM Lancashire —Assistant Medical Officer Salary £175 a year with furnished quarters board washing &c.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE Virginia Water Surrey —Junior Assistant Medical Officer Salary £150 per annum, rising to £200 with board lodging and attendance

HOSPITAL OF ST FRANCIS New Kent road, S E —Two Casualty Medical Officers

LIVERPOOL DAVID LEWIS NORTHERN HOSPITAL.—Assistant House Surgeon Salary £70 per annum with residence and maintenance. Also Honorary Anæsthetist

LONDON THROAT HOSPITAL 204 Great Portland street —House Surgeon Salary £50 per annum

LONDON HOSPITAL, Whitechapel, E —Assistant Physician

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC Queen square, Bloomsbury —Registrar Honorarium 50 guineas per annum

NORTH CAMBS HOSPITAL Wisbech —Resident Medical Officer Salary £150 per annum with furnished house.

NORTH EASTERN HOSPITAL FOR CHILDREN, Hackney road, N E —House Surgeon for six months Salary at rate of £80 per annu with board, residence, and laundry

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL Harthil Stoke-upon Trent —Assistant House Surgeon for six month Board, apartments and washing and at least £25 as honorarium.

NORTH WEST LONDON HOSPITAL, Kentish Town road —Assistan Surgeon

NOTTINGHAM GENERAL DISPENSARY —Senior Resident Surgeon unmarried Salary £200 per annum, increasing by £15 every year Also Assistant Resident Surgeon unmarried Salary £160 per annum, increasing by £10 every year, with apartments, attendance light and fuel in each case

ROTHERHAM HOSPITAL AND DISPENSARY —Senior House Surgeon Salary £110 per annum

ROYAL ALBERT HOSPITAL Devonport —Assistant House Surgeon Salary at the rate of £50 per annum, with board, lodging, and washing

ROYAL DEVON AND EXETER HOSPITAL Exeter —Junior Assistant House Surgeon Salary at the rate of £50 per annum, with board, lodging and washing (no stimulants)

ROYAL LANCASTER INFIRMARY —House Surgeon unmarried Salary £100 per annum, with residence board attendance and washing

ST PAUL S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square Holborn W C —Honorary Assistant Surgeon

SALOP INFIRMARY —Assistant House Surgeon for six months Sala at rate of £50 per annum with board and apartments

SOUTH HANTS AND SOUTHAMPTON (ROYAL) HOSPITAL.—Junior Hou Surgeon for six months Salary £60 per annum, with room board and washing

SOUTHPORT INFIRMARY —Resident Junior House and Visiting Surgeo (unmarried) Honorarium at the rate of £60 per annum, with residence board and washing

STOCKPORT INFIRMARY —Junior Assistant House Surgeon for six months Salary at rate of £40 per annum, with board, washing and residence

STROUD GENERAL HOSPITAL.—House Surgeon Salary £80 per annum with board lodging and washing

SUSSEX COUNTY HOSPITAL, Brighton —Second House Surgeon and Anæsthetist unmarried Salary £80 per annum, with board and residence

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer Salary £75 with board, apartments washing, and attendance

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA AND VICTORIA CONVALESCENT HOME BROADSTAIRS —House Physician Honorarium of £25 and will be provided with board and lodging in the Hospital

WESTON SUPER MARE HOSPITAL.—House Surgeon Salary £100 per annum with board and residence

WEST BROMWICH DISTRICT HOSPITAL —Resident Junior House Surgeon Salary £50 per annum, with board lodging, washing and attendance

Births, Marriages, and Deaths.

BIRTHS

STEEDMAN —On July 3rd at Streatham S W the wife of J F Steedman, F R C S Eng, of a daughter

THOMPSON —On July 13th the wife of F B Thompson, M R C S L R C P Lond of a son

MARRIAGES

HAWTHORN—METCALFE.—On Wednesday July 16th at St Matthew s Church Leyburn by the Rev E Orde-Powlett Rector of Wensley assisted by the Rev W K Wyley Vicar of Hellions Bumpstead Essex brother in law of the bride the Rev John Hawthorn M A (Camb) of Leyburn to Mary (May) second daughter of Richard Metcalfe M D, of Eastfield Lodge Leyburn

HENDERSON—KIRKWOOD —At St Stephen's Parish Church Edinburgh on the 9 h inst by the Rev J F W Grant Rev W Nicol, D D Aberdeen and Rev J Hood Wilson D D, John Henderson M.B C M The Elms Lasswade to Winifred Nora Kirkwood, only daughter of the late James Kirkwood Esq, 2, Doune-terrace Edinburgh

NICHOLLS—GEE.—On the 10th inst at S John the Baptist s Church Knighton by the Revd James Jeakes, M A., Prebendary o Paul's Cathedral late rector of Hornsey assisted by the Revd Page Eden M A Vicar Francis John Nicholls M B B C Cant M R C S L R C P of Ellerslie Eltham Kent second son Edward W Nicholls of 62 Queen s gardens Hyde Park to Ma Violet third daughter of H. Simpson Gee J P, of Knighton Fri Leicester

WALKER—ROBINSON —On July 12th at the Church of St Ma Magdalene Addiscombe George Stephen Walker, M R C S, t Jessie Maude Phoebe Robinson, youngest daughter of the lat Rev W Mills Robinson

DEATHS

EDWARDS —On July 9th at Eastbourne, John Augustus Edwards M R C S Eng L S A aged 90 years

McKENNA —On July 4th at Bayonne France Cornelius John McKenna Surgeon Lieutenant Colonel I M S retired, aged 60 years

STIVEN —On July 12th at Manor Lodge, Harrow, E W F Stiven, M D Edin in his 51st year

N.B —A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE KING AND THE QUACK

IN a note at p 128 of THE LANCET of July 12th 1902, we referred under this heading to an article which seemed to us not only foolish but dangerous published in a London newspaper and entitled: How the King might have been Cured without Operation". Since then our attention has been called to the same article or substantially the same appearing again under the name of Mr T R Allinson in a country newspaper the *Blackburn Weekly Telegraph* together with copious advertisements of medical" books written by Mr Allinson and of an infants food and a non intoxicating beverage put on the market by the same person. In a column entitled: Hints on Health," presumably written by Mr Allinson certain answers to correspondents contain many recommendations of the compounds advertised The editor of the *Blackburn Weekly Telegraph* seems to be an easy going person but we must repeat what we have already said that if this sort of balderdash written by Mr Allinson about his ability to cure the King without operating results in poor dupes going to him for treatment the newspaper which publishes his rubbish incurs a grave moral responsibility Whether persons actually suffering from severe abdominal trouble ever do go to Mr Allinson we are not aware but we note from a paragraph in another issue of the *Blackburn Telegraph* that he is willing to treat small pox but not to notify the patients as suffering from infectious disease in accordance with the Act.

ADVERTISEMENT

WE have received from a correspondent an extraordinary extract from the *Bexhill Chronicle* dated June 28th. The article is entitled Healthy Life at a Health Resort and consists of a wholesale eulogy of Bexhill founded upon an interview with Mr H H Hulbert. Bexhill Mr Hulbert is made to say "is replete with wonderful advantages for the invalid"; he has himself taken a house there in which according to the *Bexhill Chronicle* he will partially establish his own private home and found a select boarding establishment to test his opinions. Mr Hulbert we learn again from the *Bexhill Chronicle* is medical officer to the Health and Strength School medical adviser to the Dowsing Radiant Heat and Light Company lecturer on voice production and health to the teachers of the School Board for London and lecturer on the voice to the Guildhall School of Music. Let us hope that Mr Hulbert has been victimised by some enterprising reporter for certainly the things that he says, or is *reported to say in the article would seem to show peculiar ideas of* professional propriety

WHY NOT CLARET?

WE learn that His Majesty the King received the offer from various wine merchants and growers of the Bordeaux district of a thousand bottles of claret or more if so desired The bottles were not to bear any names of firms or owners of vineyards and the gift was simply intended to commemorate the Coronation It is stated that Lord Pembroke in his reply regretted that claret was not used in the hospitals of this country but that all the same he thanked the wine-growers who had made this generous offer It may be true that claret is not used in British hospitals but is there any reason why it should not be—any reason so cogent as to cause this excellent gift horse to be looked suspiciously in the *face?* Claret, by which we mean sound Bordeaux such as this wine would have been is an excellent and wholesome drink and we think that it is a thousand pities from every point of view that the generous and kindly thought of the Bordeaux growers was not more appreciated.

THE RUSTING OF INSTRUMENTS IN DAMP CLIMATES

To the Editors of THE LANCET

SIRS —Can any of your readers who have had experience of damp climates tell me of an efficient method of preserving instruments from rust other than the application of oil or greasy materials? I should be very glad of information. I am Sirs yours faithfully

June 20th, 1902. TROPICS.

THE GRADUAL DEVELOPMENT OF FAHRENHEIT'S THERMOMETRIC SCALE

IN the June number of *Knowledge* Sir Samuel Wilks gives some further particulars in continuation of his account of the origin of Fahrenheit's scale reference to which was made in THE LANCET of Feb. 22nd 1902 p. 565. He now replies to a critic whose objections to his views were mentioned in THE LANCET of May 10th, p 1369 Sir Samuel Wilks says: It is true that neither in Fahrenheit's biography or indeed in any work of the time is there any distinct account of the *rationale* of his scale; for had it been otherwise an explanation of it would have appeared in works of chemistry the authors of which profess ignorance of its meaning It is clear therefore that what is known can only be gathered by inference from writers who have interested themselves in the matter and these as far as my reading has gone have attributed to Newton the origin of the scale ...... We have only to multiply Newton's figures by eight to obtain Fahrenheit's scale The scale of the latter in his first constructed thermometer was plus 90 and minus 90 but it is not clear how this could have assisted in the framing of his subsequent scale as the numbers did not refer to freezing or boiling points That thermometer as is known he discarded and then made another taking for his fixed point the temperature of the human body This was Newton's method by *which he had worked It seems to be correctly said that Newton* was in doubt as to a fixed point for boiling for he speaks of boiling and violent boiling as if they implied different degrees of heat Newton's paper appeared in the Philosophical Transactions for 1701 and although anonymous has always been attributed to our great philosopher It is so said by Brewster by Kelvin, by Renou and others"

POROUS WALLS

To the Editors of THE LANCET

SIRS —On seeing your comment on the advantages of porous walls I was reminded that only the day before an architect of 25 years standing had informed me that however porous bricks may be they lose this property *soon after forming part of a dwelling* (whether from fungous growths or not he could not say) It would therefore be well if the builder were to test walls that have been in use for some time. If they then retained their pores although these might form inlets for fresh air one can easily picture circumstances under which they might form outlets"—or rather receptacles—for germs of scarlet fever or other exanthemata. It would be of use if this matter were worked out thoroughly in these days when the medical profession is being looked to for advice about sanatoriums &c. I am Sirs yours faithfully

July 11th, 1902. T C B

THE LAW FUND

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON

THE following additional subscriptions have been received by Dr Paramore, 2, Gordon square, W C :—

	£	s	d.
Sir Charles Gage Brown K C.M.G ...	1	1	0
Dr G H. Sowry ..	0	5	0
Dr F W Walker	0	10	6
Dr G A. Walker	0	10	6
Mr H. B A. Pearson	0	5	0
Dr W B. F Tinley	0	10	6
Mr J W Hayward	0	5	0
Mr W Henry Smith	1	1	0
Dr J W Martin	1	1	0
Mr Walter Henry Ryan	0	2	6
Mr Hugh Bennett ..	1	1	0
Dr Adam Fulton ...	0	5	0
Mr W D Loveday... ..	0	5	0
Dr Daniel Davies-Jones	0	5	0
Dr R. P Martin ...	0	5	0
Mr V J Batteson	0	10	6
H. C	1	0	0
Dr Charles Macfie	1	1	0
Mr Harry Hutchinson ...	0	5	0
Mr Samuel Aird Jolly	0	10	0
Mr F G Evans J P	1	1	0
Dr Richard Bangay ..	0	5	0
Dr George Alfred Crace-Calvert	0	10	0
Dr Robert Douglas Muir	0	5	0
Mr B. W Marshall ..	0	2	6
Dr W C S Burney ..	0	10	6
Dr Lysander Maybury ..	0	10	0
Mr Thomas Turner	1	1	0
Mr T D Patmore	0	10	0
T G N	0	10	0
Dr James More ..	0	10	0
J L G	1	0	0
From a Member of the Profession who Sympathises but has little to give in the way of practical help	0	5	0
Mr W G Rowntree ..	0	10	0
Mr Percy Newell	0	5	0
Dr Joseph Matthews ...	0	10	0
Mr Albert Arthur Napper	1	1	0
Dr Cecil Musgrave	0	10	6
Dr H L. Roberts	1	1	0
Dr M. M Bowlan	0	10	6
Dr E. Reginald Tweed ...	0	10	6
Dr L. Vernon-Jones ...	0	10	6
Dr Samuel Moore	0	5	0
Overcome Evil with Good	0	5	0

MEDICAL ETIQUETTE IN THE COLONIES

WE mentioned in our issue of July 12th (p 125) that the rules governing medical etiquette are in some ways different in the colonies from those existing in this country and that it was perhaps necessary for medical men to advertise in the public press the hours at which they could be seen But however necessary this may be in sparsely inhabited countries like Australia or New Zealand we cannot excuse the practice in the case of anyone living in Bombay The following advertisement which appears in the Bombay paper the *Times of India* of June 14th and 21st is not to our minds the proper way for a *graduate of a university* to make himself known —

> Dr J M Pereira, M B C M Edin Specialist in Gynæcology Consultation from 9 A.M to 11 A M and 3 P.M to 5 P.M Beynon's Pharmacy opposite Watson Hotel."

We cannot find Dr J M Pereira's name in the current Medical Register but possibly the authorities of his university might give him a hint to withdraw his advertisements.

THE ARTIST'S BIRD AND THE PHYSICIAN'S REST

IN mediæval times the cock was highly esteemed Apart from his services in driving away lions he was like Barnes Newcome an authority upon the domestic affections and there is extant a long fourteenth-century poem wherein the domestic cock is held up as an example to parish clergy Whatever he may have been in a mediæval town the cock is a nuisance in a modern town and on July 14th Mr Val Prinsep appeared at the West London Police-court to answer a complaint by his neighbours of keeping noisy bird so as to be a nuisance Mr Prinsep lives at 1 Holland Park road and keeps fowls One of these fowls is a cock which is a veritable Tamagno amongst fowls. According to Dr Henry Mills of St. Mary Abbott's terrace it began to crow in the early hours of the morning and its voice was so powerful that it was impossible to secure any sleep. This, however, is the *métier* of the cock and was recognised by the Sarum breviary:

> "Surgamus ergo strenue,
> Gallus jacentes excitat
> Et somnolentos increpat,
> Gallus negantes arguit.
> Gallo canente spes redit."

Mr. Prinsep undertook to improve matters and the summons was adjourned. There are quite enough noises in London without having them added to by cock-crowing and Mr. Prinsep would be well advised to give up his poultry or if he sighs for the country sound of crowing he might get a hen such as that kept by Mr. Gilbert's Princess. She was a confirmed misanthrope, but liked to be awakened in mediæval fashion by crowing. Hilarion, it may be remembered, on remarking "Ah, then they have male poultry," was answered, "Not at all, the crowing's done by an accomplished hen." The female voice is softer than that of the male.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me of a home, preferably in Yorkshire or the Midlands, for a lady, 68 years of age, who suffers from an advanced stage of paralysis agitans? She suffers from insomnia and sometimes screams a good deal at night. She will be able to pay 30s. a week. I am, Sirs, yours faithfully,

G. N. EDMONDSON.

Uxbridge-street, Hednesford, Staffs, July 8th, 1902.

KNEIPP LINEN MESH.

THIS is an interesting material intended for ordinary underwear and made entirely, it is stated, from pure Irish linen yarn, a statement which is confirmed by a microscopic examination which we have made. Linen is a well known clean and healthy material but its use as underwear has been somewhat limited owing to the chilly feeling which is experienced when it is worn next to the skin. The Kneipp linen underwear, however, is free from this disadvantage. It is a knitted elastic material which, while protecting the body from cold, freely allows of the escape of perspiration. It is particularly well suited for summer wear, cool yet protective. Unlike woollen garments, it is not stained by the perspiration from the axilla, a proof that the perspiration passes freely through the material. The specimens of underclothing which we examined and tried practically were submitted to us by the York-street Flax Spinning Company of Belfast and of 2, Milk-street, London, E.C.

RELIGION AND QUACKERY.

To the Editors of THE LANCET.

SIRS,—Some weeks back I sent you an advertisement taken from the *Catholic Times* of the "Buckfast Abbey Remedies," and you commented thereon in an annotation in your issue of June 28th (p. 1846). From this week's issue of the same paper (a copy of which I send you herewith) you will see that the monks of Buckfast Abbey are not alone in allowing their "care for the souls of their fellow men to be adulterated with the desire to make money out of their bodily ailments." You will see that the Sisters of Charity at Rue St. Dominique, Paris, offer "St. Vincent de Paul's Elixir" by which anæmia, &c., is "completely cured" in 20 days—at 4s. 6d. a bottle. If this sort of thing goes *on*, would it not be well if some members of the medical profession were by way of retaliation, to announce that they were prepared to preach, hear confessions, and perform some of the other functions peculiar to the clergy? But what an outcry there would be in the "religious" world if such a "sacrilege" were committed.

I am, Sirs, yours faithfully,

July 13th, 1902.

E. J. H.

*** The monks at Buckfast Abbey are, we believe, all Frenchmen and therefore may not be aware of English prejudices on the subject of quackery. But we fancy that the medical profession in France is quite as averse to unqualified practice as is *our own*. Benedictine houses are all, we believe, autonomous and therefore the jurisdiction to interfere with the advertisements alluded to is difficult to find, but we feel sure that the Order as a whole would disapprove.—ED. L.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Surgeon-Major G. S. Robinson (Scots Guards) and the following officers of the Royal Army Medical Corps: Lieutenant-Colonels Morgan, D. O'Connell, and E. North; Majors H. J. Fletcher, W. O. Poole, and J. H. Curtis; and Captains J. H. E. Austin, W. D. Erskine, R. M. le H. Cooper, G. A. Moore and G. J. Stoney Archer. The fund now amounts to £433. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy* a copy of the letter will be forwarded on application to Surgeon-General Muir, 28, Kensington gardens terrace, Hyde Park, London, W.

PHOTO-THERAPEUTIC APPARATUS.

NOW that photo-therapy is engaging so much attention a description of new and improved appliances for the purpose is not without interest. In response to an invitation we have recently inspected such apparatus made by the Sanitas Electrical Company, Limited, of 7A, Soho-square, London, W. The most important appliance amongst these specialities is perhaps the Dermo Lamp for applying the Finsen light treatment. This lamp is handy, convenient, and portable, and gives a steady discharge of ultra rays from iron points. The points when worn out are readily replaced by new ones. Water circulates through the lamp to keep the electrodes cool. On this account the transmitting tube may be pressed against the affected part of the body and with extension pieces in the shape of a speculum the appliance may be used for insertion into the vagina, rectum, or other cavities of the body. The violet light emitted is intense. Amongst the special light apparatus should be mentioned the electric incandescent bath, the arc light bath, and a number of special appliances for local illumination. The double light bath and the "Tricolour" light bath are also well designed, as are the bath apparatus for the treatment by light rays of the female genital organs and the revolving light bath chair.

◆

Mal de Mer will find in the Students' Number of THE LANCET the information which he desires with regard to medical literature. We recommend the works of Dr. Hale White and Dr. Mitchell Bruce on Pharmacology and Therapeutics respectively. Dr. Carter's Elements of Medicine, the eighth edition of which was published a few months ago and was reviewed in the columns of THE LANCET of May 24th, 1902, is a work of the scope that our correspondent desires. Messrs. Rose and Carless's Surgery is also recommended. Yanatas is unknown to us; it has not been submitted to analysis in our laboratory.

M. R. C. S.—The vacancies are advertised in the local and medical papers in Australia and New Zealand, and but rarely in our columns. But the elected persons usually send us notice of their appointments. The registration fee is 25s.

Hatter.—The symptoms may not all be due to mischievousness. We recommend that the child should be taken to a medical man, with a view, if deemed necessary, of an alienist being consulted.

Robin.—The proceeding is usual in the United States and in most English colonies, but it has never been followed in this country and we should regret to see it begun.

Alien Constant Reader can style himself with perfect propriety "Dr." when practising in this country.

Splendide Mendax.—The newspaper in question is not worth notice.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (25th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.) Middlesex (1.30 P.M.) Charing cross (3 P.M.) St. George's (1 P.M.) King's College (2 P.M.) St. Mary's (2 P.M.) Ophthalmic (10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square, (9.30 A.M.) City Orthopedic (2.30 P.M.) Soho-square (2 P.M.)

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.) Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.) St. George's (1 P.M.) St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.) and the Central *London* Ophthalmic Hospitals *operations are performed daily*

LECTURES ADDRESSES, DEMONSTRATIONS &c.

MONDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C) —4 P.M. Dr E G Little Clinique. (Skin.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, Bloomsbury) —3.30 P.M. Dr Batten: Hereditary Ataxy

TUESDAY (22nd).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street W C) —4 P.M. Dr H Campbell: Clinique (Medical)

WEDNESDAY (23rd).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C) —4 P.M. Mr J Smith: Clinique (Surgical.)

THURSDAY (24th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street W C) —4 P.M. Mr Hutchinson: Clinique. (Surgical.)

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* " To THE EDITORS, and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed " To the Sub Editor "

Letters relating to the publication sale and advertising departments of THE LANCET *should be addressed To the Manager*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol I. of 1902, which was completed with the issue of June 28th and the Title-page to the Volume, were given in THE LANCET of July 5th

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready Bound in cloth gilt lettered, price 18*s*., carriage extra.

Cases for binding the half year's numbers are now ready Cloth gilt lettered, price 2*s* by post 2*s* 3*d*.

To be obtained on application to the Manager accompanied by remittance

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid and continue to pay the whole of the heavy cost of postage on overweight foreign issues and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423 STRAND LONDON ENGLAND

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office July 17th 1902

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
July 11	30 32	N W	0 09	110	67	53	52	[illegible]	Cloudy
12	30 19	W	–	114	77	51	53	59	Cloudy
13	30 09	S W	–	123	83	59	[illegible]	60	Cloudy
14	30 03	S W	–	110	65	58	61	60	Hazy
" 15	29·90	S W	–	127	59	65	64	70	Cloudy
16	30 00	N E	–	110	77	61	60	63	Fine
17	30 00	N	–	118	77	53	58	64	Cloudy

During the week marked copies of the following newspapers have been received —*Western Morning News Luton Advertiser Blackburn Weekly Telegraph Belfast News Letter Ipswich Times Dublin Evening Telegraph Southampton Echo, Belfast News Municipal Reformer Echo Daily Express Standard Bristol Mercury Windsor and Eton Express Westminster Gazette Sunday Times Derbyshire Times Lincolnshire Echo Torquay Directory Reading Mercury Herts Advertiser Times of India, Aberdeen Free Press Lancashire Post, Plymouth Morning News Western Mercury Yorkshire Post, Pioneer Mail Devon and Exeter Express Freeman Kilburn Times &c*

Communications, Letters, &c, have been received from—

A.—Mr W H Allen, Hurst Hill, Bilston Mr W Innes Addison Glasgow Ayr County Hospital Secretary of Anatomical Society of Great Britain and Ireland, Hon Secretary of Mr W Allen, Great Bridge Tipton Messrs Armour and Co Lond Dr C C Allison Omaha U S A Messrs Allen and Hanburys Lond A T

B—M. C Berthier Paris Messrs Breitkopf and Hartel Leipzig *Birmingham Daily Post* Messrs Bryce Son and Co Manchester Major W J Buchanan Calcutta Dr J Bradford Cambridge Messrs Benson and Co, Lond Birmingham and Midland Ear &c., Hospital Secretary of Messrs C Birchall Liverpool Mr T Bell Lancaster Dr D Bower Bedford Mr G Buist Cardiff Mr F B Bond Bath Mr Edgar Beaumont Lond Messrs C Barker and Sons Lond Dr A. Bronner Bradford Mr J E S Brown, Kingston-on Thames Mr Blackett Lond. Miss M W Brown Lond Dr V Chastel de Boinville, Liverpool Mr Valentine Ball Lond Messrs J W Benson Lond Birmingham &c Hospital for Children, Secretary of Dr R Browne Dinard

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Letters, each with enclosure, are also acknowledged from—

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B—Mr B Brown, Huddersfield, Messrs J Bell and Co, Lond T B Browne, Ltd Lond, Mr J Boot Nottingham Burns Southport Bristol City Lunatic Asylum, Clerk of Borough of Godalming Clerk of Brownhill road (7) Catford Bristol Eye Hospital, Secretary of Docteur L Bourgeois Bage le Chatel France.

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ON

INJURIES OF NERVES

Delivered at St Bartholomew's Hospital on March 19th and 21st, 1902

By ANTHONY A BOWLBY, C M G,
F R C S Eng,
JOINT LECTURER ON SURGERY

LECTURE II.[1]

Delivered on March 21st.

Suture of Nerves.

Gentlemen —The suture of nerves has been the usual practice of surgery for something like 20 years and the reason it was not adopted previously to that time was because very erroneous ideas prevailed. It was generally believed that nerves would not unite and in these circumstances, believing that no good was to be obtained by suture a divided nerve was left pretty much to itself. Then in addition, there was the fact that most wounds in those days suppurated and if you had sutures buried in such a wound the wound did not heal until the sutures came away Therefore surgeons were not at all inclined to leave silk inside a wound and silk was then practically the only material which was used. Consequently up to about 20 years ago or a little more than that nerves were not united at all by suture At the present time it is the custom to unite nerves by suture in any case where they are evidently wounded and in a person who has recently been injured The chief cause of failure of primary suture of a nerve is sepsis If a wound heals soundly and the two ends of a nerve have been coapted some union will certainly result, and you may take that as the main fact in the matter of primary suture of nerves.

Secondary Suture.

Let us pass on to consider what is to be done when a nerve has been injured and the wound has healed. In cases of this kind where the nerve is sutured by a secondary operation this operation is generally talked of as secondary suture. As far as the rules for that are concerned you may say there is only one rule—that in all cases where a wound has been inflicted and a nerve divided it should be sutured by an operation provided that that operation is reasonably feasible and is not dangerous out of proportion to the injury which the patient has suffered There are, of course places in the body where nerves may be divided, for instance deep down in the neck and where perhaps only some slight and unimportant filament has been cut, and the operation would not be worth while undertaking in such a case considering the risk and difficulty or the very slight inconvenience that the patient might suffer But putting aside such considerations you may say in general terms that the operation of secondary suture is to be undertaken whenever a nerve has evidently been divided and also in cases where you suspect its division. In cutting down upon the part in order to ascertain the extent of the injury and to approximate the nerve ends the first thing to remember is that the easiest place to find the nerve is above and below where the scar is and not at the scar For example, a very large number of persons injure the median or ulnar nerves about the wrist joint generally just above it and the commonest way is by falling upon glass or broken crockery or by putting the hand through a pane of glass In these cases it often happens that tendons are divided as well as nerves and if an operation for suture of tendons and of nerves is not undertaken at the time of the accident they become very awkwardly matted together so that it is a matter of considerable difficulty to dissect out the nerve from the scar It is much easier in these cases to make your incision sufficiently long to expose a healthy piece of nerve above and a healthy piece below tracing these towards the scar from both sides. You can then easily enough separate the nerves from the rest of the matted tissues and having separated them you can refresh the divided ends and suture them together

In many of these cases there is not too much material to spare, for the nerve ends have often become widely separated and you must consequently not sacrifice more of the nerve than need be. Do not cut off the bulb on the upper end, for it is composed of young nerve fibres Its tip merges in the neighbouring fibrous tissue of the scar, and that of course must be cut off but the upper part of the bulb of a nerve is about the best material for suturing It is composed of numerous rapidly growing nerve fibres and it holds a suture exceedingly well because it is tough and resistant. Therefore, when you have separated the two ends and are dealing with the upper end be moderate in cutting away the bulb and leave part of it. As far as the lower end of the cut nerve is concerned the whole of it is often shrunken and smaller than natural, because either it has completely degenerated or has been imperfectly regenerated Remember that all this distal end is in the same condition that you will not gain anything by cutting off successive pieces of it, and that you will not improve the cut section and find a better piece of nerve by cutting more of it off It is all equally degenerated or regenerated You have only to cut off enough to be sure that you have freed it from the scar tissue and then suture it to the uppermost part of the bulb In the next place, it is often a trouble to get the cut ends together because there may have been a good deal of separation. But generally much can be done by the position in which the limb is placed after such an operation. Thus in operations upon the median and ulnar nerves above the wrist a place where you often have to perform nerve suture, if you keep the wrist and the elbow flexed it is surprising how you can bridge across the gap and bring the separated nerve ends together Having done that and sewn up the wound the most important thing is to put the arm up in either a splint or in bandages so as to prevent any undue tension being thrown upon the nerve which has recently been joined Any strain might easily tear it and it is quite remarkable to see how in the course of two or three weeks after the nerve has been united the flexed wrist can be extended and the flexed elbow brought straight so that the cramped condition can be gradually got rid of and in a few weeks the hand and fore arm become relatively useful. You need not be afraid of putting a good deal of tension upon the nerve in bringing it together if you can relieve that tension by flexion of the wrist or elbow

As to the chief causes of failure, the first is that which I have mentioned before in regard to primary suture—sepsis If you do secondary suture and the wound suppurates you are very liable to have failure. But there is another cause of failure—namely the lapse of time, for the number of years that may have passed since the original injury may also have induced such changes in the motor fibres possibly in the spinal cord and certainly in the muscles that as far as motion is concerned you may have complete failure to record through no fault of your own.

Let me tell you a few cases briefly to indicate what amount of success you may expect after a given number of years have elapsed A student at this hospital when he first entered here had 10 years previously divided his ulnar nerve After he had been at the hospital two years he showed me his hand. It was an atrophied hand having the characteristic shape of ulnar paralysis. He wanted to know whether operation was likely to be of any use at the end of 12 years. I told him I did not anticipate that any success would attend operation as far as restoration of muscular power was concerned but that I could not speak with the same certainty with regard to sensation and that he might get some return of sensation. He was quite willing to have an operation and accordingly one was performed. The ends of the nerve were found and were sutured together There was no trouble, the wound healed well and a few weeks afterwards he began to have restoration of sensation. Ultimately he experienced a good deal of improvement though he never had perfect restoration of sensation to the part. As to motion he had no improvement at all the muscles remained just as atrophied and paralysed as ever Were he alive now—which I am sorry to say he is not—I am afraid we should have found that no further change in this direction had occurred. But for eight years after the operation was undertaken he had no improvement in the muscular power of the part and I think you may take it that he never would have had.

Now take a case in which the disability had lasted half that time An officer was injured in his elbow by a shell wound about 20 years ago in Egypt For six years he had ulnar paralysis and a good deal of pain at times, and it was the pain which induced him to have an operation undertaken with a distant hope of possible return of power in the hand An operation was undertaken, the ulnar nerve was found, and it was sutured without trouble, but as far as muscular power is concerned the operation remains a complete failure. He got a slight return of sensation, but even to the present day he has nothing like normal sensation in the part In that case also the wound healed by first intention without trouble So you see that after six years the same as after 12 years there was no attempt at the formation of new muscle, although there was in both of these patients a slight improvement in sensation

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[1] Lecture I was published in The Lancet of July 19th p 123.

Now let us go to four years A man divided his median and ulnar nerves and four years afterwards an operation was undertaken for their suture He had a good deal of improvement in sensation and a very little return of muscular power He was satisfied himself that it was well worth while to have had the operation done, but I must say, looked at impartially, it could not be regarded as a success

Now another case. A man had his ulnar and median nerves sutured after two years and four months You see we are getting to nearer periods In the course of three years from that time he had some improvement of muscular power, but after that he had no material increase of that improvement So it took him a long time to mend his muscles at all and then he only mended them imperfectly

In another case in which a man divided his ulnar nerve operation was done one year and 11 months afterwards and the nerve was united without trouble At the end of one year and nine months more he had good voluntary power and his muscles reacted to electrical stimuli So you may say that that was a fairly successful case He had a good deal of restoration of muscular tissue and a good deal of return of sensation. That would be called a successful case, though, as I shall tell you directly, one has to consider the meaning of "success." The condition was not as good as before the injury, but it was much better than immediately before the operation Those then, are cases in which operation was undertaken at periods of time varying from one year and 11 months to 12 years and with the exception of one case, as far as motion was concerned, the operations were practically failures, though all the patients had some improvement in sensation

Next notice in the two following cases how irregular is the interval between the time of suture and the time of return of sensation and motion, and notice also that it has not any direct connexion with the length of time which has elapsed since the injury in cases where an operation has not been delayed for as much as two years and in many cases where an operation was performed early

An ulnar nerve was sutured four weeks after it had been divided. At the end of nine months more the muscles were still absolutely wasted and no return of muscular power was seen. Nine months later than that the patient had nearly complete recovery of his muscles and the faradic contractility returned soon afterwards In that case, where only four weeks had elapsed, it took more than a year to repair the muscles and about the same length of time to get good sensation In another case a man [illegible] had his musculo spiral nerve divided and it was not sutured till five weeks afterwards In six months he had a slight return of power and electrical reactions were present in one year You see, then, that it is difficult to speak positively about the amount of time which will elapse in a case of secondary suture before the good effects of your operation are evident. I think there are no known cases in which restoration of muscles has been at all perfect when operation has been delayed for as much as four years, that in most cases where an operation has been delayed for more than two years there is likely to be failure, and that in other cases where the operation has been done after a varying number of weeks or months but less than two years, it is at least about nine months or more before motion is restored, and it may be a year or two All this is very vague, you may say, but you can at all events be certain that your patients will have a considerable time to wait for a cure and you must tell them that although an operation is ultimately going to be successful there will be no improvement in power for at least six months

Now, what is the effect of operation on different nerves? Do nerves unite differently from each other? I have not the slightest doubt that they do, as far as the utility of the part is concerned If you were merely to consider the amount of sensation to the prick of a pencil or the amount of regenerated muscular tissue you might be inclined to say that there is not very much difference But when you compare the actual practical results of union of a median or ulnar nerve by either primary or secondary suture with the results of repair of the musculo spiral or peroneal nerves there is no doubt that, as far as restoring the part which is paralysed to its natural condition is concerned, it is much more difficult to restore a normal hand than it is to restore a normal forearm, upper arm, or leg I do not think that this conclusion presents any difficulty when you consider how very complex are the minute movements of the hand and how very important it is to have in the hand complete and accurate sensation A comparatively slight amount of sensation in the outer part of the leg or the outer part of the arm is all that anybody cares about, it is of no particular importance to feel specially well with the back of one's forearm, but it is of the utmost importance to feel well with the tips of the fingers Therefore restoration of sensation, imperfect though it be, which may be quite satisfactory for one part of the body may be very unsatisfactory for another part If you have to do with a man who has recently divided his ulnar or his median nerve you will say that this must be sewn together by primary suture, and you may properly say that in the course of time the man will, as far as his work is concerned, if he be, say, a navvy, be completely restored, that is to say, he will have a hand which is useful and he will have as much sensation in it as he will care to have for his work.

But take another case, one in which the ulnar or median nerve is divided in a man who is a cabinet-maker or a pianist or a violinist, conditions of work in which it is essential that sensation and minute movements in every part of the small muscles of the hand should be as complete and natural as possible What is the expectation in a case like that? It is that for this sort of fine work there will never be as good a hand as the man had before Therefore you may say in general terms that you do not expect to get a complete and satisfactory recovery, as far as muscular power is concerned, in a man whose hand has to be used for certain particular objects which require the perfection of movement in the small muscles I am sure that no man who played the violin, for example and divided one of the chief nerves of his left hand would ever be able to play again with the same facility, whatever operation was undertaken and however soon after injury it was performed. The same is true of the sense of touch It is one thing to restore a sufficient amount of sensation after having divided the musculo-spiral nerve and sutured it, for the parts which it supplies may be quite sufficiently innervated for the purposes of the patient, but if you divide the ulnar or median nerve in a man who has to use his hands in the ways which I have indicated he will consider that he has very imperfect sensation Thus you have to consider what you mean by "success" The amount of return of motion or of restoration of sensation which you may get in suture of one nerve may not spell success in another at all. A man came here with a divided ulnar nerve. He was a cabinet-maker and in his work he had to use fine small nails He could not afterwards feel these nails properly with the fingers, neither could he handle his work with the same dexterity, consequently he never earned the same wages afterwards Another man, a bootmaker, divided his median nerve In making the boots his custom was to fill his mouth with a considerable number of small nails which he pushed out with his tongue and then snatched them rapidly from his mouth and used them. He was never able to do that work again, because he could not properly feel the nails with his fingers He said he earned such small wages afterwards that although his nerve had united fairly well he had to give up his occupation So you see that although a man may have restoration of sensation and some restoration of power the question whether he has a really satisfactory return of the part to a useful condition depends very much upon what work he has to do, and you have to keep this in mind in telling people what sort of results they may expect from an operation which perhaps you have recommended

I now want to say something about the next difficulty which arises in secondary suture, and that is the difficulty which sometimes occurs in consequence of the nerve ends being so far separated that they cannot be approximated A man came to this hospital about 10 years ago who had a swelling in his median nerve just below the elbow It caused great pain in his hand and a considerable impairment in the movements of the hand muscles. I cut down upon it and found that there was a thickening of the nerve at this place and that there was what you may call a diffuse fibroma in the nerve I cut away as far as I could, what appeared to be the unhealthy tissue but it was not satisfactory because unlike most neuromata, there was no definite capsule or sheath to this tumour and there was not what you could call a definite tumour at all, it was rather a condition of fibrosis. However I did what I could to save the nerve and sewed the wound up. There was a little improvement, but in a few months the man came back as bad as he had been before, and the pain was so great that he could not do his work he could not handle anything and his hand was practically useless. Recognising that if I operated upon and cut away the diseased part of nerve I should be unable to bring the two divided ends together I had a rabbit killed in a neighbouring room to the operating theatre and at the time that I began the operation, and whilst I was dissecting out the median nerve from the scar tissue someone else opened up the spinal canal of the rabbit and took out the cord and then opened up its leg and took out the sciatic nerve. The sciatic nerve is a very small thing in the rabbit, and so I took both its sciatic nerve and its spinal cord and put them in together between the two ends of divided median nerve which were about three inches apart. The wound ran a perfectly aseptic course and there was no difficulty about its healing First of all the man lost all his pain as one would expect after cutting away the nerve which was the seat of pain. Next he had a pretty rapid restoration of sensation, so that within a few months he had a hand which was useful for his work. He had good tactile sensation and could perceive touch in all parts of the area supplied by the median nerve. His muscles had been much wasted before I finally operated upon him but afterwards they never became materially restored. They were slightly larger so that I thought sometimes I could detect slight movements of the muscles supplied by the median nerve, but I could never be quite sure that that man got restoration of muscular power

In some other cases of nerve grafting which have been recorded the results have been more satisfactory and sensation has returned and power has been restored I think that the chief drawback in the operation in which I used the rabbit's nerve was that I did not have a large enough animal killed. If I had to do the operation again I should take the nerve of say a dog or a sheep

Now supposing you are doing an operation and you come to a condition in which you divide or take away a piece of nerve and cannot get the ends together you will not, of course, have rabbits, sheep, or dogs waiting for you. What are you going to do then at the time of operation? You may do one of two things you may leave the ends wide apart and subsequently within the next two or three days, obtain the necessary animal kill it and take some of its nerve, or at the time you may split a part of the nerve and turn a piece of the split nerve down so as to bridge over the gap. I have never done that myself and I do not think that I should consider it very satisfactory, but it has been done and success is alleged to have followed the procedure

PARTIAL DIVISION

Partial division of a nerve is much less common than is complete division in civilian practice, but partial division of nerve by bullets in warfare is exceedingly common. As a rule, in cases where a nerve is evidently partially divided where some of the muscles supplied by it are paralysed and some are not, while some part of the skin supplied is anaesthetic and some is not, in those circumstances you may generally look forward to a restoration of the nerve without any operation being undertaken for the suture of it So partially divided nerves, as a rule, do not need to be operated upon, and if you can demonstrate to your satisfaction that perhaps the greater part of a nerve is not divided you may leave to nature and to the tissues themselves the healing of the divided fibres, remembering that if a nerve is partially divided the part which is not yet cut through holds the nerve ends together quite as well as any suture you could employ And in proportion as you think that nearly the whole of the nerve is divided so you will entertain the question of operation to repair the injury

CONTUSIONS

With regard to contusions it is remarkable to notice what complete paralysis may follow a mere contusion of nerve and how long the part may remain paralysed Some years ago a boy was admitted here having been run over and having injured his upper arm. When he came in he had complete paralysis of the parts supplied by the musculo spiral nerve. This paralysis persisted so that at the end of a month it was still complete. But it was noticeable that at the end of a month, although the motor paralysis was complete, there was some definite sensation in the skin supplied by this nerve and more sensation than there was soon after the injury A fortnight later there was no return of muscular power at all. In those circumstances the surgeon cut down upon the nerve to see whether it was cut in two by the contusion which possibly might have crushed it against the humerus and broken it into two halves. He found that it was perfectly normal—indeed as normal as a nerve could be. It showed no evidence of contusion and to the naked eye it looked perfectly healthy I have no doubt that its nerve tubules had been broken inside its sheath But they mended very quickly and well and in the course of another month that is to say two and half months altogether, the boy had perfect restoration of the muscles which were supplied by this nerve and which had been paralysed.

Let me tell you of a case in which a member of our profession had an injury to his median nerve in dislocating his forearm. The nerve must have been violently stretched and he immediately had complete paralysis of the part supplied by it. At the end of eight or nine months the parts were still as much paralysed as they had been soon after the accident and the application of electricity did not seem to improve matters materially But, on the other hand there was more sensation than there ought to have been in a part the nerve of which was completely divided and I therefore advised him not to be in a hurry but to be patient to go on with the massage and galvanism to keep the part warm and to use the hand. These cases, I told him sometimes took a long time to recover and you know that a nerve which is divided even if it is immediately sutured may take at least a year before muscular power is restored But in this patient there was one day a slight return of power in the long flexor of the thumb I hailed this as satisfactory and in the course of a few weeks from that time he began to get rapid restoration of power in the other muscles, though it was nearly a year from the time of the contusion before he had completely recovered. Now in both of these cases there was so much sensation retained that it was almost certain the nerve could not be completely cut across. And because of this one felt inclined to say that there was no necessity to do an operation for if the nerve tubules were only torn inside the sheath nothing could be gained by operation.

And now in conclusion let me try to sum up for you the chief facts as to treatment which I have put before you In the first place, nerves do mend in many respects as well as do other tissues of the body and, after a preliminary degeneration regenerative changes ensue in the peripheral end and are more complete in the sensory than in the motor fibres On the other hand you must not expect a too complete restoration of muscular power or of sensation especially in the case of nerves supplying the hand As far as the treatment of these wounds is concerned primary suture is the thing to aim at in all cases and when a primary suture has been undertaken and successfully carried out, and the wound has healed by first intention in those circumstances you may rest assured that the nerve will unite, and it will unite all the more quickly if you take care to keep the part in use, to keep it warm, to have it massaged and if necessary to have it galvanised It will surely unite in time and the more quickly if the patient be young Dissuade your patient, therefore from being in a hurry to have other operations done if primary suture has been satisfactorily performed and the wound has healed by first intention.

With regard to secondary suture, it ought to be undertaken in every case where in a punctured wound a nerve appears to have been either completely divided or so nearly divided as to make it probable that it has been materially injured and may perhaps be really divided In undertaking the operation of secondary suture do not encourage your patient too much if the interval between the injury and the secondary suture is a very long one My experience is that up to two years you may reasonably expect in the young a good restoration of sensation and muscular power. But after an interval of four years no one has ever yet recorded a case in which there has been complete restoration of motor power, although there have been cases of restoration of sensation. When you undertake these operations for secondary suture, therefore, remember that to some extent your prognosis is to be guarded, and in giving it you must be guided by the length of time which has elapsed and to some extent by the age of the patient and the particular nerve which is injured. You may give a much better prognosis, from the patient's point of view, in cases of wounds of nerves other than those which supply the small muscles of the hand with power and the fingers with sensation.

Five Clinical Lectures

ON

THE CAUSATION AND PREVENTION OF PHTHISIS.

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LECTURE IV.[1]

GENTLEMEN,—I propose to-day to direct your attention to the compulsory notification of phthisis. This and the great question raised by Koch—viz., whether bovine tuberculosis is communicable or not to man—are, in my opinion, the two most important questions connected with the prevention of phthisis and other forms of tuberculous disease. I am strongly of opinion that without compulsory notification it will be impossible to reduce the prevalence of phthisis and other forms of tuberculous disease to anything like the lowest possible attainable limit. If I am right in this opinion it is obvious that the compulsory notification of phthisis requires the most careful consideration. In this and the following lecture I propose to discuss the arguments for and against this measure in detail.

THE COMPULSORY NOTIFICATION OF PHTHISIS.

The advisability or non-advisability of adopting a compulsory system of notification for phthisis in this country has given rise recently to a considerable amount of discussion. There can, I suppose, be little doubt that the great majority of the profession are, at the present moment, opposed to the proposal. The Local Government Board is opposed to it. The late Sir Richard Thorne, the medical officer of the Local Government Board, and many of the leading members of the profession who have expressed an opinion on the subject have declared themselves strongly against it. Nevertheless, after most careful consideration, I have come to the conclusion that the advantages to be gained from a compulsory system of notification specially adapted for phthisis are far greater than the disadvantages and that such a system ought to be adopted.

I, however, make this statement entirely on the proviso that the object of the "crusade against phthisis" and other forms of tuberculous disease is not merely to reduce in some degree the prevalence of tuberculous diseases, but is to reduce the prevalence of these diseases to the greatest extent attainable by means of our present methods. If the object is merely to do what is possible to reduce the prevalence of phthisis in a way which is easy and agreeable, but which I venture to think would be very inadequate and very inefficient, then I admit that the compulsory notification of phthisis is not necessary and consequently not advisable. But if the object is to make a determined and vigorous effort to reduce the prevalence of the disease to the greatest extent attainable by our present methods then I maintain that some system of compulsory notification is essential, for without compulsory notification it is, I believe, impossible to take effective measures to prevent the tubercle bacillus being conveyed from one human being to another human being. I may add that unless measures are taken to stamp out bovine tuberculosis it will, in my opinion, be impossible (granting that bovine tuberculosis is communicable to man) to prevent tubercle being conveyed from the bovines (through milk) to man; in other words, it will be impossible to prevent the development in man of tabes mesenterica and the other forms of tuberculous disease which are due to the ingestion of tuberculous milk. Further, if it be granted that compulsory notification will materially aid us in our efforts to reduce the prevalence of phthisis and other forms of tuberculous disease to an extent which is impossible without some system of compulsory notification, then I am of opinion that the advantages to be gained from it are far greater than the disadvantages (large expenditure of money, worry and irritation, hardships on some individuals suffering from phthisis, &c.) which it would entail.

The benefit which would result to the human race from the complete eradication of phthisis is so enormous that it is difficult to estimate it. Phthisis is the most widely prevalent and fatal disease to which the human race is liable. In England and Wales alone considerably more than 40,000 deaths are registered every year from phthisis. Dr. A. Newsholme has estimated that between the ages of 15 and 55 one-fourth of the total number of deaths is due to phthisis. Dr. Hermann Biggs even goes so far as to state that more than one-half of the entire adult population at some time in life acquire the disease. In this country phthisis causes more deaths than all the other contagious and infectious diseases lumped together. Further, the great majority of the persons who die from phthisis are adults, whereas a large proportion of the patients who die from the contagious and infectious diseases scheduled, or included with the consent of the Local Government Board, under the Infectious Diseases (Notification) Act of 1889, are children. Again, as all of us know only too well, some of the victims of phthisis are amongst the best and brightest of the race—the very "salt of the earth"; our phthisical patients include some of the most useful and valuable lives in the community, or, if they had not been prematurely cut off, some who would have been most valued members of the community. Further, it must be remembered that if we could greatly reduce the prevalence of phthisis we would do a great deal to reduce the prevalence of other forms of tuberculous disease, for the sputum of phthisis is by far the most important medium through which the tubercle bacillus and its spores are conveyed from one human being to another human being. Keeping, then, these facts and statements in view let us consider the arguments which have been advanced against the compulsory notification of phthisis and the advantages which would result from it.

The first argument against the proposal is that the compulsory notification of phthisis would involve the divulging of a medical secret and that the public would not accept the proposal without protest and resistance. This objection is urged by the special commission appointed by the Académie de Médecine in Paris to report on the prophylaxis of tuberculosis. The commission recalls the fact that phthisis is not a disease that can be classed with the infectious diseases such as diphtheria and small-pox, but that, in the estimation of the public at least, it has a hereditary as well as an infectious aspect and as such it is a disease the incidence of which should not be noised about beyond the family circle.

This objection seems to me to be a sentimental rather than a practical one. If the compulsory notification of phthisis will materially aid us in our efforts to reduce the prevalence of phthisis and other forms of tuberculous disease this argument should, I think, be disregarded. It must be remembered that under a judiciously conducted system of compulsory notification, such as the New York system of notification for phthisis, no undue publicity would be given to the fact that a member of a particular family was affected with tubercle. Further, this argument lays far too much stress on the hereditary nature of phthisis. Heredity is merely a predisposing cause; it is, practically speaking, never the sole or the direct cause of phthisis. Consequently, if the public once thoroughly understand, as they ought to be made to understand, that in persons who inherit a hereditary predisposition to phthisis the development of the disease can (usually) be prevented provided that proper precautionary measures are carried out, and if it can further be shown that the compulsory notification of the disease would enable these precautionary measures to be much more effectually carried out than would otherwise be the case this objection falls to the ground. Again—and this is a weighty argument against this objection—the public in this country have already consented to the notification of the infectious and contagious diseases scheduled under the Infectious Diseases (Notification) Act of 1889—in other words they have already consented that the medical secret," if it should be so termed, should be divulged in the case of these diseases. Consequently if they (the public) can be convinced that compulsory notification is necessary and advisable for the prevention of phthisis they will not allow the argument that such notification involves the divulgence of a so-called medical secret" to stand in the way

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[1] Lectures I., II., and III. were published in THE LANCET of July 5th (p. 6), 12th (p. 61) and 19th (p. 132), 1902, respectively.

The next argument which has been advanced against the compulsory notification of phthisis is that phthisis is a disease which was not included in the Infectious Diseases (Notification) Act of 1889 and that it was not intended that it should be included in that Act It is pointed out that the special characters on account of which the contagious and infectious diseases which are scheduled under that Act (or which have since with the consent of the Local Government Board, been included at the request of many local authorities under the Act) were made notifiable are not characteristic of phthisis These characters are (1) that they (the infectious and contagious diseases) are acute in their course and short in their duration (2) that their infective stage is short (3) that during their infective stage the physical condition of the patients who are suffering from them renders confinement necessary and that during the later stage of short convalescence when they are still infective, the patients are quite willing to continue in confinement (4) that during the course of the disease the patients are usually physically unfit to follow their employments, and (5) that, in the interest of the public (i.e. because of their infectiveness) it is highly undesirable that they (the patients) should, either during the course of the disease or the subsequent convalescent stage, follow their employments. Whereas in phthisis, not only is every one of these conditions absent, but, on the contrary precisely opposite conditions are present—viz., (1) the course of the disease is usually chronic and the duration often very prolonged (2) the infective stage is of very long duration and during a long term it may be of years, there is no reason, other than their ejecting infective sputa, which can be urged for placing phthisical patients under any control or restriction (3) the physical condition of phthisical patients does not, until the later stages of the disease, render their confinement to the house or to bed necessary and the patients would therefore not be willing to submit to such confinement, (4) until the later stages of the disease the patients are usually able to follow their employments and (5) for their own sakes, and for the sake of their wives and families (i.e. in order that they may earn their livelihood and be able to place themselves in the best position for curing or arresting the disease and be able to support those who are dependent on them) it is desirable that they should continue to follow their employments as long as possible.

These differences, with perhaps the exception of the last, are, of course, admitted. I say with perhaps the exception of the last since it is highly desirable, more especially so far as their own health is concerned, that in the early and curable stage of the disease phthisical patients should not continue to follow their employments, but should, for a time at least be placed in sanatoriums in order that they may be treated in the best possible way and in order that they may be instructed as to the measures and precautions which it is necessary to take both for the treatment of the disease and for the prevention of the extension of the disease to other members of the community and thoroughly trained as to the manner and methods of carrying out those precautions. The last is a most important point. If every patient suffering from phthisis could be placed for a few weeks in a well regulated sanatorium the benefit which would result, both to the patients themselves and to the community as a whole, would be incalculable. But the existence of these differences is surely not an argument against the compulsory notification of phthisis. It surely does not necessarily follow that because of these differences the compulsory notification of phthisis is not advisable. And it surely does not follow that because phthisis was not included under the Infectious Diseases (Notification) Act 1889 and because when that Act was passed it was not intended that it should be included under that Act, that with our increased knowledge of the curability and preventability of the disease and that *now* when we are all agreed as to the necessity for more vigorous preventive action it should not be included either under that Act, (1) provided that the action (the preventive measures) which would follow on such notification were restricted and modified in accordance with the special peculiarities of phthisis and in accordance with the differences which obtain between phthisis and the infectious and contagious diseases scheduled under that Act or (2) under a new Act based upon the special peculiarities of phthisis and (I suggest) entitled the Compulsory Notification Act for Phthisis The existence of these differences undoubtedly shows that phthisis should not be included under the Infectious Diseases (Notification) Act for the same reasons, or rather with the same objects, that the diseases under that Act were made notifiable but it does not prove that phthisis should not be made a notifiable disease for other reasons and with other objects. Further it, of course, naturally follows because of the existence of these differences that if phthisis were made a notifiable disease the action to be taken as the result of such notification must necessarily be very different from the action which it is necessary to take in the case of the infectious and contagious diseases scheduled under the Act of 1889

The whole question seems to me to resolve itself into this Will the compulsory notification of phthisis materially aid us in the prevention of phthisis and other forms of tuberculous disease? and if it will materially aid us towards this end—and in my opinion there is no doubt whatever that it would do so—are the disadvantages which would result from and the objections to a compulsory system of notification specially adapted to the peculiarities of phthisis sufficiently great and sufficiently well founded to overbalance the advantages and to negative its adoption? The advocates of the compulsory notification of phthisis have therefore to show (1) that the compulsory notification of phthisis would be beneficial (2) that it is possible to formulate a system of compulsory notification for phthisis which would both be effective and which would work well in practice and (3) that the advantages which would result from such a system of compulsory notification are greater than the disadvantages which would result from it.

The object of the compulsory notification of phthisis and the advantages to be gained from it—The object of the compulsory notification of phthisis is not, as in the case of the majority of the infectious and contagious diseases included under the Act of 1889 to restrict the liberty of the patients, to isolate them in their own homes, or to send them to hospital (though in a small proportion of cases in which the patients are a distinct source of danger to the community and especially to the healthy persons with whom they are in immediate contact, this is in my opinion, desirable and advisable)

The objects of the compulsory notification of phthisis are I take it, to locate the cases at the earliest possible stage of their development (i.e as soon as they come under medical observation) and to get full and accurate information as to the individual members of the community who are suffering from phthisis, the localities in which the cases occur the rooms and houses in which the patients dwell, the trades which they follow and the workshops, &c. in which they are employed. This information is necessary for the following purposes —

1. By its means any marked and obvious insanitary conditions in the rooms, houses, workshops, or localities in which patients suffering from phthisis live and work and in which cases of phthisis occur may (so far as this is practicable and so far as the removal of such insanitary defects falls within the sphere of action of the sanitary authority) be removed.

2. The phthisical patients and the persons with whom they are in close contact (their wives, families &c.) may by this means be informed and instructed as to (*a*) the general sanitary measures (ventilation cleanliness &c.) which should be employed in order to promote the cure of their disease, and as to (*b*) the special means (precautions) which should be employed in order to prevent the extension of the disease to the persons with whom they are in immediate contact (their wives, families &c.) and to the community at large. As Dr J Niven has pointed out When you know where the cases actually are you can make arrangements for a continued and persistent course of education (and I would add therapeutic and preventive measures) at those points at which they are certain to be useful. In this way the poorer[*] phthisical patients would be placed

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[*] I say the poorer patients because in the case of well-to-do patients such instruction is unnecessary since it would certainly be given by the medical attendant and since such advice and instruction would in the great majority of cases at least, be at once acted upon

in a better position than they otherwise would be for promoting the cure of their disease and preventing the extension of the disease to others Consequently a system of compulsory notification would not only be of great importance as a means of preventing the extension of the disease to the unaffected members of the community but would be of great value to the patients themselves

3 The (poorer) patients affected with phthisis may, under this plan, be supplied (at the expense of the sanitary authority) with the necessary appliances for the destruction and disinfection of their sputa (sputum bottles and disinfectants)

4 The rooms and houses in which the disease develops and in which cases of phthisis recur (the phthisical centres) may be detected and, if necessary, disinfected. It is important to remember that the poorer class of patients affected with phthisis are very migratory and that without some system of compulsory notification it is in many cases quite impossible to ascertain the rooms, houses, and places in which the disease, as it undoubtedly is in some instances, is contracted I do not say that a system of compulsory notification would enable us to locate the place of origin of the disease in any but a certain (and possibly only a comparatively small) proportion of cases, but it would certainly enable us to locate the phthisical centre in which the disease was contracted in some cases and such information would be of very great value for the purpose of prevention Further, it is absolutely impossible to obtain this information in any other way A system of voluntary notification, which has been advocated by many leading authorities, would, in my opinion, be, comparatively speaking, of very little use. Voluntary notification, which is, after all, merely a makeshift and a compromise, would, in my opinion, be most inadequate and unsatisfactory As compared with compulsory notification it seems to me to be a mere trifling with the subject

5 The sanitary authority may, on the death or removal of phthisical patients (but only in those cases in which the assistance of the sanitary authority is demanded by the medical man in attendance or in which independently of such demand there is good reason to suppose that such rooms are definite phthisical centres), take the necessary measures (either at the cost of the ratepayers or of the owners[3] of the property) to purify, disinfect, renovate, and put into a good sanitary condition rooms and houses which are contaminated with the tubercle bacilli. It seems to me (1) that it is only by means of some system of compulsory notification that the phthisical patients and phthisical centres can be located, at all events in anything like a complete way, and (2) that unless full and accurate information is obtained on these points that it is impossible to carry out in anything like a thorough and satisfactory manner many of the preventive measures which are essential in order to protect efficiently the healthy members of the community from the disease, and in order to endeavour to reduce the prevalence of phthisis to the lowest attainable limit.

Up to this point there will probably be no great difference of opinion amongst those who, like myself, are in favour of a compulsory, as opposed to a voluntary, system of notification for phthisis As to the advisability of the next two headings, which involve giving to the sanitary authority compulsory powers to *insist* that the necessary preventive measures are satisfactorily carried out and to remove dangerous cases of the disease to hospital, there can, I think, theoretically, be no doubt for such measures would be of immense value if they could be carried out, and are, theoretically at least, the logical sequences of any system of compulsory notification

6 By the system proposed the sanitary authority and the medical officer of health may, when their assistance and intervention are demanded by the medical man in attendance,[4] see, so far as this is practicable and so far as their authority will allow, that these preventive measures (destruction or disinfection of phthisical sputa, attention to free ventilation, cleanliness the non accumulation of phthisical dust, &c) are carried out

7 The sanitary authority may remove to hospital those phthisical patients who because of either (*a*) the insanitary nature of their surroundings (overcrowding, &c.) and the advanced stage of their disease, are unable to carry out the necessary precautionary measures, or (*b*) because of the insanitary nature of their surroundings and their refusal to carry out the necessary preventive measures, are a distinct source of danger to the persons with whom they are in immediate contact and to the community at large

That these measures would, if they could be effectively carried out, without imposing undue hardships and burdens upon the phthisical patients themselves and upon the healthy members of the community, be of the greatest value in preventing the extension of the disease, everyone will, I suppose, allow The only debateable questions are whether it is the business of the sanitary authorities to undertake all of the duties indicated above for the prevention of phthisis, whether they have the power to do so, whether it is advisable that they should do so, and whether the advantages to be gained by a judicious system of compulsory notification specially adapted to phthisis would be greater than the disadvantages In short, the question seems to me to resolve itself into this Is it possible to devise a system of compulsory notification for phthisis which (1) would be effective and which would work well in practice, which (2) would not unduly restrict the liberty of the public and of the patients affected with phthisis, which (3) would not be attended with intolerable worry and annoyance to the community, which (4) would not place unjust and unjustifiable hardships upon phthisical patients, which (5) would not do any positive harm, for it is argued that the compulsory notification of the disease would prevent patients suffering from early phthisis placing themselves under medical treatment and so would be harmful, and which (6) would be worth the heavy expenditure which it would necessarily involve?

Another argument which has been advanced against the compulsory notification of phthisis is that phthisis differs from the infectious and contagious diseases scheduled under the Act of 1889 in the important fact that the infection, instead of being, as in the case of those diseases, almost entirely beyond the control of the affected persons, is all but limited to the sputa, the disposal of which can easily be controlled by the patient. It is consequently suggested that there is no need for the compulsory notification of phthisis, or, at all events, that the compulsory notification of phthisis is less necessary and less advisable than the compulsory notification of the contagious and infectious diseases scheduled under the Act of 1889

But surely the very contrary is the case. Surely the facts (1) that the infection of phthisis is, except in a comparatively small number of cases, limited to the sputa[5] and (2) that this source of infection can in most cases (provided that the patient will carry out the necessary measures for the destruction or disinfection of the sputa) be easily controlled constitute one of the strongest arguments which can be advanced in favour of the compulsory notification of the disease I desire to emphasise as strongly as words can do the importance of this point. In the case of most of the infectious and contagious diseases included under the Act of 1889 the manner in which the poison is given off from the bodies of affected persons and distributed makes it infinitely more difficult to destroy the poison and to prevent the infection being conveyed to healthy persons who are brought into contact with the patient than it is to destroy the poison of phthisis and to prevent the poison of phthisis (the tubercle bacillus and its spores) being conveyed to healthy persons And, further, the susceptibility of the great majority of healthy persons who are not immune (i e., protected by a previous attack of the disease or by vaccination, as in the case of small pox) to the virus of every one of the diseases scheduled under the Act of 1889 is much greater than the susceptibility of the great majority of healthy persons to the poison of phthisis (the tubercle bacillus) In other words, provided that one can locate a case of phthisis, it is a simple and easy matter, if the necessary precautions and preventive measures are carried out (and these precautions and preventive measures are simple and easy to carry out), effectively to prevent the further extension of the disease, but in the case of most of the infectious and contagious diseases scheduled under the Act of 1889 it is

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[3] In New York the owners of the property are obliged within a certain time after receiving notice from the sanitary authority to renovate the contaminated property if called upon by the sanitary authority to do so

[4] The reason for this important qualification will be explained later

[5] That is those cases in which there is tuberculous disease of the intestine and diarrhœa tuberculous disease of the urinary tract with the presence of tubercle bacilli in the urine and tuberculous disease of bones and joints with discharges containing the tubercle bacillus

(unless the patient is carefully isolated during the whole period of infection) a very difficult or impossible matter to prevent the further extension of the disease. In short, phthisis is a far more preventable disease than any of the diseases scheduled under the Act of 1889 This fact—the fact that the poison of phthisis can be so easily dealt with and controlled—is, I maintain, a very strong argument in favour of the compulsory notification of the disease.

Another argument against the compulsory notification of phthisis is that the disease is difficult to diagnose in its early stages and that many cases do not present themselves for diagnosis until the disease has been in existence for some time, consequently that a compulsory system of notification would be too late to be effective, for it would not enable us to prevent the distribution of the poison in the early and unrecognised stage of such cases. This argument undoubtedly shows that it would not be possible by means of compulsory notification *alone* completely to eradicate and to stamp out the disease. But compulsory notification, in conjunction with the other measures which I have advocated, would nevertheless I maintain, enable us to diminish the prevalence of the disease in a degree which it is impossible to do without compulsory notification.

Whether phthisis could ever be completely eradicated by any means which we at present have at our disposal may well be doubted, but that its prevalence can be enormously reduced if effective measures of prevention are employed is I think, certain and amongst these means I place in the forefront the compulsory notification of the disease. Further if such diseases as measles and whooping-cough should be notified (and although they were not originally included in the Act of 1889 they have, with the consent of the Local Government Board, been included by the request of some local sanitary authorities under that Act) surely phthisis should be notified In the case of measles and whooping cough the poison is given off from the bodies of affected persons in the earliest stages of the disease and susceptible persons with whom the patients are in contact are usually infected before the nature of the disease is suspected or recognised In the case of these diseases the only effective means by which the poison can be controlled even after the disease is recognised is strict isolation Further persons who are not immune in consequence of having already suffered from the disease are highly susceptible to the poison of these diseases and almost always contract the disease when exposed to infection. But in the case of phthisis, although the poison may be given off before the patient comes under observation and before the nature of the disease is recognised, the amount of the poison which is given off in this way is comparatively to the amount which is given off in the later stages of the disease—i.e. after it is diagnosed and recognised—very small. Further the virulence of the poison, or rather perhaps I should say the susceptibility of healthy persons to be affected by the poison (i.e. to contract the disease) is comparatively speaking slight. Again and this is the most important point, after the nature of the disease (phthisis) has been recognised the infection can be readily and easily controlled The compulsory notification of such diseases as measles and whooping cough is, consequently in comparison with the compulsory notification of phthisis of infinitesimal value for the purpose of prophylaxis Hence if measles and whooping cough should be notified (but from this statement it must not be supposed that I advocate their notification) *a fortiori* other objections being for the moment left out of account, phthisis should be notified. Further as Dr Newsholme has pointed out —

> The last Factory and Workshops Act contains a clause securing the compulsory notification of anthrax phosphorus and arsenical poisoning and of a chronic disease like lead-poisoning occurring in connexion with industries. Each of these has an annual number of victim that could almost be counted on the fingers, while thousands of the artisans of this country annually fall victims to phthisis acquired in connexion with their special work. But lead poisoning must be notified phthisis is ignored The non-communicable disease must be notified the communicable disease is left to carry out its maleficent work

The next objection to the compulsory notification of phthisis is the difficulty of ascertaining how far practical measures for the prevention of the disease can be supplied as the result of such notification It is pointed out that the advocates of compulsory notification are not agreed as to the action which should be taken as the result of such notification. Some would limit this action to the diffusion by means of leaflets, &c. of knowledge as to the precautionary measures (destruction of sputum &c.), which it is advisable that phthisical patients and the persons with whom they live should take in order to prevent the extension of the disease. Others would extend this action to the periodical inspection by special officers appointed by the local authority of the houses workshops, &c. in which phthisical patients live or to the disinfection of the rooms and houses in which phthisical patients have died. Others, again advocate the erection by the sanitary authority of sanatoriums at the cost of the rates of hospitals for the prevention of infection, and so on.

The measures (in addition to the general sanitary measures which everyone is agreed that it is the duty of the sanitary authorities to carry out) which in my opinion, it is the duty of the sanitary authorities to take in order to protect the healthy public from phthisis, if the object of the crusade against phthisis" is to reduce the prevalence of the disease to the lowest attainable point, include (1) the compulsory notification of the disease, (2) the provision at the expense of the rates of laboratories for the testing of sputum and other suspected discharges, and of milk meat, &c., supposed to be tuberculous, and reporting thereon (3) the removal (so far as it falls within the sphere of the sanitary authority to remove them) of any insanitary conditions which are harmful to patients affected with phthisis or are likely to conduce to the propagation of the disease to those healthy persons with whom they live and work, (4) the diffusion (by leaflets &c.) of information regarding the nature of the disease its modes of propagation and the precautions which should be taken by the phthisical patient and by those with whom he is in close contact in order to prevent the extension of the disease (5) the provision at the expense of the rates, of the necessary appliances (spittoons and disinfectants) for the destruction and disinfection of the sputa (6) the periodical inspection by competent officers paid for and provided by the rates—but only in those cases in which such inspection is demanded—i.e. considered advisable and necessary by the medical man in attendance—of phthisical patients, their homes and workshops with the object of seeing so far as this is practicable and so far as such measures fall within the sphere of the sanitary authority that the necessary preventive measures are carried out (7) the removal to a hospital to be provided and maintained by the sanitary authority or by the sanitary authority and by the Poor law authorities conjointly of those cases of phthisis which are a distinct source of danger to the persons with whom they live and to the community, and (8) after the death or removal of phthisical patients the purifying renovating and disinfecting (either at their own cost or the cost of the owners) of phthisical centres—i.e. of rooms and houses which are contaminated with the tubercle bacillus. Everyone will I suppose, allow that if such measures could be effectively and systematically carried out for a sufficiently long period of time that they would be of the greatest value in the prevention of phthisis and other forms of tuberculous disease. Further as has been already stated, I maintain that it is impossible, except by a compulsory system of notification to obtain the information with regard to the location of phthisical patients which is absolutely essential in order that these measures may be carried out in anything like an effective and systematic way

The next objection is a financial one. Such a system as that indicated above would involve a very large expenditure of money It would necessitate the payment of notification fees to medical men the payment of a staff of skilled inspectors and of a certain number of clerks the erection and upkeep of laboratories for the examination of phthisical sputum &c and the erection and upkeep of hospitals for the reception of the dangerous cases of phthisis. But although the financial cost of such a system would for some years be very great, it must be remembered that it would be a rapidly decreasing expenditure for as phthisis became—as I believe it rapidly would do if these measures were effectively carried out—less and less prevalent the expenditure would rapidly decrease Nevertheless the very large expenditure which would for some years be required is a weighty objection But against this great expenditure the benefit to be derived from such a system of compulsory notification of phthisis have to be placed If we could reduce the mortality of phthisis from 50 000 per annum in this country to say 10 000 per annum—and I maintain that with the aid of such a system of compulsory notification and the preventive measures based thereon which I have [illegible] the course of time [illegible] late bovine tubercu[illegible] [illegible] cation we cannot possibly hope to attain this end—the result would, in my opinion, abundantly justify the expenditure. In short, the financial argument *per se*, in my opinion, is altogether insufficient to negative the proposal. It must, of course, be remembered that compulsory notification does not necessarily entail subsequent inspection, the provision of laboratories for the testing of sputum, &c., and the provision of hospitals for the reception of the dangerous cases, and that if these measures were not included in the scheme the cost of compulsory notification would be enormously reduced But, in my opinion, the compulsory notification of phthisis *per se* (without periodical inspection in those cases in which such inspection was demanded by the medical man in attendance and the provision of laboratories and of hospitals for dangerous cases), though it would undoubtedly be of considerable use—for it would afford much valuable information as to the location of cases of phthisis by means of which the sanitary authority would be able to focus their general sanitary efforts more powerfully than they can at present do upon the points where such efforts are most needed—would be of little use in comparison with the complete scheme which I have sketched out.

ON PUERPERAL APHASIA, WITH AN ANALYSIS OF 18 CASES

By M. A. McINTYRE SINCLAIR, M.D Glasg, D P H Cantab

"PUERPERAL aphasia" is a term which has not yet, so far as I know, found its way into our medical nomenclature, although the classical paper of Poupon[1] on the subject has given it a distinctive significance in continental records. In the following discussion I wish to follow the classification which that author has laid down and to include under the term not only cases of loss of speech occurring during the strictly puerperal period but also cases occurring during the later months of pregnancy I follow this arrangement not merely because it forms a convenient grouping of cases for discussion, but because underlying it there is a pathological factor which I believe must be taken into account in all cases of aphasia occurring at this time. The factor I refer to is the altered condition of the maternal blood for a certain period before and after delivery and the greater tendency of the blood at this time to undergo clotting within the vessels. I wish at the outset of my paper to lay stress on this point, since it has apparently escaped altogether the notice of Poupon, indeed, in his discussion of the etiology of the affection this author deliberately discards the occurrence of cerebral thrombosis as a factor in the induction of puerperal aphasia I shall, however, take the opportunity of returning to this point at some length later in my paper

My attention was first drawn to the subject by the occurrence of a case of typical aphemia in my practice some years ago, the loss of speech taking place during the later months of pregnancy in a woman apparently free from cardiac or other ailment. Full notes were taken of the condition at the time, but I purposely omit all particulars which do not bear directly on the subject in hand

CASE 1.—A married woman, aged 27 years, with no evidence of cardiac or vascular disease and with a good family history, was suddenly affected with total loss of speech in the latter half of the seventh month of her fourth pregnancy She retired to bed in her usual health on the evening of Sept 16th, 1896, on the following morning, after sudden emotional excitement, she lost her speech for a period of about an hour's duration, later in the same forenoon she had a second very transitory loss of speech, this time more gradual in its onset but also passing off in less than an hour's time. At 3 P M of the same day embarrassment of speech again manifested itself, the patient was observed to speak more slowly and with increasing difficulty until 9 P M. when the attack culminated in total loss of speech for the thir time. She remained speechless on awaking next mornin and when I saw her later, in the forenoon I found a conditio of complete motor aphasia without agraphia (aphemia). Sh could not articulate the simplest words, such as "yes" c "no," nor could she repeat them after hearing them pr nounced Yet it was quite evident that she understoo everything that was said to her, and she was able to mak reply either in pantomimic or in written speech. There wa no other paralysis on this date although specially looked fo but on the following day (the 19th) I found distinct pares with loss of sensation in the right upper extremity, most c all in the right thumb and forefinger, while the patient als complained of a numbness at the right angle of the mouth On this day also the patient had an attack of phlebitis an thrombosis of the smaller veins above the right ankle. Speec returned slowly but surely from about the third day after th attack. At first she could only use the simplest words i common use, and when she could not make herself unde stood by words, or by words interspersed with pantomim she resorted to the use of a slate and pencil. In abo three weeks she was sufficiently recovered to piec together phrases and small sentences She read alou some of Scott's poetry every day, and in this way graduall mastered most of the difficulties of pronunciation. O Nov 25th (10 weeks after the attack) she was confined c a healthy full time child Labour was natural and eas She still spoke in a slow, hesitating style, and if flurried sh stumbled occasionally in her speech, but it could not be sa that any relapse in her condition followed delivery Wit rest and care she progressively improved, and although sh could not speak with her former freedom of utterance fo several months she ultimately made a perfect recover Coincidently with the improvement in speech the numbne and paresis of the right upper extremity also gradually di appeared. There were no disorders of lactation and the was no evidence of syphilis in the personal or family histor I have already noted the absence of cardiac disease an there was no history of rheumatism Physical examinatio elicited nothing apart from the above history. The patie was a person of unusually calm disposition and the eleme of hysteria could safely be excluded. As to the after histor of the case, two years after the above attack the patien again became pregnant. Fearing a recurrence of the aphas for reasons to be afterwards stated, it was considered ad visable to terminate the pregnancy at the earliest possibl moment, and abortion was purposely induced at two and half months. There has been no recurrence of the aphasi and when last I heard of the patient about a year ago sh was in the enjoyment of perfect health.

The only other contributions to the subject of puerper aphasia which I have been able to find are those of Bateman Leith Napier, and Finlayson[3] in our own country, and thos of Lewandowski[4] and Poupon in continental records. It i of course possible that I have overlooked some of the litera ture on the subject, but at any rate my search has convince me of the rarity of the disease Kussmaul in his great wor on defects of speech does not mention an instance, nor doe Sireday in an analysis of 8000 consecutive cases of labou At the same time I am bound to say that Bateman in hi *résumé* has hardly done sufficient justice to his own country men, and he has overlooked at least a couple of most inte resting cases which I have been fortunate enough to fin reported by Finlayson. It is only doing Finlayson tard justice to say that his two cases were not only among th first recorded, but that they also illustrate some of the mos salient features of the affection—amongst others, the te dency to recurrence of the aphasia in a subsequent preg nancy In the accompanying list of 18 cases which I hav accumulated in the course of my reading I have endeavoure to set forth the main features of each so far as the literatu of the subject has been available to me, in some cases it is t be regretted that the details are somewhat bare. Among th first 12 which are taken from various authors by Poupo several are described in such ambiguous terms (*"troubles d la parole"*) that it is doubtful whether or not they are case of true aphasia. However, I have decided to retain them a here since they have already in a way the impress o Poupon's authority and their inclusion will add completenes

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[1] Des Aphasies Puerpérales, l'Encéphale, Août, 1885

[2] Case of Loss of Speech occurring as a Puerperal [illegible] Med. Jour, vol i 1888 p 237

[3] Clinical Lecture on Loss of Speech, Glasgow [illegible] September, 1879

[4] Quoted in Brit Med Jour., vol. ii., 1879,

TABLE GIVING ANALYSIS OF 18 CASES OF PUERPERAL APHASIA.

No of case	Author	History of attack	Remarks
1	Poupon.	The patient was a woman aged 24 years Second confinement; the labour was easy; on the second day after delivery there was loss of speech with right hemiplegia; word-blindness but no word-deafness Gradual recovery	The lesion was attributed to embolism of the left Sylvian artery There were mitral disease and a history of rheumatism
2	Burrows.	Six weeks after confinement there were embarrassed speech and impairment of memory Death.	Embolism of the left middle cerebral was found post mortem, also mitral and aortic disease.
3	Ireland	Seven days after confinement there was loss of speech albuminuria Sudden death.	Softening of the left hemisphere was found post mortem due to vascular lesion.
4	Charpentier	There were left hemiplegia and loss of speech with transitory deafness following accouchement at term slight albuminuria. Recovery in 44 days.	Attributed by Charpentier to septicæmic accidents and by Poupon to vascular lesion.
5	Churchill.	Eight days after accouchement there was paresis of the face and the arm; loss of speech Partial recovery of speech after two months.	Attributed by Churchill to albuminuria and by Poupon to vascular lesion
6	Darcy	The patient was a woman, aged 27 years Two days before confinement there were right hemiplegia and loss of speech; albuminuria Partial return of speech two days later and disappearance of the hemiplegia eight days later	Attributed to cerebral congestion
7	Cuffer	The patient was a woman aged [illegible]8 years Some days after confinement and without apparent cause left hemiplegia and aphasia supervened with coincident lacteal derangements. Rapid recovery	Vascular lesion following anæmia (?) The patient was left handed."
8	Mattei	The patient was a woman, aged 34 years. There was abortion with considerable hæmorrhage at the fifth month; three days later there were numbness of the left leg and inability to make herself understood, the attack lasting one hour; two days after this another aphasic attack occurred which disappeared on the removal of a large fæcal mass from the lower bowel	Attributed by Mattei to anæmia or to a reflex disturbance and by Legroux to uræmia.
9	Leven	The patient was a woman, aged 18½ years In the seventh month of pregnancy following emotion there were sudden loss of consciousness and paralysis of the right side first of the leg and later of the arm; three days later there was loss of sensation; again three days later there was loss of speech. Slight improvement occurred after the confinement. During the second pregnancy there was loss of speech lasting for 15 days. Paralysis after delivery	Attributed by Leven to hysteria. Note the recurrence of aphasia in the subsequent pregnancy
10	Leith Napier	There was loss of speech 17 days after confinement (the delivery was natural and easy); cramping pains in calf of leg; the temperature was normal; three days later partial paralysis and again two days later complete hemiplegia. Progressive recovery	Attributed by Leith Napier to cerebral embolism and by Poupon to nervous origin; no cardiac disease.
11	Gignoux	In the sixth month of the first pregnancy there was sudden aphasia lasting half an hour and then passing off completely; natural confinement at term In the eighth month of the second pregnancy an attack of aphasia occurred lasting for 20 minutes and passing off as suddenly as it appeared	Attributed by Poupon to nervous" origin Note the recurrence of aphasia in the subsequent pregnancy
12	Gignoux	The patient was a woman aged 24 years. At the second pregnancy (at term) forceps were applied on account of uterine inertia; on the second day after delivery there was turgescence of the breasts but no fever on the same evening sudden loss of speech occurred without unconsciousness Gradual improvement next day and after two and a half months complete restoration of speech.	Attributed to nervous origin by Gignoux Poupon suggests anæmia as a possible alternative cause.
13	Finlayson.	The patient was a woman, aged 32 years. Second confinement, followed 10 days after delivery by complete aphasia and slight paresis on the right side. Partial recovery from aphasia at the age of 35 years. The third confinement was followed by complete loss of speech and numbness and paresis of right hand but no agraphia. Aphasia was persistent.	There was no cardiac lesion Note the recurrence of aphasia in the subsequent pregnancy
14	Finlayson	The patient was a woman, aged 37 years. Ninth confinement (natural labour) followed three weeks later by aphasia and right hemiplegia. The aphasia passed off in a few days and the hemiplegia in three weeks At 39 years of age the patient was confined for the tenth time (labour tedious) followed suddenly on the twentieth day by complete aphasia and marked hemiplegia of the right side. Aphasia persistent and ensuing rigidity of paralysed limbs.	There was no cardiac lesion Note the recurrence of aphasia in the subsequent pregnancy
15	Lewandowski	The confinement was followed on tenth day after delivery by sudden loss of speech without unconsciousness Next day she could say No; and there was gradual recovery of both speech and writing after three days	The attack was transitory
16	Lewandowski.	The confinement (labour difficult) was followed on the ninth day by rigor headache, pyrexia, and slight tetanic convulsions; about the thirteenth day there was loss of speech but the patient was still conscious and was able to move her limbs and tongue freely Death on the seventeenth day	The necropsy revealed inflammation of the brain and the membranes; in the left anterior convolution a partly decomposed focus of the size of a walnut was found also several purulent foci in the lungs and suppuration of the veins of the ovario-uterine plexus.
17	Bateman	The patient was a woman aged 22 years At the seventh month of her first pregnancy the patient had some obscure symptoms with embarrassment of speech lasting about a month Early in the seventh month of her succeeding (second) pregnancy there was paresis of the right arm and the right leg; at the beginning of the ninth month embarrassment of speech was noticed culminating in complete aphasia six days after delivery which was natural and easy; there was no loss of consciousness on the eighth day after delivery there was right hemiplegia. Death from exhaustion occurred six weeks after the confinement.	There was neither cardiac disease nor history of rheumatic fever Note the recurrence of aphasia in the subsequent pregnancy
18	Sinclair	The patient was a woman, aged 27 years. In the seventh month of the fourth pregnancy there was onset of total aphasia without agraphia two days later there was slight paresis of the right arm; phlebitis and thrombosis of veins in the right leg There were no lacteal derangements. Natural delivery at term Progressive improvement occurred from the third day and ultimately complete recovery	There was no cardiac disease or history of rheumatic fever Abortion was induced in subsequent pregnancy and there was no recurrence of the aphasia.

to my paper The remaining six cases are narrated by Finlayson (two), by Bateman, by Lewandowski (two), and by myself I think these 18 instances will be found to afford us sufficient material for the survey of what appears to be a somewhat neglected group of cases

An examination of the accompanying list of tabulated cases will at once reveal the fact that puerperal aphasia may be due to several causes Poupon considers these under two broad classes (1) those due to nervous origin, and (2) those due to vascular origin Let me say at once that I admit the occurrence of cases due to a nervous dyscrasia such as hysteria or reflex disturbance. It must be borne in mind that during pregnancy the whole mental attitude of a woman often undergoes profound change, she may become fretful or capricious, and in many cases has less control of the emotional faculties. The occurrence of a puerperal aphasia of neurotic origin, therefore, would not be surprising when we remember that a similar loss of speech may occur apart from pregnancy altogether At the same time I cannot help thinking that Poupon lays too much stress on this factor and there are several cases in his list which he attributes to nervous origin which might, in my opinion, be more fairly accounted for by vascular lesion. Leith Napier's is a case in point. That author attributed the aphasia to cerebral embolism Poupon disagrees with him, and in the absence of any reported cardiac disease would attribute the case to a neurotic element. It is, however, not my purpose to dwell long on this group of cases, about whose actual occurrence there can after all be little difference of opinion, but before considering the vascular group, which presents many interesting features, I would interpolate the fact that an occasional case of aphasia may follow delivery where pyogenic infection has unfortunately taken place Poupon was not aware of such an occurrence and it is interesting to read his disquisition on "*les petits microbes*" in the light of our later knowledge At any rate, the case which I have quoted from Lewandowski disposes effectually of this point, and we may say that the occurrence of a definite aphasia in a pyæmic case following delivery should at once suggest the existence of a fresh focus of the disease in the left cerebral hemisphere Such an occurrence must, of course, be exceedingly rare

I shall now consider Poupon's second group—i e, those due to vascular lesion These have afforded me much interest in view of the fact that more recent cases materially modify the conclusions which that author has laid down Passing over those transitory cases which possibly owe their origin to cerebral "congestive attacks" Poupon goes on to consider the relation of the loss of speech to cerebral thrombosis, to embolism, and to hæmorrhage It has, of course, to be remembered that the child bearing woman is at an age when the blood vessels are usually intact and are as yet unaffected by the degenerative changes which make their appearance in the decades following the climacteric. The possibility of cerebral hæmorrhage might therefore be considered remote, unless, perhaps, in the presence of albuminuric complications Poupon has no hesitation in crediting cerebral embolism as the main factor in the causation of puerperal aphasia and he is inclined to exclude both hæmorrhage and thrombosis from his calculation. It is quite clear that in the case of women suffering from mitral or aortic disease a vegetation might easily during the stress of labour become either wholly or partially detached and so lead sooner or later to the occurrence of cerebral embolism In the event of the left Sylvian artery intercepting the plug we should find aphasia accompanied by more or less hemiplegia. Such instances have doubtless often occurred and the sequence of events is so clear that I need not labour the point

But what are we to say regarding a fair residuum of puerperal aphasias in which the blood-vessels show no signs of degeneration and in which there is no cardiac disease, no albuminuria, and no suspicion of the neurotic habit? In these cases I believe the key to the situation lies in the composition of the blood itself and the greater tendency which puerperal women have to the formation of clots within the vessels I am bound to enter into this point at some detail because Poupon, who alone, so far as I know, has hitherto attempted to treat the subject systematically, is inclined to exclude altogether the occurrence of cerebral thrombosis as a factor in the causation of puerperal aphasia. "*Ce n est qu une hypothèse jusqu'ici*" It will be my object to show that its occurrence is no hypothesis, but that on *à priori* grounds as well as from clinical observation we are fully justified in saying that cerebral thrombosis explains a fair proportion of cases of aphasia occurring both before and after delivery In the consideration of this question let me first of all point out one important fact, and that is the time of occurrence of the aphasia A careful scrutiny of the cases in the accompanying table will reveal the fact that with one exception the aphasia in all of them developed either during the four later months of pregnancy or during the period immediately following delivery Now this period exactly corresponds with that in which numerous analyses of the blood have shown it to be most profoundly altered The researches of Andral and Gavarret have been epitomised as follows and I am not aware that these conclusions have been disputed by later writers on the subject. "In the earlier months of pregnancy the blood deviates but little from the normal standard In the later months, however, the blood is characterised by a remarkable diminution in the number of red corpuscles and a considerable increase in fibrin, while the proportion of albumen is somewhat diminished It would appear, further, that in some cases at least the proportion of white corpuscles is increased An estimate has been made by the same observers according to which they assume that, if we suppose the average number of red corpuscles in the blood of healthy women who are not pregnant to be represented by the number 125, the average in women towards the end of pregnancy is probably not more than 116 If, in like manner, we take 300 as representing the physiological average of the fibrin, the proportion of that constituent up to about the sixth month may be set down at 250, while from this period onwards during the last three months of gestation it steadily increases in quantity and reaches as high in extreme cases as 480" "These phenomena," adds Leishman,[5] "are further interesting in connexion with the occurrence of thrombosis in the pregnant state" "The increase of fibrin and extractive matter in the maternal blood goes far," adds Playfair,[6] "to explain the frequency of certain thrombotic affections observed in connexion with pregnancy and delivery" We may fairly conclude, I think, that on *a priori* grounds the occurrence of a puerperal aphasia due to cerebral thrombosis ought to be regarded as no unlikely contingency

The results of clinical observation are no less certain A careful examination of the above list of cases will indicate that many of them presented symptoms undoubtedly referable to a thrombotic lesion Bateman, in discussing his case (Case 17), says "From the comparative rarity of the association of loss of speech with the puerperal state I hesitate to venture upon any decided opinion as to the pathology of the above case The symptoms could scarcely be due to any merely transient cause, for they had existed in a modified form for three months before parturition and became intensified a few days before labour, the absence of any cardiac lesion and the gradual development of the nervous symptoms would rather point to cerebral thrombosis than to embolism." Bastian[7] in his work on Aphasia refers shortly to Bateman s case and throws the weight of his authority on the side of a thrombotic element in some of the cases under consideration Again, Finlayson takes up quite a decided position on the matter In a discussion of his own two cases he says "In neither could we detect evidence of any valvular disease of the heart, neither of them had a history of rheumatic fever, the age of the first woman was 35, and of the second 39, we may, therefore, fairly suppose that the mischief was due to the tendency which puerperal women have to the formation of clots in their vessels and so to the subsequent occurrence of embolism in various forms" Finlayson, therefore, lays stress on the thrombotic origin of the condition, although his remarks leave it to be inferred that the thrombus need not primarily form at the seat of ultimate lesion The questions of cerebral embolism and cerebral thrombosis are closely correlated in many instances and we may have a small embolism forming the nucleus for an extension by thrombosis Leith Napier attributed his case to embolism, in the absence of any cardiac disease I am inclined to question whether it was not due to thrombosis pure and simple In any case the symptoms clearly indicate that the condition was partially, if not altogether, due to the thrombotic element The patient, 17 days after delivery suddenly lost her speech this was followed only three days later by partial and two days later again by complete, hemiplegia. In the case reported by myself I have no hesitation in attributing the symptoms to cerebral thrombosis. This diagnosis receives support, not only from the mode of onset, from the absence of cardiac disease, and from the condition of the maternal blood at the time but also from what we may term strong corroborative evidence. I refer to the occurrence of thrombosis in the veins in the lower part of the right leg two days after the onset of the aphasia. Now this thrombosis of the leg took place in the absence of any varicosity of the veins and in spite of the fact that at this time my patient was according to orders, laid up in bed in the recumbent position. The fact that undoubted thrombosis took place in the venous radicles of the lower limb in circumstances most favourable to a perfect circulation is I think, good reason to support the inference that a similar thrombotic accident in the cerebral vessels was the determining cause of the aphasia

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[5] System of Midwifery fourth edition, vol i p 254

[6] Science and Practice of Midwifery, ninth edition vol i p 153 See also Henderson: Observations on the Maternal Blood at Term and during the Puerperium, Journal of Obstetrics and Gynæcology, vol i, No 2 February 1902

[7] Aphasia and Other Speech Defects 1898 pp 118, 119

There is one further argument in favour of cerebral thrombosis as against embolism I refer to the recurrence of the aphasia in a subsequent pregnancy—an event of no uncommon occurrence. Now we know that an embolism is prone to effect the left hemisphere more frequently than the right at the same time it is contrary to all laws of chance that an embolism should be carried to the same spot on the same side of the brain in so many succeeding instances. I think that there is only one inference in regard to the recurrent cases at least—that the first attack of aphasia, whether due to thrombosis or not left histological changes in the vessel wall which formed a seat of election for the development of another thrombus when the vascular conditions were again favourable to such an accident. I trust, therefore, that I have made it quite clear that in a case of puerperal aphasia the occurrence of cerebral thrombosis is no insignificant factor in the production of the affection.

Before dismissing the etiology of puerperal aphasia I would add that the nature of the labour has no necessary relation to the loss of speech. In many of the cases labour is distinctly stated to have been natural and easy It is evident, however that in pyogenic cases and again in cases accompanied by severe hæmorrhage with subsequent anæmia the nature of the labour may contribute indirectly to the occurrence of puerperal aphasia. Sudden emotion seems to be an associated element in several cases This might conceivably be productive of an hysterical loss of speech, or by causing sudden alteration of blood pressure encourage the production of an aphasia from congestive attacks, the detachment of an embolus or the actual deposition of a thrombotic clot. Poupon and Bateman both seem to lay stress on the coincident troubles of lactation present in several of the cases. Such lacteal derangements might be due to vaso motor troubles following the cerebral lesions, but I think hardly concern us in discussing the etiology of the subject.

In considering the *prognosis* of puerperal aphasia one has to bear in mind many facts which apply equally to other forms of speech affection. The nature of the lesion whether functional or organic, nervous or vascular must be taken into consideration. But looking in a general way at the cases which I have summarised in the table one cannot help being struck with the large proportion of recoveries from a primary attack of puerperal aphasia. In some the loss of speech was of a very transitory type, in others complete or partial recovery ensued in the course of a few days weeks or months I have already pointed out that the age of the child bearing woman is an important factor in this group of cases and the vascular conditions are mostly such as to allow of a quick resolution of a thrombus or the rapid opening up of a collateral circulation. A primary attack of puerperal aphasia therefore, will often lend itself to a more or less favourable outlook At the same time the table clearly emphasises the liability to recurrence of the aphasia in the event of a subsequent pregnancy This unfortunate sequence of events took place in both of Finlayson's cases, in Bateman's case and in the cases of Gignoux and Leven reported by Poupon. Moreover the second or recurrent attack in each instance was of a much more serious nature than the attack recovered from in the first instance In both of Finlayson's cases the secondary aphasia remained persistent and in one case was accompanied by permanent rigidity of the paralysed limbs Bateman's case without the development of fresh symptom terminated fatally in six weeks A recurrent attack of puerperal aphasia is therefore a serious matter and the prognosis is grave Indeed it is so bad that we must consider the question whether it ought to be allowed to occur Poupon, in recognising the liability to recurrence of the aphasia in a subsequent pregnancy advises that the woman should be warned to avoid becoming *enceinte* in the future. The cases of Finlayson and Bateman bear further testimony to Poupon's advice. I would go even further and say that in the event of the patient again becoming *enceinte* our only justifiable course according to present knowledge is to terminate the pregnancy at the earliest possible moment Such a procedure was actually carried out in my own case and there has so far been no recurrence of the aphasia

I need not say much regarding the treatment of puerperal aphasia. This will depend to a great extent on the nature of the lesion and the attack must be dealt with on the same lines as guide us in the treatment of any other cerebral affection. It would be superfluous for me to add anything on this score. In addition to special indications for treatment it will in most cases be necessary to pay attention to the general health of the patient, and when signs of improvement manifest themselves to persevere with the re education of the faculty of speech. In regard to the latter point I would only insist that the *séances* should not at first be too frequent and that care be taken not to fatigue the patient. In the event of a subsequent pregnancy I have already expressed the view that for purposes of prophylaxis it is strongly advisable to terminate the pregnancy at the earliest possible moment.

Stroud Gloucest

ON THE

ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA

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(Continued from p 145)

THE source of the acetone series of products is not as yet definitely determined All are agreed that these products are not derived from carbohydrate. Until lately they have been considered to originate from the nitrogenous grouping of proteid but during the last three or four years opinion has been changing and doubts have been thrown upon the accuracy of this view A point to which considerable importance has been attached is that taking into account the amount of carbon contained in oxybutyric acid in comparison with that contained in proteid more carbon may be found to escape in the oxybutyric acid discharged than can be derived from the proteid metabolised as measured by the nitrogen eliminated. Several observers[1] have recently been looking to fat as the source of oxybutyric acid and there is a decidedly growing disposition to adopt this view The evidence deducible from the research work that has been thus far conducted seemingly points to elimination of the oxybutyric series being influenced by fat ingestion but at the same time it must be said that a want of harmony is traceable in the results that have been recorded and hence that it is not permissible at present to regard the matter as entirely settled.

In the present state of our knowledge our language upon the point under consideration can only be shaped in a conjectural form Assuming the acetone series to be derived from the fatty class of bodies, the question that next presents itself is the mechanism by which the result is reached. If the origin took place in a direct manner from free fat it would be reasonable to expect that a constancy of relation between ingested fat and eliminated oxybutyric acid which is not found to exist, would be met with. If derived from fat existing as an atomic grouping in the protoplasmic molecule analogy may be taken to justify our speaking of its production as a result of faulty metabolism in the following terms

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[1] Geelmuyden Zeitschrift für physiologische Chemie Band xxiii 1897 Schwarz Archiv für experimentelle Pathologie und Pharmakologie Band xlii., 1899 Waldvogel Zeitschrift für klinische Medicin Band xxxviii., 1899; Hagenberg Centralblatt für Stoffwechsel und Verdauungskrankheiten 1900; Schumann Leclercq Wiener klinische Wochenschrift 1901; and Grube Zeitschrift für diätetische und physikalische Therapie 1902.

Instead of katabolism, or downward metamorphosis, proceeding in an orderly manner to the formation of the normal end products—carbonic acid, water, and ammonia—bodies consisting of final groupings from which no further energy can be extracted, an erroneous shedding from the living proteid molecule of a much higher form of atomic grouping occurs, with the result that latent energy is carried off and wasted through the elimination by the kidney that subsequently ensues. The why and the wherefore of this abnormal cleavage is as yet beyond us to fathom and we can only speak of it as the result of some occult influence brought to bear in connexion with katabolism. It is assumed that there are atomic groupings of different kinds existing in the molecule of living protoplasm and it is conceivable, if fat is regarded as the source of oxybutyric acid, that it is from the fatty grouping that the discharged product is thrown off. When oxybutyric acid is being eliminated another abnormality with regard to it is found to exist. The system loses the power possessed in the normal state of consuming the principle when given by the mouth. It has been found[2] that oxybutyric acid administered even in large quantities becomes lost sight of within the healthy organism. Apparently the system possesses the power of assimilating and thereafter utilising it as it does any other fatty acid. In severe diabetes and in pancreatic diabetes, on the other hand, this power is found to be more or less lost—a circumstance, it may be remarked, which agrees with what is observable in the case of sugar. When sugar is being derived from proteid disintegration the power of assimilating and utilising sugar is contemporaneously lost.

Beyond a little acetone in the urine and a certain amount in the breath the acetone series of products are not met with under normal conditions, but diabetes is not the only abnormal state with which they are associated. Deranged metabolism from faulty nutrient supply seems to be the great general factor concerned in their production. Starvation from whatever cause arising, whether the result of disease or of intentional fasting, is attended with their elimination. They have been recognised in connexion with different diseases of a febrile nature and observation shows that they are more likely to be thus found in children than in adults. Restriction to a proteid and fat diet is also one of the conditions leading to their appearance, and in these circumstances the addition of carbohydrate to the food is immediately followed by their disappearance. Unassociated with diabetes the amount of oxybutyric acid found never runs high. From nine to 10 grammes per diem may be looked upon as constituting an outside quantity and most frequently the amount stands below four or five grammes. In diabetes, as previously stated, the amount may upon occasions reach 150 grammes per diem, or even it may be more than this.

It is mainly as an accompaniment of diabetes that the elimination of the acetone series falls under observation and here it is an event of but too common occurrence. Broadly, it may be said that the disposition in the disease is for the condition to grow into a stage attended with the elimination of the products. In the early stage it is usual for them to be absent. Then as time advances they tend to appear. Progressiveness in this particular is observed to constitute an ordinary feature of the disease. At first the fault is limited to defective assimilative power over the carbohydrates of food. These fail to be put into a fit position for utilisation through, it may be considered, constructive metabolism in connexion with them not being properly carried out. If we are correct, as there is reason to believe we are, in attributing the production of the acetone series of principles to a faulty downward metabolism, the morbid state, when their elimination is taking place, may be looked upon as having extended so as to involve both the upward and downward processes in error, thereby producing the "composite" form of the disorder.

The above may be taken to represent the tendency which inherently exists in connexion with the disease. Much variation, however, with respect to extent of disposition to advance is noticeable in different cases. The progress is observably influenced by intrinsic and extrinsic circumstances. Speaking generally, with reference to the former the younger the patient and the more sensitive the nerve organisation the greater the proneness for the disease to run on speedily into the second or "composite" stage, and when this stage is reached for coma to supervene. Age, as is well known, is a most important item of consideration in connexion with prognosis, and, although exceptional instances from time to time present themselves the appearance of sugar in the urine of young subjects must be regarded as having a very serious meaning. Cases do sometimes occur in which a moderate amount of verifiable sugar is found to be present and in which the usual progressiveness is not observed to follow, but the event is rare. The extrinsic circumstances are resolvable into conditions which exert a disturbing influence upon the general metabolism of the body. They call for attention in detail.

The passage of a large quantity of sugar through the system leads as observation abundantly shows, to general disorder of the operations of life. Sugar is wrongly present in the system and as a result of the toxic effect of this wrongly placed sugar general metabolism is interfered with and transit to the "composite" form of the disease is promoted.

Cases are frequently presenting themselves where evidence can be adduced to show that failure in keeping the elimination of sugar in check by dietetic means is a source of the development of the "composite" condition in diabetes. If the patient has been for some time passing a large amount of sugar—for instance, 50 or 60 or upwards per 1000—the acetone series may be expected to be found and the effect of removing or considerably reducing the sugar may be, within a shorter or longer period, to free the urine from them. In corroboration I will cite the following cases. They are all cases in which at the commencement sugar in large quantity was being passed from want of observance of the proper exclusion of carbohydrate food. The diabetic dietary was in each case ordered to be followed. In some, but not in all, of the cases, as was rendered evident by the analytical reports for sugar, strict attention was at once given to the prescribed dietary. In all, however, the attention given was sufficient materially to reduce the sugar eliminated and greatly to improve the patient's general condition.

CASE 1.—This patient, a man, aged 51 years, was first seen by me on July 11th, 1900. He had been the subject of diabetes for 18 months, and through the disease being allowed to run on uncontrolled he had got into an exceedingly unsatisfactory state of health. The sugar indication by copper reduction was 66 and by the polarimeter 60 per 1000, showing a difference of six due to the neutralising levorotatory effect of the oxybutyric acid present. The ferric chloride reaction for diacetic acid gave a colouration requiring +++ signs for its representation. July 14th: Sugar by copper reduction, 26 per 1000 and by polarimeter, 22 per 1000; and diacetic acid, ++. July 25th: Sugar by copper reduction, 35 per 1000; by polarimeter, 31 per 1000; and diacetic acid, +. August 16th: Sugar by copper reduction, 7.6 per 1000; by polarimeter, 5.9 per 1000; and diacetic acid, 0. Oct. 2nd: Sugar, 0; and diacetic acid, 0.

CASE 2.—The patient, aged 62 years, was first seen on Nov. 16th, 1900. Sugar indication by copper reduction, 76 per 1000; by polarimeter, 72 per 1000; and diacetic acid, ++. Dec. 14th: Sugar, 27 per 1000; and diacetic acid, 0. It will be understood from what has been previously said that absence of diacetic acid implies also absence of oxybutyric acid. Since the last date the sugar has been fairly kept down and when the patient was last seen, June 6th, 1902, the report was sugar, 18 per 1000; and diacetic acid, 0.

CASE 3.—The patient, aged 63 years, was first seen on Oct. 21st, 1899, when the copper reduction indicated 45 per 1000 and the polarimeter 37 per 1000 of sugar, with diacetic acid, +++. On Dec. 14th the copper reduction and polarimeter agreed and indicated 27 per 1000 of sugar; diacetic acid, 0.

CASE 4.—This patient was 57 years of age at the first interview, on March 2nd, 1901, when the amount of sugar found was 91 per 1000 with diacetic acid ++. On March 15th the sugar had become reduced to a trace and the diacetic acid to 0. On April 1st both sugar and diacetic acid were absent.

CASE 5.—The patient, aged 56 years, was first seen on Nov. 9th, 1899. The sugar then was 77 per 1000; oxybutyric acid, 0; and diacetic acid, ++. Nov. 14th: Sugar, 22 per 1000; oxybutyric acid, 0; and diacetic acid, ++. Nov. 22nd: Sugar, 14 per 1000; and diacetic acid, 0. Nov. 30th: Sugar, 0; and diacetic acid, 0.

CASE 6.—The patient, aged 31 years, was first seen on Oct. 31st, 1901, when the amount of sugar found was 83 per

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[2] Minkowski, Archiv für experimentelle Pathologie und Pharmakologie, Band xxxi. Araki, Zeitschrift für physiologische Chemie, Band xviii. and Sternberg, Virchow's Archiv, Band clii.

1000 with a diacetic acid indication of ++ Nov 2nd Sugar 50 per 1000 and diacetic acid, + On March 11th, 1902, analysis gave sugar 11 per 1000 and diacetic acid 0.

CASE 7 —This patient was 57 years of age when first seen by me on Oct. 19th, 1897 His case then fell in the alimentary type of diabetes. The urine quickly became free from sugar and the patient recovered sufficient assimilative power over carbohydrate to enable him to partake freely of bread and potatoes without passing sugar On Jan 2nd 1901 he came to me with the history that two months previously he had taken cold and had been laid up with bronchitis and influenza. His diet had recently included milk and farinaceous articles somewhat largely and his old symptoms of diabetes had returned. His urine contained 50 per 1000 of sugar with diacetic acid represented by ++ He was placed upon the restricted diet and on Jan. 16th the urine was free from sugar with diacetic acid + On Feb 20th there was neither sugar nor diacetic acid. This state continued and in October it was found that a tolerating capacity had been regained for six ounces of ordinary bread per diem.

It can scarcely be otherwise than that the inference to be drawn from these cases is that the metabolic equilibrium becomes upset by the toxic effect of the abnormal presence of sugar in the system and that by the removal of this influence metabolism may again settle down into an orderly mode of procedure. I think that under the voidance of a large quantity of sugar the development of the double condition may be ordinarily expected to occur as a sequence before any great length of time has passed, but certain cases seem to have more or less of an inherent quality belonging to them which influences the result. I can cite the case of a female patient whom I first saw in 1887 She was then 57 years of age and had already been suffering from diabetes for a year For some time attention was given to treatment and the sugar was kept fairly under At times in 1890 1892, and 1893 exceedingly large quantities of sugar were passed and since this period the quantity has always been more or less large. Extensively diffused neuritis has developed and a certain amount of albumin has appeared in the urine with hyaline and finely granular casts but no diacetic acid has shown itself My last entry is for the early part of last year and then there was an absence of reaction with the ferric chloride test.

(To be concluded.)

THREE CASES OF MOTOR APHASIA FROM INJURY TO THE HEAD, TWO OF WHICH WERE RAPIDLY CURED BY OPERATION

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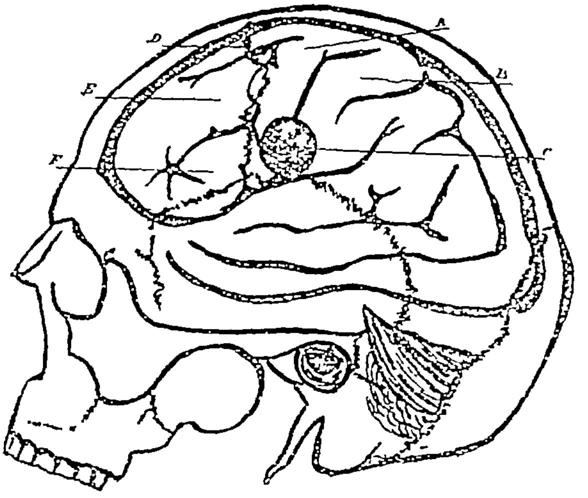
IN the first case the injury without producing a fracture of the skull, induced complete unconsciousness followed by epileptiform fits, and while unconsciousness was returning complete paralysis of the right arm and leg appeared. The operation was performed on the tenth day after the accident and the patient was completely recovered from all the symptoms of injury on the twentieth day In the second case the injury had produced a depressed fracture of the skull associated with complete unconsciousness and on the fourth day epileptiform attacks developed involving primarily the right arm and leg On the fifth day the skull was trephined the bone was elevated and blood was removed, and on the twenty-eighth day the patient had completely recovered. In the third case the injury produced aphasia and unconsciousness only there were no fits and no paralysis an operation was not performed and the patient made a slow recovery during four months

CASE 1. *Injury to the head by a fall from a bicycle followed by unconsciousness and incontinence of urine and after three days by epileptiform seizures which at first were few in number but afterwards very frequent consciousness returning showed the presence of motor aphasia; the fits developed in severity and increased in number on the ninth day after the accident partial and on the tenth day complete paralysis of the right arm and leg ensued while the mental condition was improving operation was immediately followed by cessation of epileptiform attacks rapid recovery of movements in the paralysed limbs and complete recovery of speech within a fortnight* —The patient, a man aged 25 years, was cycling on the evening of Feb 5th, 1902, when he was knocked off his bicycle by running into a person on the road. He was picked up unconscious and was sent to the Glasgow Royal Infirmary early on the following morning His condition on admission as recorded by Dr Cuthbert, my house surgeon was as follows He was quite unconscious but when disturbed he resisted in a half voluntary fashion The face was flushed the temperature was 100° F and the pulse 100 rather feeble the pupils were equal and moderately contracted and reacted to light, there was no hæmorrhage under the conjunctiva. From the right ear there was a little oozing of blood but owing to the patient s restlessness on being touched it was impossible to say if the tympanic membrane was injured. There was a little vomiting since admission. On the 9th the patient was still unconscious but very restless the pupils remained quite equal and no bleeding from the ear was observed. In the morning he seemed to understand a little of what was going on but at 11 A M he had a severe epileptiform seizure starting in the right hand and gradually extending over the whole body The twitchings were well marked on the right side of the body and the mouth was drawn to the right side of the face The whole attack lasted only half a minute. He had two similar seizures within two hours. On the 10th the patient had had seven attacks since the previous day but the longest attack only lasted about one minute They all affected the right side first, but in some the twitchings were limited to the face. The patient was still very stupid but seemed to know something of what was going on around him. He opened his mouth when told but could not answer questions although he attempted to do so there was no paralysis and the pupils were equal. On the 11th there was no recurrence of fits and the patient had gained consciousness but could not speak a word. He recognised and shook hands with his mother and seemed annoyed that he could not speak. After this note was made the patient gradually improved in his general condition, he had no more fits until early on the morning of the 13th when he had four slight ones, each lasting about half a minute and only affecting the right side and face The face was much flushed but the temperature was subnormal and the pulse was 56 per minute and of moderate tension There was no paralysis of the muscles of the face or of any part of the body and the pupils were equal and reacted to light He was now quite conscious but still very slow in cerebration He could help himself to milk when it was left at his bedside. When he attempted to reply to a question he made a great effort and got out an inarticulate sound and then shook his head in disgust. He seemed anxious to get a magazine which he held up in front of his face and he was annoyed when it was taken from him His manner and gestures showed that he understood spoken, written, and printed words but he was unable to speak and could not imitate either written or printed words although he made an attempt to do so when asked When his drinking cup was held up and he was asked what it contained he shook his head and pointed to his mouth to indicate that he either could not say the name or that it contained something to drink. When asked if the contents were soup tea, coffee water wine or beer he indicated a negative with a slight shake of the head, but when the word milk" was mentioned he correctly indicated the affirmative and when the word milk was written alongside the others above mentioned he pointed to it correctly On the evening of the 13th at 6 o clock the patient had a severe epileptiform fit and between that time and nine o clock he had 12 attacks these were all similar in character except one in which the convulsive movements were confined to the face. The attacks were characterised not so much by twitching as by rigidity of the muscles of the right arm and leg The patient seemed to know when they were coming on and immediately they were over he was quite conscious When a fit was coming on the face became flushed the pupils dilated and the head turned towards the right side the right hand then became flexed at the wrist and fingers the forearm then became flexed and the whole arm retained a rigid position for about from a minute to a minute and a half this rigidity extended all over the body The patient rolled round on his right side and then almost on to his face with the head much retracted and the left leg was lifted from the bed The attacks commenced again on the afternoon of the 14th at 1 45, 13 fits occurred up to 8 P M On the 15th it was reported that during the previous 24 hours the patient had had 48 attacks, and on that morning it was observed that the right hand was slightly paralysed. During the day the paralysis became more marked, there was no paralysis of the leg or of the muscles of the face From midnight up till 2 P M of the 16th the patient had 18 fits and these were both more severe and more prolonged than formerly The paralysis of the right arm was now complete and the movements of the right leg were greatly impaired, but there was no paralysis of the facial muscles and the pupils were equal

At 2 P M on Feb 16th I trephined the skull a little behind and above the anterior inferior angle of the left parietal bone far enough back to avoid the middle meningeal artery (Fig 1) On exposing the dura mater it was seen to bulge outwards, it was devoid of pulsation and was separated from the brain by a quantity of very dark fluid blood On opening the membrane about an ounce of blood escaped Three tubes were inserted, one passing upwards towards the ascending frontal convolution, one backwards in the direction of the superior temporal, and one forwards as far as the middle frontal, convolution An opening was made in the centre of the skin flap and the tubes were carried through On the evening of the 16th the patient had had no fits since the operation He was now much brighter and considerably improved in general appearance, there was some movement both in the right arm and leg, but the patient remained completely aphasic On the 18th the power had almost completely returned to his right arm and leg, but there was still a little facial paralysis on the right side, there was no recurrence of the fits, and although he was now quite intelligent and conscious he was quite unable to speak. Since the operation a considerable quantity of blood had escaped into the dressings so that they required to be changed twice The cerebral pulsations were now clearly communicated to the drainage tubes, which rested upon the surface of the brain. On the 20th the patient fully understood all that was said to him, but still he was unable to name any objects, figures, or written words which were shown him and could not repeat spoken words or copy writing with the exception of the initial letters of his own name, and even these he did not form correctly When told to do anything, such as to show his tongue, to hold up a certain number of fingers, or to turn to a given page in a book he could do so correctly and he recognised his name when he heard it On the 21st for the first time he was able when asked to repeat his name, but he spoke in a very indistinct way He still continued to improve on the 22nd, although there remained some facial paralysis His speech had improved and he could now use a good many words but not in a correct fashion, although as a rule he succeeded in making his meaning clear On asking him to read printed matter he could make out most of the words, although evidently with some difficulty, and his pronunciation was peculiar, he seemed to stick at small words like *a* and *the* and said that he did not understand them, but he could read written words well. On asking him to write his name he managed successfully to write the initials but generally mis spelt his name In writing a word to dictation he had great difficulty, but when it was spelt for him he started off with a rush while one was still speaking and generally broke down in the middle of the word, and when he got stuck at a word he started off writing his own initials On the 26th the patient continued to improve and he could now make himself clearly understood, although there were a considerable number of words he was still unable to use He read with difficulty, spelling out the words like a child learning to read, some letters he had more difficulty with than others—*y*, *p*, and *w* giving him most difficulty On March 1st he spoke and read fluently, although his speech was perhaps a little clumsy and his reading somewhat syllabic

FIG 1

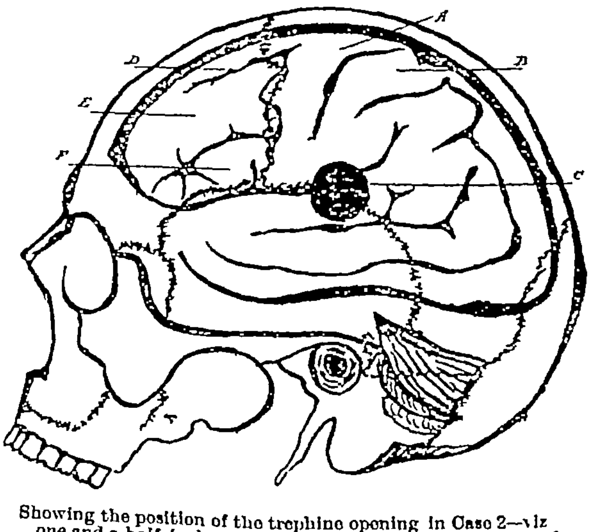


Illustrating the position of the trephine opening in Case 1—viz, at the anterior inferior angle of the left parietal bone A Ascending frontal convolution. B Ascending parietal convolution C Trephine opening D First parietal convolution E, Second parietal convolution F, Third frontal convolution

CASE 2. *Compound fracture of the skull at the anterior inferior angle of the left parietal bone, symptoms of concussion with complete unconsciousness, on the fourth day slight twitchings of the right arm and leg, 10 epileptiform fits in 24 hours, operation followed by return of consciousness and cessation of fits, no paralysis, aphasia remained after consciousness returned, complete recovery on the twenty eighth day after operation.*—A lad, aged 14 years, was admitted into the Glasgow Royal Infirmary on Feb 22nd, 1900 A charge of gelignite was being rammed home in a bore in a coal mine in which he was working The weather at the time was extremely cold and the gelignite was hard and was consequently more explosive than usual While the operator was driving the charge into the bore it suddenly exploded, the operator was killed, two men standing beside him were severely injured and brought into the infirmary, while the patient was struck on the head by a fragment of stone. On admission the patient was found to be suffering from symptoms of concussion Over the anterior inferior angle of the left parietal bone there was a lacerated wound of the scalp At the anterior part and near to the lower border of the parietal bone the aponeurosis was divided and immediately underneath there was a depressed fracture, and from the point indicated a fissured fracture ran forward beyond the reach of the finger From the 22nd to the 26th he remained unconscious, but on the latter date, for the first time, twitchings of the right side of the face were observed, followed by paresis In the evening of the 26th the patient had an epileptiform attack involving the right side of the body with the exception of the leg, there was conjugate deviation of the head and eyes to the right side and both tonic and clonic spasm of the right arm

On Feb 27th I trephined the skull one and a half inches behind the anterior inferior angle of the parietal bone and removed a portion of the parietal and a fragment of the temporal bone (Fig 2.) The patient was so unconscious

FIG 2



Showing the position of the trephine opening in Case 2—viz one and a half inches behind the anterior inferior angle of the left parietal bone and including a portion of the temporal bone Letters as in Fig 1 that the operation could be performed without the aid of an anæsthetic. An hour after being put back to bed the twitchings were observed on the right side of the face, also conjugate deviation of the head and eyes to the right, the right arm also being involved. After 4 30 P M the patient was free from any attacks of epileptiform convulsions until seven o clock on the evening of the 28th when he had a slight attack implicating the face head, and eyes. From the 28th to March 6th the patient had no fits, but when consciousness had completely returned he was found to be aphasic. Showing him familiar objects, such as a cup, a spoon, a knife, or a chair he was unable to name them. He appeared to understand spoken words but was incapable of appreciating anything written or printed he was unable to copy any letters or words he could not write to dictation, nor could he repeat words mentioned to him On March 10th the patient had greatly improved he could now answer questions of a simple character such as his name, his age, and his place of birth but he found difficulty in repeating words read to him. He was unable to read either printed or written words When figures were placed in front of him he could indicate the smaller numbers with his fingers but he was unable to write on paper a corresponding number of strokes to the number shown him. Dr John Love was asked to see the patient the following day and by this time marked improvement had taken place. Dr Love dictated the following note. There is no paralytic symptom of the face, eyes or limbs and no changes of the reflexes superficial or deep. The stereognostic sense cannot be tested on account of the aphasia and slight agraphia. The aphasic condition seems to be purely motor there being neither word nor letter blindness nor is there any blindness for figures Arabic or Roman there is no word-deafness or mind blindness, there is a degree of agraphia. He can write to dictation and also spontaneously he makes some mistakes, such as 'tonnge' for tongue' and 'ding for drink , there is no hemianopsia and the optic disc is normal. As regards the aphasia the patient had greatly improved on the 16th. He was now able to repeat the names of patients who lay near to him in the ward and made a fairly good attempt at the numerals when asked the number of fingers held up or printed figures shown to him. On the 20th the patient was able to repeat the alphabet so as to be understood and to say the numerals correctly, his articulation was not quite perfect but he made rapid improvement in the employment of words although still he had difficulty in writing the letters of the alphabet. In asking him to read, the only letter of the alphabet which seemed to puzzle him was the letter *f* The power of speech had returned on the 27th so that the patient was able to answer any question put to him and he could write an original letter or to dictation as correctly as at any time prior to the accident. He was dismissed on April 25th perfectly well

CASE 3. *Injury to the head by a fall from a bicycle followed by complete unconsciousness and incontinence of urine of one month's duration deglutition difficult no epileptiform attacks and no paralysis of the limbs but evidence of motor aphasia slowly recovering during four months no operation performed slow recovery of speech during four months*—A man, aged 26 years was admitted to my ward in the Glasgow Royal Infirmary on Nov 14th 1899 He was recommended to me by Dr John Mackinnon of Drymen, who supplied me with a very carefully prepared history of the case from which it appears that the patient was riding home from Glasgow to Drymen about 11 P M on Sept 10th, 1899 In going down a hill just past Kilmarnock School he was violently thrown from his bicycle, having run over a man who was lying across the road very much the worse for drink. When seen by Dr Mackinnon at 2 A.M on the following morning he was completely unconscious, but there was no evidence of external injury with the exception of an abrasion on the back of the head, where the scalp was denuded of hair and covered with road dust. This denuded patch was situated about two inches above the external occipital protuberance, one inch to the left of the middle line. There was no indication of the skull being fractured at the point referred to There were no signs of paralysis of the legs the arms or the facial muscles The patient remained completely unconscious until the 25th. During the week from the 18th to the 25th the days and nights were passed in a condition varying from the quietest sleep to extreme restlessness When restless he turned from side to side and generally ended in being completely rolled up in ide his blankets and sheet. He passed urine and fæces involuntarily and while awake he looked a great deal about him but made no sign of recognition On the 25th the patient began to speak, but it was mere gibberish though the sounds had a resemblance to words From this time his general condition began to improve, but during the week from the 26th to Oct. 2nd the evacuations remained involuntary During this week the patient talked a great deal but failed entirely to articulate words. He failed to recognise anyone in particular or to distinguish between different persons. To quote Dr MacKinnon s report, He always called his aunt mother father or sister and also myself Johnnie everybody was Johnnie or Johnnie first or 'Johnnie second. The only other words he used this week were ponens or ponens twice, or twice ponens and sometimes he carried on a long conversation only using the words referred to above and mixing them well he also talked very volubly, using chiefly inarticulate sounds which had not the least resemblance to the English language. During the week ending with Oct. 9th the patient had considerably improved When I (Dr MacKinnon) visited him he would say Good morning Johnnie, thank you very much yes, plea e, thank you He got his photograph taken on the day of the accident in a group along with two fellow workmen who are companions of his. I showed him the photograph and asked him who they were he immediately pointed to himself and said Johnnie first. Who is the next? Johnnie second (real name H—— G——) Who is the third fellow? Johnnie (real name W—— McF——) The photograph also included a bicycle standing in front of the group but he could make nothing out of it. I tried him in reading with the large letters of the alphabet but he did not know a single one This is how he named them A ponens twice, B twice ponens, C Johnnie Pad D Johnnie. He cannot read a single word in the newspapers but simply talks gibberish in the same way as he does with single letters. At this period he was quite unable to recognise relatives. From the 9th to the 16th his general health markedly improved Two companions called to see him during the week he evidently knew them but could not name them and he still failed to recognise any of the letters of the alphabet, although he was able to indicate the use of such common articles as a knife, a fork a spoon a hammer or keys but he was unable to name them or repeat the name when it was mentioned. On the 16th Dr Mackinnon made the following note —

I. *Name and use of familiar objects*—(1) (Showing him a chair), What do you call that?—Johnnie What is it used for? — Nothing that I know very much very much Johnnie to me. Sit down —Does so (2) (Showing him a fork) What is the name of that? — Wee Johnnie before this time What is it for? — Knows quite well. (3) (Showing him bread) What do you call that? Name it. — Johnnie pad to me second this time. What is it for?—Eats it and says Thanks very much (4) (Pointing to his mother) Who is this ?— Johnnie. (He now seems to recognise his mother from a stranger)

II. *The understanding of spoken words* — How are you today?— I am better thank you just now very much than Saturday of course. (I think he has learned this phrase about asking for him because in giving him a sentence that he was unfamiliar with he did not understand it—e g Put on your cap elicited no response What o clock is it ? elicited no response

III. *Does he understand printed or written words?*—I gave him to read in large printed letters Old Gold Cigarett s He read as follows Old Tommy second path second tomas ponen Next tried him with each letter What letter is that, O? — Second pass. What letter is that I ? — What letter is that D? — Johnnie t[illegible] Tommy second.

IV *Voluntary speech*—This is lost as he never asks anything in a coherent manner or gives any information

V *Supposing he does name a printed word correctly does it convey any real meaning to him* —No

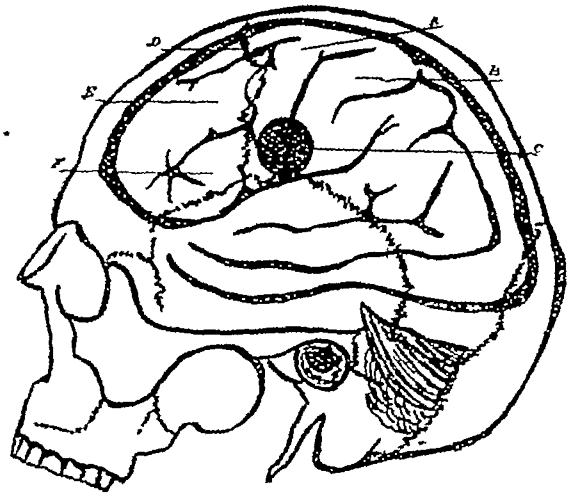
VI *Can he write his name voluntarily?*—I said 'Write your name, he wrote Ddma Hdardrdmas Now I said, read it he read Johnnie Mate second time

VII *Can he copy written or printed matter* —Yes He wrote his name John —— and copied it correctly He can also copy printed words correctly (but of course he does not understand the words he copies)—e g Mixture is what I smoke he wrote MixTure is what I mol e "

VIII *Can he write to dictation?*—Asked to write Is what I smoke he wrote I walt I wake attacks commenced again on the afternoon of the 14th. 1.45, 13 fits occurred up to 8 P.M. On the 15th it reported that during the previous 24 hours the patient had had 48 attacks, and on that morning it was observed that the right hand was slightly paralysed. During the day the paralysis became more marked, there was no paralysis of the leg or of the muscles of the face From midnight up till 2 P.M. of the 16th the patient had 18 fits and these were both more severe and more prolonged than formerly The paralysis of the right arm was now complete and the movements of the right leg were greatly impaired, but there was no paralysis of the facial muscles and the pupils were equal

At 2 P.M on Feb 16th I trephined the skull a little behind and above the anterior inferior angle of the left parietal bone far enough back to avoid the middle meningeal artery (Fig 1) On exposing the dura mater it was seen to bulge outwards, it was devoid of pulsation and was separated from the brain by a quantity of very dark fluid blood. On opening the membrane about an ounce of blood escaped. Three tubes were inserted, one passing upwards towards the ascending frontal convolution, one backwards in the direction of the superior temporal, and one forwards as far as the middle frontal, convolution. An opening was made in the centre of the skin flap and the tubes were carried through On the evening of the 16th the patient had had no fits since the operation. He was now much brighter and considerably improved in general appearance, there was some movement both in the right arm and leg, but the patient remained completely aphasic. On the 18th the power had almost completely returned to his right arm and leg, but there was still a little facial paralysis on the right side, there was no recurrence of the fits, and although he was now quite intelligent and conscious he was quite unable to speak. Since the operation a considerable quantity of blood had escaped into the dressings so that they required to be changed twice. The cerebral pulsations were now clearly communicated to the drainage tubes, which rested upon the surface of the brain. On the 20th the patient fully understood all that was said to him, but still he was unable to name any objects figures, or written words which were shown him and could not repeat spoken words or copy writing with the exception of the initial letters of his own name, and even these he did not form correctly When told to do anything such as to show his tongue, to hold up a certain number of fingers or to turn to a given page in a book, he could do so correctly and he recognised his name when he heard it. On the 21st for the first time he was able when asked to repeat his name, but he spoke in a very indistinct way He still continued to improve on the 22nd, although there remained some facial paralysis His speech had improved and he could now use a good many words but not in a correct fashion, although as a rule he succeeded in making his meaning clear On asking him to read printed matter he could make out most [illegible] difficulty, and [illegible] them, but he c[illegible] *to write his name he manag*[illegible] initials but generally mis-spelt his name. [illegible] word to dictation he had great difficulty, but when it was spelt for him he started off with a rush while one was still speaking and generally broke down in the middle of the word, and when he got stuck at a word he started off writing his own initials On the 26th the patient continued to improve and he could now make himself clearly understood, although there were a considerable number of words he was still unable to use. He read w[illegible] spelling out the words like a child learning to read, [illegible] had more difficulty with than others—*y*, *p*, and *w* giving him most difficulty On March 1st he spoke and read fluently, although his speech was perhaps a little clumsy and his reading somewhat syllabic.

FIG 1.



Illustrating the position of the trephine opening in Case 1—viz, at the anterior inferior angle of the left parietal bone A, Ascending frontal convolution B Ascending parietal convolution. C Trephine opening D First parietal convolution E Second parietal convolution F, Third frontal convolution

CASE 2. *Compound fracture of the skull at the anterior inferior angle of the left parietal bone, symptoms of concussion with complete unconsciousness, on the fourth day slight twitchings of the right arm and leg; 10 epileptiform fits in 24 hours, operation followed by return of consciousness and cessation of fits, no paralysis, aphasia remained after consciousness returned, complete recovery on the twenty eighth day after operation.*—A lad, aged 14 years, was admitted into the Glasgow Royal Infirmary on Feb 22nd, 1900 A charge of gelignite was being rammed home in a bore in a coal mine in which he was working The weather at the time was extremely cold and the gelignite was hard and was consequently more explosive than usual While the operator was driving the charge into the bore it suddenly exploded, the operator was killed, two men standing beside him were severely injured and brought into the infirmary, while the patient was struck on the head by a fragment of stone. On admission the patient was found to be suffering from symptoms of concussion Over the anterior inferior angle of the left parietal bone there was a lacerated wound of the scalp At the anterior part and near to the lower border of the parietal bone the aponeurosis was divided and immediately underneath there was a depressed fracture, and from the point indicated a fissured fracture ran forward beyond the reach of the finger From the 22nd to the 26th he remained unconscious, but on the latter date, for the first time, twitchings of the right side of the face were observed, followed by paresis In the evening of the 26th the patient had an epileptiform attack involving the right side of the body with the exception of the leg, there was conjugate deviation of the head and eyes to the right side, and both tonic and clonic spasm of the right arm

On Feb 27th I trephined the skull one and a half inches behind the anterior inferior angle of the parietal bone and removed a portion of the parietal and a fragment of the temporal bone. (Fig 2.) The patient was so unconscious

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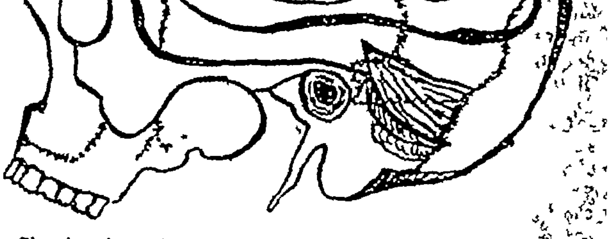

Showing the position of the trephine opening in Case 2—viz, one and a half inches behind the anterior inferior angle of the left parietal bone and including a portion of the temporal bone Letters as in Fig 1.

that the operation could be performed without the aid of an anæsthetic. An hour after being put back to bed the twitchings were observed on the right side of the face, also conjugate deviation of the head and eyes to the right, the right arm also being involved. After 4 30 P M the patient was free from any attacks of epileptiform convulsions until seven o clock on the evening of the 28th, when he had a slight attack implicating the face, head and eyes. From the 28th to March 6th the patient had no fits but when consciousness had completely returned he was found to be aphasic. Showing him familiar objects such as a cup, a spoon a knife or a chair he was unable to name them. He appeared to understand spoken words but was incapable of appreciating anything written or printed he was unable to copy any letters or words, he could not write to dictation, nor could he repeat words mentioned to him On March 10th the patient had greatly improved he could now answer questions of a simple character such as his name his age, and his place of birth but he found difficulty in repeating words read to him. He was unable to read either printed or written words When figures were placed in front of him he could indicate the smaller numbers with his fingers but he was unable to write on paper a corresponding number of strokes to the number shown him. Dr John Love was asked to see the patient the following day and by this time marked improvement had taken place. Dr Love dictated the following note. There is no paralytic symptom of the face, eyes or limbs and no changes of the reflexes, superficial or deep. The stereognostic sense cannot be tested on account of the aphasia and slight agraphia. The aphasic condition seems to be purely motor there being neither word nor letter blindness, nor is there any blindness for figures, Arabic or Roman there is no word-deafness or mind blindness there is a degree of agraphia. He can write to dictation and also spontaneously he makes some mistakes such as tonnge for tongue' and ding for drink there is no hemianopsia and the optic disc is normal. As regards the aphasia the patient had greatly improved on the 16th He was now able to repeat the names of patients who lay near to him in the ward and made a fairly good attempt at the numerals when asked the number of fingers held up or printed figures shown to him. On the 20th the patient was able to repeat the alphabet so as to be understood and to say the numerals correctly his articulation was not quite perfect but he made rapid improvement in the employment of words although still he had difficulty in writing the letters of the alphabet. In asking him to read the only letter of the alphabet which seemed to puzzle him was the letter *f* The power of speech had returned on the 27th so that the patient was able to answer any question put to him and he could write an original letter or to dictation as correctly as at any time prior to the accident. He was dismissed on April 25th perfectly well

CASE 3. *Injury to the head by a fall from a bicycle followed by complete unconsciousness and incontinence of urine of one month's duration deglutition difficult no epileptiform attacks and no paralysis of the limbs but evidence of motor aphasia slowly recovering during four months no operation performed slow recovery of speech during four months* —A man, aged 28 years was admitted to my ward in the Glasgow Royal Infirmary on Nov 14th 1899 He was recommended to me by Dr John Mackinnon of Drymen, who supplied me with a very carefully prepared history of the case, from which it appears that the patient was riding home from Glasgow to Drymen about 11 P M on Sept 10th, 1899 In going down a hill just past Kilmarnock School he was violently thrown from his bicycle, having run over a man who was lying across the road very much the worse for drink. When seen by Dr Mackinnon at 2 A.M. on the following morning he was completely unconscious, but there was no evidence of external injury with the exception of an abrasion on the back of the head where the scalp was denuded of hair and covered with road dust. This denuded patch was situated about two inches above the external occipital protuberance, one inch to the left of the middle line There was no indication of the skull being fractured at the point referred to. There were no signs of paralysis of the legs the arms or the facial muscles The patient remained completely unconscious until the 25th. During the week from the 18th to the 25th the days and nights were passed in a condition varying from the quietest sleep to extreme restlessness. When restless he turned from side to side and generally ended in being completely rolled up in side his blankets and sheet. He passed urine and fæces involuntarily and while awake he looked a great deal about him but made no sign of recognition On the 25th the patient began to speak but it was mere gibberish though the sounds had a resemblance to words From this time his general condition began to improve, but during the week from the 26th to Oct. 2nd the evacuations remained involuntary During this week the patient talked a great deal but failed entirely to articulate words. He failed to recognise anyone in particular or to distinguish between different persons. To quote Dr MacKinnon s report, He always called his aunt mother father or sister and also myself Johnnie everybody was Johnnie or Johnnie first or Johnnie second The only other words he used this week were 'ponens or ponens twice, or twice ponens, and sometimes he carried on a long conversation only using the words referred to above and mixing them well he also talked very volubly using chiefly inarticulate sounds which had not the least resemblance to the English language. During the week ending with Oct. 9th the patient had considerably improved When I (Dr MacKinnon) visited him he would say Good morning Johnnie, thank you very much, yes, please, thank you He got his photograph taken on the day of the accident in a group along with two fellow workmen who are companions of his. I showed him the photograph and asked him who they were he immediately pointed to himself and said Johnnie first. Who is the next? Johnnie second (real name H—— G——) Who is the third fellow? Johnnie (real name W—— McF——) The photograph also included a bicycle standing in front of the group but he could make nothing out of it. I tried him in reading with the large letters of the alphabet but he did not know a single one. This is how he named them A, 'ponens twice, B twice ponens C Johnnie Pad D Johnnie. He cannot read a single word in the newspapers but simply talks gibberish in the same way as he does with single letters" At this period he was quite unable to recognise relatives. From the 9th to the 16th his general health markedly improved Two companions called to see him during the week he evidently knew them but could not name them and he still failed to recognise any of the letters of the alphabet, although he was able to indicate the use of such common articles as a knife, a fork a spoon a hammer or keys but he was unable to name them or repeat the name when it was mentioned. On the 16th Dr Mackinnon made the following note —

I *Name and use of familiar objects* —(1) (Showing him a chair) What do you call that?'— Johnnie What is it used for? — Nothing that I know very much very much Johnnie to me. Sit down —Does so (2) (Showing him a fork) What is the name of that? -- Wee Johnnie before this time What is it for? — Knows quite well. (3) (Showing him bread) What do you call that? Name it — Johnnie pad to me second this time What is it for? —Eats it and says, Thanks very much. (4) (*Pointing* to his mother) Who is this ?— Johnnie (He now seems to recognise his mother from a stranger)

II *The understanding of spoken words* — How are you today?— I am better thank you just now very much than Saturday of course. (I think he has learned this phrase about asking for him because in giving him a sentence that he was unfamiliar with he did not understand it— e g Put on your cap elicited no response What o clock is it? elicited no response.

III. *Does he understand printed or written words*'—I gave him to read in large printed letters Old Gold Cigarettes He read as follows Old Tommy second path second tomas ponen Next tried him with each letter What letter is that, O? — Second pa s. What letter is that I ? — Tommy second. What letter is that D? — Johnnie t p'

IV *Voluntary speech* —This is lost, as he never asks anything in a coherent manner or gives any information

V *Supposing he does name a printed word correctly does it convey any real meaning to him* —No

VI *Can he write his name voluntarily*'—I said Write your name, he wrote Ddma Hdardrdmas. Now I said read it he read Johnnie Mate second time

VII *Can he copy written or printed matter*'—Yes. He wrote his name John —— and copied it correctly He can also copy printed words correctly (but of course he does not understand the words he copies)—e g, Mixture is what I smoke he wrote MixTure is what I smoke

VIII *Can he write to dictation*'—Asked to write, Is what I smoke he wrote I waht I wake

IX. *Can he repeat words?*—No, I said, 'Say mother,' but he could not do it and made an attempt by saying, 'on a top i.'

Nov 7th, 1899—Patient's general health has improved very much within the last three weeks He sleeps well and eats well and is fond of work He has been doing little jobs in connexion with his trade as a joiner and knows quite well what he means to do, and also the use of his tools He sleeps well, is quite cheery and happy, and whistles lots of familiar tunes, but never tries a song I have often tried him to sing a verse of a song, but he never would attempt it He knows his people better now, but still calls them 'Johnnie' or 'the old ane' I again tested his condition to night, pretty much in the same lines as before (*vide* Oct. 16th) Knee-jerks are good.

I *Name and use of familiar objects*—(Showing him a pen), 'What is that?' Reply, 'The red one' (Showing a pocket knife), 'What is that?'—The top or red one' (Showing a bunch of keys), 'The top' (Showing a watch), 'The top part' (Showing a plant), 'The red one'

II. *Ability to read*—(1) Printed matter and asked to read the following 'All fat people,' he read, 'All at person.' Asked to name each letter, he knew them all with one exception Asked to read, 'A soldier in camp,' he read, 'A person in at' (2) Written matter—I wrote the following letter to him and asked him to read it, what he read being in parentheses 'Drymen, 7 November, 1891 (Johnnie, 11 Up, 1891)—Dear John (That on), Was it raining to day? (Was it again to day?), Did the river overflow its banks? (Did the person up at things?), Would you like to go to London? (Would you like to go to things?), or Africa at present? (or top at things?)' Asked to read his name he knew it at once. (3) Figures He can name most of the figures correctly, can do a little addition, but cannot manage subtraction Asked to add 32,453 to 24,621 he gave the answer correctly, 57,074 Asked to subtract 214,346 from 437,896 he gave the answer wrong, 650,122.

III. *Can he write volitionally?*—No, this is absolutely lost.

IV *Can he write to dictation?*—No, this is absolutely lost

V *Can he write figures when dictated?*—Yes, partially, he wrote straight on to 28, but could not write them correctly if not given seriatim.

VI *Does he understand spoken speech?*—Yes, partially, if asked to put out his tongue he does so, and when asked to sit down on a chair he did so If assisted by gesture he knows at once what is meant

VII *Does he understand written matter?*—No, but he can copy it correctly I wrote on a piece of paper, 'This was a very wet day,' and he copied it correctly

VIII *Can he copy printed matter?*—Yes The following observations were made as to interruptions in sensory centre

I *Understanding of speech*—When spoken to no doubt he understands many words, but still there is marked impairment

II. *Understanding of writing*—This is absolutely lost

III *Understanding of printed matter*—He can *name* some of the smaller words correctly, but they convey no intelligent meaning to him

IV *Can he repeat a word spoken to him?*—No, occasionally after many attempts he may hit on it, but he would much rather prefer that you would accept a substitute. I asked him to say 'lamp' and after a few attempts he said 'lama.' This is a proof that he has no intelligent conception of written words word blindness I wrote on a slip of paper the following request in large plain letters, 'Please give me a small' (his reading was, 'Things again me a person') 'bit of tobacco ('vet of things')? He had no idea that tobacco was wanted Then I wrote, 'Will you be kind enough' (he read, 'Will you be again things') 'to give me the loan of' ('to things me to things of') 'your pocket-knife' ('our tops things')? This conveyed no idea to him that I wanted his pocket knife. 'What time is it on' ('That time is it on) 'your watch ('our things')? Even when shown a watch he does not know the time on it. *Note*—It will be seen from this examination that he has improved a good deal from the time he began to go about."

When admitted to the Glasgow Royal Infirmary he was still very aphasic and had but a limited and very incorrect vocabulary He was, however, quite cognisant of his inability to speak and after he came out with false words evidently appreciated their inapplicability He could pronounce his own name, but when asked where he came from he spelt the name of the town and failed to pronounce it He could tell the days of the week and count the numerals and his figuring was perfect, and he could add correctly but he used his fingers to count He knew the comparative value of coins but could not correctly state their worth. He could read only short words and when asked what caused his accident he was unable to say, but when pressed for an answer he drew the picture of a bicycle During his residence in the infirmary he made rapid improvement and the case not being one demanding surgical interference the patient was transferred to Dr Middleton's ward. When he was dismissed therefrom on Dec 29th he could speak fairly well and could remember the nature of the accident which led to his injury The patient was seen by me several times since he was dismissed and in May, 1900, he was perfectly well

Glasgow

A REPORT ON 43 CONSECUTIVE CASES OF DIPHTHERIA

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IN publishing the statistics of 43 consecutive cases of diphtheria admitted to the Norfolk and Norwich Hospital during the past two years, it is our intention to show the value of tracheotomy and free administration of antitoxin in the treatment of this disease The cases admitted to this hospital were those suffering from laryngeal obstruction and many of these were brought here *in extremis* In these circumstances it will readily be understood that 39 out of the 43 cases required operation The total number of deaths will be seen to be 10 out of which five cases—i.e., one half—were aged between one and two years, two between three and four years, while the total number of patients admitted at these ages was 12 and 14 respectively, thus showing a mortality of 41⅔ per cent. at the former age and only 14 per cent. at the latter age But of these 43 cases it will be seen that 24, or rather more than one half, had a laryngeal and pharyngeal infection, while 14 had laryngeal infection alone, with a mortality in the former case of 16 per cent and in the latter of nearly 50 per cent., it is, however, only fair to state that out of the six deaths occurring in the latter (laryngeal alone) variety—one was due to suppression of urine, two were due to broncho-pneumonia, while of the other three two patients died from asphyxia and one from hæmorrhage into the trachea which was started during a fit of coughing within a few hours of the operation Three cases which recovered had a laryngeal, pharyngeal, and nasal infection All the patients who recovered were examined as late as three weeks after discharge from the hospital for signs of paralysis, and in three only was any present.

STATISTICS

The total number of cases was 43 Tracheotomy was performed in 39 cases, the result being that 29 of the patients recovered and 10 died (one child had ceased breathing before the operation had begun) Paralysis occurred in three cases, all recovered completely One patient had a pharyngeal infection alone, no antitoxin was administered and the paralysis occurred 25 days after the onset of the disease One patient had a pharyngeal, laryngeal and nasal infection, 17,000 units of antitoxin were injected and paralysis occurred on the fifty fourth day of the disease In a third case the patient had pharyngeal and laryngeal infection, 6000 units of antitoxin were administered and paralysis occurred on the fifty seventh day of disease. Cultures were taken in 18 cases showed the following result in five cases there was a pure culture of diphtheria, in six a mixed culture of diphtheria and staphylococci, and in seven pure cultures of staphylococci or mixed staphylococci and streptococci.

TABLE I.—*Age and Incubation Period*

Age in years	Number of cases.	Days ill before admission.	Number of cases.
Under 1	1	1	6
2	12	2	7
3	4	3	6
4	14	4	5
5	7	5	4
6	3	6	1
Over 10	2	7	6
		8	5
		11	1

TABLE II.—*Seat of Infection and Day of Removal of Tracheotomy Tube*

Varieties of infection	Number of cases.	Day on which the tube was left out	Number of cases
Pharyngeal	2	Second	6
Laryngeal	14	Third	12
Pharyngeal and laryngeal	24	Fourth	6
		Fifth	2
Pharyngeal laryngeal and nasal	3	Sixth	1
		Tenth	1
		Fourteenth	1
		Twenty third	1

TABLE III.—*Date of Appearance of Rash and Amount of Antitoxin Injected.*

Number of days after injection of serum before the appearance of rash	Number of cases	Number of 1000 units of antitoxin injected
3	1	6
6	1	15½
7	1	32
8	3	27 9 9
10	2	7 12
11	1	13
12	1	8
13	1	17
16	1	10
17	1	6
31	1	3

Rash occurred in 14 cases In 11 of these cases the rash was an irritable urticaria with some erythema surrounding the wheals varying in distribution and extent from a few patches on the knees or abdomen to a profuse rash affecting the face, the limbs, and the trunk. In only one case was there constitutional disturbance—namely rise of temperature and malaise. In three other cases an irritable small papular eruption was noticed over the limbs and in one of these the rash was accompanied by pyrexia and vomiting Albuminuria was found in 30 cases of the remaining 13 cases six definitely had none while in the other seven cases no urine could be collected The amount of albumin varied from one-half in one case to a mere trace, the average being a definite deposit after boiling and allowing the coagulum to settle.

Complications—In seven of the fatal cases the complications were as follows pharyngeal infection after laryngeal arising on the fifth day after admission and an injection of 6000 units of antitoxin in one case hæmorrhage following tracheotomy in one case broncho-pneumonia in two cases suppression of urine in one case asphyxia in one case (prior to tracheotomy) and cardiac failure in one case. In the non fatal cases the complications were broncho-pneumonia in four cases, otorrhœa in one case subcutaneous emphysema in one case paralysis in three cases, and diphtheritic infection of the nose and of the wound in one case (this case is mentioned in detail later) Accidental complications present were congenital syphilis, measles, and old pleurisy with a contracted chest.

Length of stay in hospital—The length of stay in hospital in the fatal cases was less than 24 hours in six cases two days in one case three days in one case five days in one case and six days in one case. As regards the recoveries the average number of days the patients remained in hospital was 33, the longest period being 47 days and the shortest 12 days

TREATMENT

Tracheotomy—In no case was an anæsthetic employed the patient's head being fixed in Caiger's head rest and the limbs being bound to the table by bandages Special attention was paid to dividing all the layers in the middle line to avoid closure of the tracheal wound by overlapping tissues and thus facilitating the earlier removal of the tube as the wound then remained patent for breathing purposes for several days.

Tube.—Parker's silver tube was employed in all cases, it being removed for cleansing at the end of from 24 to 48 hours and then either replaced or substituted by a rubber one if any tube was found necessary At the end of 48 hours an attempt was always made to leave out the tube entirely In six cases the attempt was successful and in 24 out of the remaining 30 which survived permanent removal was effected on the fourth day In one case in which the tube could not be removed till the tenth day there was still abundance of membrane being coughed up causing much dyspnœa during expectoration In two other cases the dyspnœa and recession during sleep were such as continually to awaken the child on which account it became necessary to replace the tube, though during the waking hours the breathing was absolutely unembarrassed. One of these cases was treated with a mixture of tincture of belladonna bromide of ammonium, and compound tincture of camphor with marked success, the child sleeping easily without the tube on the following night The other case where the tube could not be removed until the twenty third day was much benefited by attempted intubation which, though not complete apparently removed some obstruction existing in the larynx

Antitoxin.—An initial dose of 6000 or 8000 units—i.e. from 20 to 30 cubic centimetres of Parke Davis's preparation—was employed and in few cases it needed repetition The indications relied on for pushing the antitoxin were (1) persistent rise of temperature with other signs of toxæmia (2) abundance of membrane and dry inspissated mucus (3) broncho-pneumonia and (4) spread of disease and re infection. The temperature usually responded to the initial dose and reached the normal by the third or fourth day after a gradual decline. In several cases dry inspissated lumps of mucus gave rise to as much trouble as pieces of membrane and required the use of mechanical means for their removal from the trachea. In these cases also pushing the antitoxin was followed by marked success In all cases of broncho-pneumonia small doses—i.e 2000 units—were given once or twice daily until the temperature began to fall. One child had altogether 18,000 units of antitoxin during the first five days of treatment with a resulting cure the temperature which had been previously sustained gradually falling to normal after this date. (The chart of this case is published with this article.) The average dose given was 9400 units with a maximum of 33 000 and a minimum of 2000 units Two cases in which 6000 and 21 000 units were given respectively developed further disease the former a pharyngeal after a laryngeal infection with a fatal result and the latter a nasal and wound infection following primary disease in the pharynx and larynx The patient in the latter case was discharged cured but has since been re admitted owing to the breaking down of the tracheotomy wound which however slowly healed under treatment. Short notes of this case are published

Stimulants—These were freely administered brandy strychnine given hypodermically and carbonate of ammonia being those relied on.

Expectorants were given in every case squills ipecacuanha, tolu, &c. being those chosen Under this heading may be included a steam spray of solution of sodium bicarbonate, which was administered as a routine every half hour for the first 24 to 48 hours or longer if the indications persisted. The atmosphere of the tent in which the child was nursed was further moistened by the steam from a bronchitis kettle

Local treatment —The pharynx or the nose was swabbed or syringed with antiseptic lotions of carbolic acid (1 per cent.) or boro glyceride where there was persistence of membrane after 48 hours of treatment.

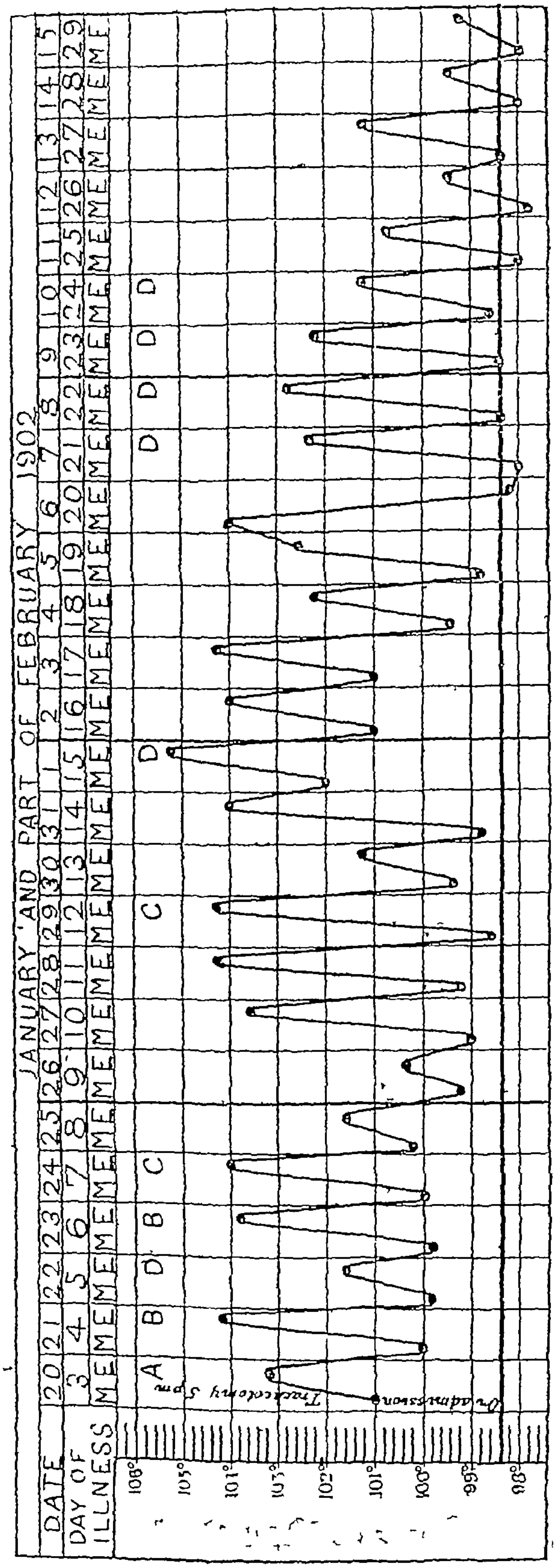
Indications for tracheotomy —(1) Recession of the intercostal spaces, the lower ribs, and the clavicular fossæ was considered to indicate the necessity for tracheotomy, and (2) restlessness with dyspnœa were always regarded as most urgent symptoms and when present it was our rule to operate without delay In no case was cyanosis waited for

The following case appears to us to be of sufficient interest to warrant the publication of short notes of it

The patient was a female, aged one and a half years, and was admitted on the third day of her illness with a history of stridor and dyspnœa for two days On admission there were diphtheritic membrane on the right tonsil and evidence of advanced laryngeal obstruction Tracheotomy was performed within an hour of admission—a No 2 silver tube being inserted—and several pieces of membrane were coughed up at the time A culture taken from the trachea showed mixed diphtheria bacilli and staphylococci No anæsthetic was used The temperature had then risen from 100° to 103° F, while the pulse rate was 160 and the respiration rate was 40 per minute. An initial dose of 5000 units of antitoxin was given and for the next four days the antitoxin was repeated, 18,000 units being administered during this period On the fifth day the temperature had fallen to 101°, the pulse rate to from 130 to 140, and the respiration remained about the same There was at this time evidence of broncho pneumonia which was limited to the right lung and the child was passing a very small amount of urine. On the next day the temperature was still lower The antitoxin was discontinued and the tracheotomy tube was removed The child breathed easily through the wound and was much improved in her general condition On the following day a transient urticarial rash appeared over the limbs and the trunk, and the temperature rose to 103 6°, but there was no increase of the symptoms of the disease until the next day when the child developed a nasal discharge from which a mixed growth of diphtheria bacilli and staphylococci was obtained and at the same time the left lung became affected with pneumonia On this evening and also the following one the temperature reached 104° and the rash persisted. A further dose of 3000 units of antitoxin was given and the temperature remained at 101·2° instead of rising as it had done previously to 104°, while the rash had much increased On the eleventh day the temperature again rose and for the succeeding three days it oscillated between 101° and 105° The child was now continuously ice-cradled and frequently sponged with tepid water and a further dose of 2000 units of antitoxin was administered on the twelfth day In spite of the high temperature the child's general condition remained good, she took nourishment well but occasionally vomited. On the fifteenth day a second eruption appeared This was a hæmorrhagic rash situated over the dorsum of the hands and feet and the extensor surfaces of the lower half of both legs The patches were bright red and varied in size from that of a pin's head to that of a shilling and spread rapidly at the margins This was thought to be an antitoxin rash, so no more of this remedy was given, and the rash faded in two days, the patches changing colour like a bruise. On the eighteenth day the tracheotomy wound, which had shown no sign of healing, was covered by a definite diphtheritic membrane, from which a mixed growth similar to the previous ones was obtained. As the temperature remained high and the pulse rapid antitoxin was again administered, 2000 units being given daily for four days, with the result that the temperature gradually fell. After the second injection the ice-cradle could be dispensed with and after the fourth all membrane had disappeared from the wound which then rapidly healed On the twenty sixth day the child was first noticed to have an intermittent internal squint with the left eye, the knee-jerks, however, were brisk and there was no sign of paralysis of the soft palate From this time onwards the temperature remained normal except for an occasional slight rise and the child appeared to be quite well At the end of five weeks she was discharged. The wound was then healed but on coughing there was bulging of the scar A fortnight later she was brought back. The wound had reopened sufficiently to admit a probe easily and mucus was being coughed through it Her general condition was unsatisfactory. The knee jerks were absent but there was no further evidence of post-diphtheritic paralysis The child is still under treatment as the wound is not yet sufficiently healed

The temperature chart of this case is appended

We are indebted to the courtesy of Dr Barton, Dr F W Burton Fanning, and Dr Long for permission to publish the notes of these cases



A, 5000 units of antitoxin administered B, 4000 units of antitoxin administered C, 3000 units of antitoxin administered D 2000 units of antitoxin administered

NOTE ON A CASE OF "TRUE" INTESTINAL SAND

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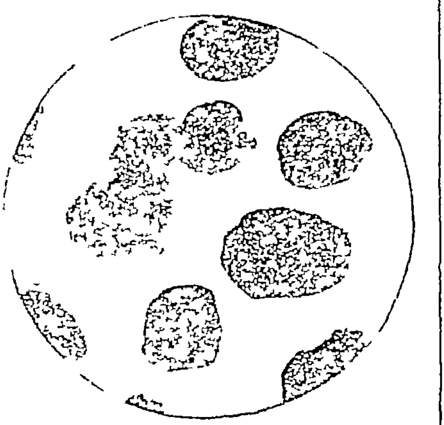
So little is known of this condition, if we may judge from the paucity of references to the subject in contemporary medical literature, that it becomes of interest as well as of importance to record any case of the kind, more especially when the report is supplemented by a chemical analysis. Through the kindness of Lieutenant-Colonel F. S. Peck, I.M.S., of Calcutta, I lately have had the opportunity of analysing a specimen of "true" intestinal sand which was passed by a patient seen several times by him in consultation, and I am further indebted to him for furnishing me with the clinical facts of the case.

The patient was a European woman, aged about 44 years, with a very marked history of gout. She had had a large number of "gouty deposits" in the smaller joints, with nodules in the ears, but the larger joints did not appear to have been affected. Several tendons had also been disabled from the same cause. Constipation was present, requiring treatment with saline purgatives. The motions were ordinarily normal in appearance except for the presence of mucus. There was apparently no diarrhoea alternating with constipation, as was sometimes the case in such patients. There was, however, a distinct, though not severe, attack of muco-colitis coincident with the passage of the sand. There was no history of colicky pains, vomiting, or distension. There was never any intestinal pain to speak of. "The tongue was always particularly clean." She had not reached the menopause, was sterile, and had all her life suffered from ovarian pain. A sample of her urine was analysed by me in March last and had a brown, somewhat smoky appearance, with much suspended matter; the specific gravity was 1020, acid reaction, much albumin was present with a few fibrinous casts and uric acid crystals. Lieutenant-Colonel Peck mentions the fact that the albuminuria entirely disappeared some months later. At the time the sand was passed she had for months been on milk and farinaceous diet. The treatment was by preparations of lithium, occasional saline purgatives, and colchicum and iodide of potassium in mixture. The amount passed at any one time seems to have been not more than half a teaspoonful (usual size).



Showing shape of sand granules when viewed under the microscope.

On examination the deposit was found to be very finely granular and yellowish brown, and very like fine sand. Under the microscope the particles were of very various shapes and sizes—oblong, irregularly oval, and of the other shapes shown in the diagram. The colour varied from black through reddish brown to a light yellow. Many of the particles were only translucent at the edges. There was no appearance of vegetable or crystalline structure. The organic portion, washed and stained with methylene blue, showed a quantity of cocci and bacilli. The result of analysis is as follows: moisture, 5·20 per cent.; calcium phosphates, 28·63 per cent.; calcium carbonate, 5·20 per cent.; magnesium phosphate, 0·49 per cent.; and organic matter, 60·43 per cent. No traces of urates or uric acid were detected. The amount of sand remaining over was too small to allow of a sufficiently accurate examination to be made as to the nature of the pigment present. True intestinal sand appears to yield a vastly higher percentage (from 28 to 70) of inorganic constituents than does the false variety, which gives only about from 2 to 3 per cent. generally.[1]

The above analysis, then, clearly shows that we are dealing in this case with an example of "true" intestinal sand as distinguished from the "false" sand which owes its origin to undigested vegetable particles (generally sclerenchymatous) occasionally coated with earthy salts. Pears, figs, and bananas are apparently specially liable to produce this "false" variety, which was, I believe, first described in England by Professor S. Delépine at a meeting of the Pathological Society of London in 1900. One of the most recent as well as one of the best papers on the subject is by Sir Dyce Duckworth and Dr. A. E. Garrod, published in the Transactions of the Royal Medical and Chirurgical Society, 1901, to which is appended a bibliography.

The case now recorded agrees with M. Dieulafoy's series in having occurred in a gouty middle-aged woman (about two-thirds of his cases are women about 35 years of age) and as regards the history of concurrent muco-colitis. The absence of painful paroxysms, vomiting, and flatulence is interesting, as in most recorded cases these symptoms have been marked. The albuminuria (with granular casts and uric acid) was also apparently a gouty manifestation in this case.

In the discussion which followed Duckworth's and Garrod's paper[2] Dr. A. Crombie, late of Calcutta, expressed the opinion that the affection must be commoner in India than in England and he mentioned the fact that in 10 years' experience at the Presidency General Hospital, Calcutta, he had met with three cases, all accompanied by severe colic which varied directly with the quantity of sand passed. It is to be regretted that there is nothing to show that these cases were examples of "true" intestinal sand or "enteric lithiasis" as the condition has been termed, for in the "false" cases colicky pain varying directly with the amount of sand passed is also a prominent feature and there is no mention of any other circumstance which would guide us to a knowledge of the true nature of Dr. Crombie's cases, as apparently there was no chemico-microscopical examination made in any of them.

The cause of true intestinal sand.—The relatively large proportion of lime salts is noteworthy. Bunge has pointed out that the proportion of lime present in milk exceeds that to be found in an equal bulk of lime-water. Hence in cases which have been for long on an almost exclusively milk diet the source of the large proportion of lime salts present in true intestinal sand is to some extent explained. The intestine is moreover now known to be one of the main channels for the excretion of calcium salts from the system. And the "chalk stone" deposits present in gout contain in addition to their principal constituent (sodium urate) varying proportions of the phosphates and urate of calcium. As true intestinal sand appears to be closely associated with gout and apparently has not been observed in non-gouty patients who for long periods have been placed on an almost exclusively milk diet, one is inclined to regard the condition as allied in some respects to the tophaceous deposits in other parts. But how are we to explain the absence from the sand of uric acid and its compounds which so characterise the gouty deposits in other parts of the body? It is easy to conjecture that the inorganic constituents of the sand are derivable from the milk diet and by excretion into the bowel from the system, and that, on the other hand, uric acid and its compounds are excreted by the kidneys, and to a small extent by the skin, and separate out in those tissues in which the blood supply would appear to have a greater opportunity of depositing them than would be the case in the intestine. Sluggish action of the bowels is alleged as a cause of intestinal concretions, but this can only be a predisposing circumstance, for the milk diet and the sluggish state of the bowel do not alone appear to be able to bring about the condition of true intestinal sand All, then, that we can say at present is that the condition would appear to be very closely related to gout and to be favoured by a milk diet

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[1] An exception to this occurs in the case of the [illegible] found in the intestines of people fed on bread made from oat bran. These concretions yield often some 15 to 0 per cent. of oat-bran [illegible] 60 to 0 per cent. of phosphates of calcium and magnesium and a small percentage of fats and soaps.

[2] THE LANCET, March [illegible] 19 1, p. [illegible]

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

NOTE ON A CASE OF SPRUE

By R. MUZIO WILLIAMS, M D LOND,

AND

M H SPENCER, M D CANTAB

WE thought that the following short account of this case might be of interest, more especially as the diagnosis of sprue appears still to be frequently missed, for though the patient had evidently had the disease for some time and had seen at least eight or nine medical men it had never been even suggested as being sprue

The patient, a woman, aged 42 years, came into a home on May 4th last, having landed from India on the same morning The only serious illness she had had previously to the present one was an attack of severe diarrhœa 10 years ago which lasted for some months and necessitated her return home from India where she was then residing During the last four years she had suffered from intermittent diarrhœa, with increasing weakness and emaciation, at times, however, partially recovering for a period and regaining some of the weight which she had lost. The stools were not very frequent—generally only four or five daily—semi solid, fermenting in character, and of a light yellowish grey colour She had complained of a sore condition of the mouth and tongue for some time In spite of periods of intermission the disease progressed insidiously, and at the time of her return to England she was exceedingly emaciated and in a very feeble condition During the last month, whilst on her voyage home, the bowels were somewhat constipated and enemata were generally necessary to secure an action

On admission she was extremely emaciated and profoundly anæmic The skin was drawn tightly over the face and bony points of the body and was pigmented of a dirty brown colour, the pigmentation being specially marked on the neck and face The pulse was feeble, 92, and the temperature was subnormal only on one occasion reaching 96 4° F The slightest movement caused syncopic attacks The heart was not enlarged. There were loud blowing murmurs with systole and diastole over the apical region not conducted into the axilla. The spleen was not felt. The liver was felt for two fingerbreadths below the costal margin and the upper margin of dulness commenced at the sixth interspace The urine contained a trace of albumin Dr Patrick Manson kindly examined the blood and reported as follows "The blood is that of simple anæmia, a few poikilocytes present but nothing like pernicious anæmia." The tongue was white and glazed and completely denuded of epithelium, the buccal mucous membrane was in a similar condition, and there were two small ulcers near the anterior pillars of the fauces The conjunctivæ were pearly white. She took nourishment fairly well. The following day, after consultation with Dr Manson, as her pulse was rapidly becoming worse she was infused by Mr Abbott with two pints of normal saline solution containing one tenth of a grain of strychnine sulphate and three drachms of brandy After this her pulse improved a good deal and she expressed herself as feeling much better Two hours later, however, she had another syncopic attack and died

A post-mortem examination was made by us 20 hours after death The body was extremely emaciated, there being hardly a trace of fat left in the tissues. The lungs were entirely free from adhesions, crepitant throughout, but markedly bloodless, there was no trace of tuberculous deposit present in them There was a small quantity of clear fluid in the left pleural cavity The heart was somewhat atrophied but, contrary to expectation, the ventricular walls did not show any marked attenuation There was no naked eye appearance of degenerative change in the muscle or endocardium, the valves were competent and healthy The liver, unlike what is generally found in these cases, was somewhat enlarged, greasy and fatty, easily breaking down on pressure with the thumb The pancreas was firm and rather tough on section, suggesting some fibrotic change. This has been noted in other cases reported. The spleen was small, firm, and pale The kidneys were firm and markedly anæmic, the capsule peeled readily, and the surface was not granular The whole intestinal tract from the duodenum to the rectum was extraordinarily thinned The bowel contained a quantity of slimy mucus On washing this away the mucous membrane was found to be practically absent. In the small intestine and cæcum the bowel wall was so thinned as to be transparent when held up to the light and so friable as to tear very readily on handling This diaphanous condition of the bowel was marked through its whole extent but most noticeable in the small intestine and cæcum In places there were small diverticula formed owing to the extreme attenuation of the walls. They were of about the size of a walnut and could hardly be touched without tearing The omentum contained scarcely any fat. There was no enlargement of the mesenteric glands The stomach was dilated and full of undigested fluid, it was thin walled and perfectly white. There was no ulceration present in any part of the alimentary tract. The pelvic organs were normal with the exception of two small parovarian cysts and there was no sign of previous peritonitis

A CASE OF DERMATITIS CAUSED BY HUMEA ELEGANS

BY WALTER CARRINGTON HEARNDEN, M R C S ENG

THE following case may be of interest to some of the readers of THE LANCET as it illustrates the difficulty of fixing the cause of certain skin eruptions

A female patient of mine who has a particularly delicate complexion, has during the last few months been frequently suffering from vesicular eruptions on the nose and cheeks looking like impetigo They quickly subsided under treatment but as there was an almost immediate relapse she consulted a specialist who diagnosed eczema and naturally ordered a course of arsenic On June 7th I found her with a red, swollen face, the left eye closed, large vesicles containing clear serum on the cheeks, and a patch of eczema on the left side of the chin. She was greatly alarmed as she supposed that she had erysipelas Her temperature, however, was normal. She was unable to account for the attack, but first noticed it after playing ping pong She had not been handling *Primula obconica* as she was aware of its dangers, but she volunteered the statements that she had been feeding chickens with crushed bones and that she had noticed some irritation about the nose The attack subsided in the course of a few days under lotio plumbi subacetatis The first time she went out, at the end of the week when her face was well, she complained of itching of her right eyelid and in the course of a few hours her face was as bad as ever She then said that she had picked a leaf of *Humea elegans*, and had smelt it and that she had been in the habit during the last few months of picking a leaf and rubbing it on her veil as she liked the perfume The position of the rash was just where a veil would touch the face and the patch on the chin corresponded to the place where the veil is screwed up and tucked in No doubt this had been the cause of all the trouble

Humea elegans, a native of New South Wales, is frequently grown in greenhouses for the sake of its perfume and flowers The leaves are not unlike those of the tobacco plant in shape but much more shiny and they exhale a strong smell like incense A leaf rubbed on my arm (left) a gummy secretion with a powerful smell and was followed by a bright red punctiform rash which lasted all day but caused little irritation. A gardener has told me that he has noticed his arms itching after moving the plants and that the gardener who gave them to him suffered from a severely inflamed face which was ascribed to an irritating soap but no doubt was due to the humea. It is well known that many plants like *Primula obconica* are irritants, but that *Humea elegans* is one of them was new to me and may be a warning to others

Leatherhead

NOTE ON A CASE OF SPONTANEOUS REDUCTION OF ACUTE INTUSSUSCEPTION

By W Gifford Nash, F R.C S. Eng

A MALE child aged 11 months, between 12 and 1 o clock midday on June 4th was seized with abdominal pain which caused screaming and great collapse. Vomiting occurred. I was sent for and saw the child shortly before three o clock when I found him deathly pale and suffering from extreme collapse On examining the abdomen a swelling could be seen passing from the region of the cæcum obliquely upwards towards the epigastrium. On palpation a firm sausage-shaped tumour three or four inches in length could be felt. I concluded that an intussusception was present and made preparations for immediate operation Hot bottles were applied to the extremities and hot flannels to the abdomen. I saw the child again with my partner Dr. H. Savory at 4 o clock and found him looking much better having had a sleep. The lump could still be seen and felt, but was evidently smaller and during our manipulations it suddenly entirely disappeared. There was a history of looseness of the bowels on the previous evening

This appears to be a case in which spontaneous reduction *of an intussusception undoubtedly occurred.* I am perfectly certain that an intussusception was present. The symptoms of severe shock were very marked and the presence of a very distinct elongated tumour was very easy to demonstrate to the relatives. No doubt the diarrhœa of the previous night led up to the occurrence of the condition. The reasons why the intussusception was reduced appear to me to be three (1) the manipulations necessary to form a diagnosis acting on a very recent intussusception (2) the occurrence of faintness and vomiting leading to relaxation of muscular spasm and (3) the application of heat to the abdomen acting in the same way

Bedford

A Mirror

OF

HOSPITAL PRACTICE,

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Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus Morb.*, lib. iv., Proœmium.

ROYAL FREE HOSPITAL

A CASE OF EXPLORATION OF THE CEREBELLUM AND DRAINAGE OF A CEREBELLAR ABSCESS DURING ARTIFICIAL RESPIRATION

(Under the care of Mr E W ROUGHTON)

THE symptoms of cerebellar abscess when it is confined to a lateral lobe, are due only in part to the local damage to the cerebellar substance for it has been shown many times both by experiment and by disease that destruction of a very large part of a lateral lobe of the cerebellum usually gives rise to very few signs or symptoms, while injury of the middle lobe produces the characteristic disturbances of equilibrium. The greater part of the symptoms resulting from cerebellar abscess are caused by pressure on the foramen of Majendie which obstructs the outflow of cerebro-spinal fluid from the ventricles For the notes of the case we are indebted to Mr Joseph Cunning F R.C.S., senior resident medical officer

A boy aged 17 years, was admitted into the Royal Free Hospital under the care of Mr E. W Roughton on April 2nd 1902, complaining of frontal headache and pain behind the left ear The patient had had a discharge from both ears since an attack of scarlet fever 10 years ago Six days before admission he had received a ' box on the left ear and since then had had pain on the left side of the head and neck. He was able to work for three days but then he had to go to bed. Poultices were applied and the pain was relieved. On the fifth day he vomited each time after taking food and the pain became worse.

On admission the patient was very delicate, apathetic, very deaf, and quite intelligent though slow in cerebration The respirations were 17 the pulse was 48 and regular and the temperature was 99 2° F The urine was of specific gravity 1030 and contained no albumin, sugar pus, or blood There was tenderness over the left mastoid process and he complained of pain over the forehead the left side of the head and the back of the neck From both ears there was a foul smelling discharge. On the left side a quantity of thick epithelial débris was removed from the auditory canal and a perforation was seen in the membrane no bare bone was perceptible. On the right side a small polypoid mass of granulations protruded through a perforation in the membrane. The hearing was right $\frac{1}{26}$ and left $\frac{0}{26}$

The patient s condition continued to improve for eight days. His hearing became better the tenderness over the left mastoid process disappeared and generally he became brighter The pulse-rate rose to from 50 to 58 and he had no more vomiting but the headache though not so severe still continued. The temperature all this time remained at 98° Then the headache became worse and he vomited once daily for two days On the tenth day after admission he vomited four times. The temperature was 97° and the pulse was 58. His headache was worse. On the twelfth day the headache was very bad. He was still vomiting and now complained of giddiness. For the first time he was unable to lie on the right side as it increased the pain so much The left knee jerk was exaggerated there was no weakness or paralysis of either upper or lower extremities The pupils were equal and reacted to light, no squint or nystagmus being present. There were no fits or twitchings and there had been no delirium at any time Cerebellar abscess was diagnosed and as Mr Roughton was unable to come down he asked Mr Cunning to operate.

Owing to the severity of the headache Mr Cunning decided to shave the head and to prepare the scalp after the anæsthetic had been given. The left ear seemed to be the worse of the two and the tenderness when the patient was admitted to the hospital had been on the left side though it had now disappeared. The left knee jerk was also exaggerated In spite of that the inability to lie on the right side had been such a marked feature during the day that it was determined to attack the right side An injection of morphia (three minims) was given to minimise the amount of anæsthetic necessary Mr Sheffield Neave gave chloroform and it was noticed that after about half a drachm had been given the pulse increased in frequency to 120 After a drachm had been given the breathing ceased entirely while the corneal reflex remained. The heart went on beating As no attempt at spontaneous respiration occurred artificial respiration was begun the tongue being held well forward. The patient s colour remained good and artificial respiration was stopped to see if he would now breathe naturally but he only steadily became blue so artificial respiration was recommenced. As Mr Cunning felt convinced that this condition was due to pressure on the medulla inhibiting the respiratory centre it was determined to go on with the operation Having to prepare the scalp by scrubbing and shaving was the cause of a good deal of delay and during this time Silvester s method of artificial respiration could not be kept up In place of this Mr Neave knelt on the table and kept up alternate compression and relaxation of the thorax with his hands. As this was not nearly so efficient it was occasionally necessary to delay the operation and to resort to Silvester s method till the colour improved.

A flap of all the soft tissues was turned down over the right side of the occipital lobe to expose an area below the superior curved line and behind the posterior border of the mastoid process, and a piece of bone was removed with a three-quarter inch trephine. The opening was well clear of both the horizontal and the vertical portions of the lateral diet and by excretion into the bowel from the system, and that, on the other hand, uric acid and its compounds are excreted by the kidneys, and to a small extent by the skin, and separate out in those tissues in which the blood supply would appear to have a greater opportunity of depositing them than would be the case in the intestine. Sluggish action of the bowels is alleged as a cause of intestinal concretions, but this can only be a predisposing circumstance, for the milk diet and the sluggish state of the bowel do not alone appear to be able to bring about the condition of true intestinal sand All, then, that we can say at present is that the condition would appear to be very closely related to gout and to be favoured by a milk diet

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A flap of all the soft tissues was turned down over the right side of the occipital lobe to expose an area below the superior curved line and behind the posterior border of the mastoid process, and a piece of bone was removed with a three-quarter inch trephine. The opening was well clear of both *the horizontal* and the vertical portions of the lateral diet and by excretion into the bowel from the system, and that, on the other hand, uric acid and its compounds are excreted by the kidneys, and to a small extent by the skin, and separate out in those tissues in which the blood supply would appear to have a greater opportunity of depositing them than would be the case in the intestine. Sluggish action of the bowels is alleged as a cause of intestinal concretions, but this can only be a predisposing circumstance, for the milk diet and the sluggish state of the bowel do not alone appear to be able to bring about the condition of true intestinal sand. All, then, that we can say at present is that the condition would appear to be very closely related to gout and to be favoured by a milk diet.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

NOTE ON A CASE OF SPRUE

BY R. MUZIO WILLIAMS, M.D. LOND.,

AND

M. H. SPENCER, M.D. CANTAB.

WE thought that the following short account of this case might be of interest, more especially as the diagnosis of sprue appears still to be frequently missed, for though the patient had evidently had the disease for some time and had seen at least eight or nine medical men it had never been even suggested as being sprue.

The patient, a woman aged 42 years, came into a home on May 4th last, having landed from India on the same morning. The only serious illness she had had previously to the present one was an attack of severe diarrhœa 10 years ago which lasted for some months and necessitated her return home from India where she was then residing. During the last four years she had suffered from intermittent diarrhœa, with increasing weakness and emaciation, at times, however, partially recovering for a period and regaining some of the weight which she had lost. The stools were not very frequent—generally only four or five daily—semi-solid, fermenting in character, and of a light yellowish grey colour. She had complained of a sore condition of the mouth and tongue for some time. In spite of periods of intermission the disease progressed insidiously, and at the time of her return to England she was exceedingly emaciated and in a very feeble condition. During the last month, whilst on her voyage home, the bowels were somewhat constipated and enemata were generally necessary to secure an action.

On admission she was extremely emaciated and profoundly anæmic. The skin was drawn tightly over the face and bony points of the body and was pigmented of a dirty brown colour, the pigmentation being specially marked on the neck and face. The pulse was feeble, 92, and the temperature was subnormal, only on one occasion reaching 98.4° F. The slightest movement caused syncopic attacks. The heart was not enlarged. There were loud blowing murmurs with systole and diastole over the apical region not conducted into the axilla. The spleen was not felt. The liver was felt for two fingerbreadths below the costal margin and the upper margin of dulness commenced at the sixth interspace. The urine contained a trace of albumin. Dr. Patrick Manson kindly examined the blood and reported as follows: "The blood is that of simple anæmia, a few poikilocytes present but nothing like pernicious anæmia." The tongue was white and glazed and completely denuded of epithelium, the buccal mucous membrane was in a similar condition, and there were two small ulcers near the anterior pillars of the fauces. The conjunctivæ were pearly white. She took nourishment fairly well. The following day, after consultation with Dr. Manson, as her pulse was rapidly becoming worse she was infused by Mr. Abbott with two pints of normal saline solution containing one-tenth of a grain of strychnine sulphate and three drachms of brandy. After this her pulse improved a good deal and she expressed herself as feeling much better. Two hours later, however, she had another syncopic attack and died.

A post-mortem examination was made by us 20 hours after death. The body was extremely emaciated, there being hardly a trace of fat left in the tissues. The lungs were entirely free from adhesions, crepitant throughout, but markedly bloodless; there was no trace of tuberculous deposit present in them. There was a small quantity of clear fluid in the left pleural cavity. The heart was somewhat atrophied but, contrary to expectation, the ventricular walls did not show any marked attenuation. There was no naked-eye appearance of degenerative change in the muscle or endocardium; the valves were competent and healthy. The liver, unlike what is generally found in these cases, was somewhat enlarged, greasy and fatty, easily breaking down on pressure with the thumb. The pancreas was firm and rather tough on section, suggesting some fibrotic change. This has been noted in other cases reported. The spleen was small, firm, and pale. The kidneys were firm and markedly anæmic, the capsule peeled readily, and the surface was not granular. The whole intestinal tract from the duodenum to the rectum was extraordinarily thinned. The bowel contained a quantity of slimy mucus. On washing this away the mucous membrane was found to be practically absent. In the small intestine and cæcum the bowel wall was so thinned as to be transparent when held up to the light and so friable as to tear very readily on handling. This diaphanous condition of the bowel was marked through its whole extent but most noticeable in the small intestine and cæcum. In places there were small diverticula formed owing to the extreme attenuation of the walls. They were of about the size of a walnut and could hardly be touched without tearing. The omentum contained scarcely any fat. There was no enlargement of the mesenteric glands. The stomach was dilated and full of undigested fluid; it was thin walled and perfectly white. There was no ulceration present in any part of the alimentary tract. The pelvic organs were normal with the exception of two small parovarian cysts and there was no sign of previous peritonitis.

A CASE OF DERMATITIS CAUSED BY HUMEA ELEGANS

BY WALTER CARRINGTON HEARNDEN, M.R.C.S. ENG.

THE following case may be of interest to some of the readers of THE LANCET as it illustrates the difficulty of fixing the cause of certain skin eruptions.

A female patient of mine who has a particularly delicate complexion, has during the last few months been frequently suffering from vesicular eruptions on the nose and cheeks looking like impetigo. They quickly subsided under treatment but as there was an almost immediate relapse she consulted a specialist who diagnosed eczema and naturally ordered a course of arsenic. On June 7th I found her with a red, swollen face, the left eye closed, large vesicles containing clear serum on the cheeks, and a patch of eczema on the left side of the chin. She was greatly alarmed as she supposed that she had erysipelas. Her temperature, however, was normal. She was unable to account for the attack, but first noticed it after playing ping pong. She had not been handling *Primula obconica* as she was aware of its dangers, but she volunteered the statements that she had been feeding chickens with crushed bones and that she had noticed some irritation about the nose. The attack subsided in the course of a few days under lotio plumbi subacetatis. The first time she went out, at the end of the week when her face was well, she complained of itching of her right eyelid and in the course of a few hours her face was as bad as ever. She then said that she had picked a leaf of *Humea elegans*, and had smelt it and that she had been in the habit during the last few months of picking a leaf and rubbing it on her veil as she liked the perfume. The position of the rash was just where a veil would touch the face and the patch on the chin corresponded to the place where the veil is screwed up and tucked in. No doubt this had been the cause of all the trouble.

Humea elegans, a native of New South Wales, is frequently grown in greenhouses for the sake of its perfume and flowers. The leaves are not unlike those of the tobacco plant in shape but much more shiny and they exhale a strong smell like incense. A leaf rubbed on my arm [left] a gummy secretion with a powerful smell and was followed by a bright red punctiform rash which lasted all day but caused little irritation. A gardener has told me that he has noticed his arms itching after moving the plants and that the gardener who gave them to him suffered from a severely inflamed face which was ascribed to an irritating soap but no doubt was due to the humea. It is well known that many plants like *Primula obconica* are irritants, but that *Humea elegans* is one of them was new to me and may be a warning to others

Leatherhead

NOTE ON A CASE OF SPONTANEOUS REDUCTION OF ACUTE INTUSSUSCEPTION

By W GIFFORD NASH, F R.C S. Eng

A MALE child aged 11 months, between 12 and 1 o clock midday *on June 4th was seized with abdominal pain* which caused screaming and great collapse. Vomiting occurred. I was sent for and saw the child shortly before three o clock when I found him deathly pale and suffering from extreme collapse On examining the abdomen a swelling could be seen passing from the region of the cæcum obliquely upwards towards the epigastrium. On palpation a firm sausage-shaped tumour three or four inches in length could be felt. I concluded that an intussusception was present and made preparations for immediate operation Hot bottles were applied to the extremities and hot flannels to the abdomen. I saw the child again with my partner Dr. H. Savory at 4 o clock and found him looking much better having had a sleep The lump could still be seen and felt, but was evidently smaller and during our manipulations it *suddenly entirely disappeared. There was a history* of looseness of the bowels on the previous evening

This appears to be a case in which spontaneous reduction of an intussusception undoubtedly occurred. I am perfectly certain that an intussusception was present. The symptoms of severe shock were very marked and the presence of a very distinct elongated tumour was very easy to demonstrate to the relatives. No doubt the diarrhœa of the previous night led up to the occurrence of the condition. The reasons why the intussusception was reduced appear to me to be three (1) the manipulations necessary to form a diagnosis acting on a very recent intussusception (2) the occurrence of faintness and vomiting leading to relaxation of muscular spasm and (3) the application of heat to the abdomen acting in the same way

Bedford.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF EXPLORATION OF THE CEREBELLUM AND DRAINAGE OF A CEREBELLAR ABSCESS DURING ARTIFICIAL RESPIRATION

(Under the care of Mr E. W ROUGHTON)

THE symptoms of cerebellar abscess, when it is confined to a lateral lobe, are due only in part to the local damage to the cerebellar substance for it has been shown many times both by experiment and by disease that destruction of a very large part of a lateral lobe of the cerebellum usually gives rise to very few signs or symptom while injury of the middle lobe produces the characteristic disturbances of equilibrium. The greater part of the symptoms resulting from cerebellar abscess are caused by pressure on the foramen of Majendie which obstructs the outflow of cerebro-spinal fluid from the ventricles For the notes of the case we are indebted to Mr Joseph Cunning F R.C.S. senior resident medical officer

A boy, aged 17 years, was admitted into the Royal Free Hospital under the care of Mr E. W Roughton on April 2nd 1902, complaining of frontal headache and pain behind the left ear The patient had had a discharge from both ears since an attack of scarlet fever 10 years ago Six days before admission he had received a "box" on the left ear and since then had had pain on the left side of the head and neck He was able to work for three days but then he had to go to bed. Poultices were applied and the pain was relieved. On the fifth day he vomited each time after taking food and the pain became worse.

On admission the patient was very delicate, apathetic, very deaf, and quite intelligent though slow in cerebration. The respirations were 17 the pulse was 48 and regular and the temperature was 99·2° F The urine was of specific gravity 1030 and contained no albumin, sugar pus, or blood There was tenderness over the left mastoid process and he complained of pain over the forehead the left side of the head and the back of the neck From both ears there was a foul smelling discharge. On the left side a quantity of thick epithelial débris was removed from the auditory canal and a perforation was seen in the membrane no bare bone was perceptible. On the right side a small polypoid mass of granulations protruded through a perforation in the membrane. The hearing was right $\frac{1}{26}$ and left $\frac{0}{26}$

The patient s condition continued to improve for eight days. His hearing became better the tenderness over the left mastoid process disappeared, and generally he became brighter The pulse-rate rose to from 50 to 58 and he had no more vomiting but the headache though not so severe still continued The temperature all this time remained at 98° Then the headache became worse and he vomited once daily for two days On the tenth day after admission he vomited four times The temperature was 97° and the pulse was 58. His headache was worse. On the twelfth day the headache was very bad. He was still vomiting and now complained of giddiness. For the first time he was unable to lie on the right side as it increased the pain so much The left knee jerk was exaggerated, there was no weakness or paralysis of either upper or lower extremities The pupils were equal and reacted to light, no squint or nystagmus being present. There were no fits or twitchings and there had been no delirium at any time Cerebellar abscess was diagnosed and as Mr Roughton was unable to come down he asked Mr Cunning to operate.

Owing to the severity of the headache Mr Cunning decided to shave the head and to prepare the scalp after the anæsthetic had been given The left ear seemed to be the worse of the two and the tenderness when the patient was admitted to the hospital had been on the left side though it had now disappeared. The left knee jerk was also exaggerated. In spite of that the inability to lie on the right side had been such a marked feature during the day that it was determined to attack the right side An injection of morphia (three minims) was given to minimise the amount of anæsthetic necessary Mr Sheffield Neave gave chloroform and it was noticed that after about half a drachm had been given the pulse increased in frequency to 120 After a drachm had been given the breathing ceased entirely while the corneal reflex remained. The heart went on beating As no attempt at spontaneous respiration occurred artificial respiration was begun the tongue being held well forward. The patient s colour remained good and artificial respiration was stopped to see if he would now breathe naturally but he only steadily became blue, so artificial respiration was recommenced. As Mr Cunning felt convinced that this condition was due to pressure on the medulla inhibiting the respiratory centre it was determined to go on with the operation. Having to prepare the scalp by scrubbing and shaving was the cause of a good deal of delay and during this time Silvester s method of artificial respiration could not be kept up In place of this Mr Neave knelt on the table and kept up alternate compression and relaxation of the thorax with his hands As this was not nearly so efficient it was occasionally necessary to delay the operation and to resort to Silvester s method till the colour improved

A flap of all the soft tissues was turned down over the right side of the occipital lobe to expose an area below the superior curved line and behind the posterior border of the mastoid process, and a piece of bone was removed with a three-quarter inch trephine. The opening was well clear of both the horizontal and the vertical portions of the lateral hæmorrhage might be external or internal. In the external if the uterine contractions were active then the membranes should be ruptured and the uterus massaged or a tight binder applied. If the bleeding continued then the uterus should be emptied as soon as possible by turning or by forceps Dr Jardine referred to the Rotunda method of plugging and the reasons adduced for its use, but he could not agree with their theory In these cases the uterine wall was not in a normal condition If strong contractions were occurring then plugging might be used, but if there were no contractions then there would be great risk of converting an external into an internal hæmorrhage He had seen one case in which this happened with fatal result If the hæmorrhage was severe the uterus should be emptied as quickly as possible, the os being dilated by hand or by a Champetier de Ribes bag As soon as the child was born the hand should be inserted into the uterus and the placenta and clots should be removed Ergotin should be given and the uterus plugged if post partum hæmorrhage was occurring The plug could be wrung out of suprarenal extract solution A saline infusion should be given if much blood had been lost or if there had been much shock. Concealed internal hæmorrhage was the most fatal of all the forms Rupturing the membranes would only make more room for blood to be poured out, and delivery by accouchement forcé was not very hopeful if the hæmorrhage was severe In Dr Jardine's experience of many cases such treatment was disastrous. He favoured removal of the uterus by Porro's operation A helpful symptom in diagnosing this condition was that the patient complained of severe pain of a continuous character in the abdomen If the condition was recognised early then the membranes should be ruptured before there was sufficient bleeding to cause collapse Another source of hæmorrhage in the early stage of labour might be a commencing spontaneous rupture of the uterus, but it could not be diagnosed till the rupture had occurred, when abdominal section and removal of the uterus should be carried out.

After Dr Robert Barnes (London) had made some remarks on the use of bags as dilators,

Professor A. R. Simpson referred to the pleasure that the societies had in hearing the Nestor of British midwifery open the discussion He referred to the carelessness of women suffering from hæmorrhage. Many of the subjects of placenta prævia suffered previously from endometritis and thus were accustomed to considerable losses of blood, so that the hæmorrhage during pregnancy did not alarm them. He believed in palliative treatment at first, warning the patient to give immediate intimation of any recurrence, if this should occur the active interference should be at once carried out The worst and most fatal cases were those where there had been repeated hæmorrhages and where only a little was sufficient at last to cause death

Dr J M Munro Kerr (Glasgow) referred to his experience in 10 cases He considered it important to diagnose the variety and apply the treatment accordingly

Dr D Berry Hart considered that the best treatment if the hæmorrhage was severe was to dilate the os rapidly till it would admit two or three fingers, then to perform bipolar version, bring down a foot, and allow the case aftewards to be terminated naturally By doing this they would save more children than if they hastened the termination of the labour

Professor J A. C Kynoch (Dundee) considered that the treatment mainly resolved itself into that by bipolar version. The os must be dilated to permit of this being carried out and this could be accomplished by packing or by the use of bags, but he had never required to use these, having always attained this object by digital dilatation Careful attention should be given to asepsis in all the procedure, as these cases had a special tendency to sepsis He considered rapid delivery to be disastrous

Dr J Haig Ferguson did not consider Porro's operation or Cæsarean section necessary in any case of accidental hæmorrhage If labour had commenced in such a case he ruptured the membranes and left to nature, applying forceps or turning if afterwards required

Dr J C Herbertson (Glasgow) considered that the treatment had to be modified according to the position of the patient, as if she were of the working class she could not lie in bed for a long period and she would increase the danger by getting up Such a case would require interference, whereas another in better circumstances would only necessitate watching

Dr F W N Haultain remarked that the discussion had revealed a lamentable state of obstetric nomenclature, as was evidenced by the use of the terms "overlapping," "partial," "lateral," &c., for the same condition of placenta If the hæmorrhage was not urgent he gave the patient the benefit of the doubt and used palliative measures, but he warned the patient of the risk. He considered that the patient should be informed of the condition and be allowed to decide for herself whether she cared to run the risk Those of the patients who died did so from post-partum hæmorrhage and this often consisted in a steady ooze of blood which pressure and the hot douche would not stop Plugging was the only method to stop it, and yet there were text-books which taught students not to do so in post-partum hæmorrhage He supported the treatment of concealed accidental hæmorrhage by abdominal operation

Dr Alexander Miller (Glasgow) had no faith in palliative measures, if the hæmorrhage were severe and the patient near full time he administered chloroform, used digital dilatation, performed podalic version, and delivered the child as soon as possible The sooner the uterus was emptied the better

Dr Michael Dewar stated that he had only met three cases of placenta prævia in 2000 cases attended in practice. The great point with a practitioner was to distinguish between accidental and unavoidable, and this was not always easy, especially if the os was not dilated and the blood was escaping in considerable gushes

Dr S MacVie (Chirnside) said that country practitioners considered these cases from a different point of view, there was no cut-and dry system for them He did not put the decision of the treatment to the mother but kept her in the dark so as not to put her into an alarming state of nervous excitement He first palpated the uterus carefully to locate the placenta if possible, as this helped subsequent treatment very much He dilated the os by the fingers and turned till he got hold of a foot, this when pulled down might stop external bleeding but yet some internal hæmorrhage might be occurring and he felt more satisfied when the body was down He alluded to the tight packing that had been recommended during the discussion and advised caution, as a neighbour of his had plugged the vagina so tightly in one case as to cause sloughing

The President referred to the general opinion in favour of plugging in post-partum hæmorrhage Statistics of the frequency of placenta prævia differed very much and this affected the mortality percentage. He believed that many cases of marginal placenta prævia were overlooked in private practice The diagnosis of placenta prævia from the examination of the after birth by measuring the distance between the rupture in the membranes and the edge of the placenta was not trustworthy

Dr Jardine, in reply, referred to several cases of placenta prævia which had a previous history of endometritis or curetting and there was probably a causal relation He always carried out antiseptic treatment very carefully He thought that a mortality of 23 per cent. was too high, of 150 cases in the Glasgow Maternity he found that the death rate was 5 per cent. in more recent years and 17 per cent. previously, so that the advance in treatment had influenced the mortality These cases were often admitted moribund into hospital and swelled the mortality He adhered to his opinion in advising Porro's operation in cases of serious concealed hæmorrhage There might be placenta prævia cases converted into concealed by internal hæmorrhage, but whatever the cause if the uterus was so dilated that the walls seemed ready to burst he considered operation to be the woman's best chance. He had not yet operated in such a case but he intended doing so in the next one as in all such cases which he had met the patients had died under other treatment

Dr A. W Russell and Dr G Balfour Marshall (Glasgow) also joined in the discussion

The Fellows afterwards dined together

British Laryngological, Rhinological, and Otological Association —A meeting of this society was held on July 11th, Dr J Macintyre, the President, being in the chair —Dr V H. Wyatt Wingrave read notes of a case of Bilateral Adductor Paralysis in a boy, aged 7 years —Mr Lennox Browne inquired if adenoids were present or if there was any symptom pointing to reflex disturbance —Dr J Dundas Grant said that he had seen the patient and had found the larynx to be normal in every respect. He regarded the case as one of hysterical aphonia.—Mr E. Dennis Vinrace asked if there had been a tendency to relapse.—Dr Wingrave, replying said that he had removed adenoids. One application of the interrupted current quickly restored the voice.—Mr Lennox Browne read notes of a case of Keratosis of the Tonsils without Leptothrix in a young adult. He had removed the tonsils of which Dr Wingrave now showed microscopical sections.—Dr Wingrave described two varieties of Tonsillar Keratosis, one in which the horny growth projected through the open mouth of the crypt, the other where the orifice being closed the horny epithelium formed a perle" in the lacuna.—Dr Grant remarked that the condition was apt to disappear without apparent cause.—After some observations by Mr W J Chichele Nourse, Dr W Jobson Horne, and the President, Mr Lennox Browne and Dr Wingrave replied.—Dr W H Kelson showed a case of Tuberculous Tracheitis. The patient, whose two brothers died from phthisis had congestion of the larynx and ulceration at the upper and anterior part of the trachea. The sputa contained quantities of tubercle bacilli.—Dr Kelson also read notes of a case of Singer's Nodes on both Cords in a choir boy —Dr Grant showed a case of Congenital Papillomata of the Larynx in a female, aged 23 years who had worn a tracheotomy tube from infancy until the time that she consulted him four weeks ago Her voice then resembled that of functional aphonia. The lips and tongue moved but there was no phonation Dr Grant removed the papillomata with forceps and snare and cleared the larynx, so that the patient was able to breathe through the natural channel Later he closed the tracheal wound. The patient had now a fair voice.—Mr Lennox Browne congratulated Dr Grant upon the result. The patient, who was before voiceless, could now utter a good vowel sound He could recall only one similar case. *In that instance it was some time after the removal of* the papillomata before the patient was able to speak —Dr Kelson pointed out that the case was evidence in support of the view that tracheotomy alone was not curative in cases of papillomata of the larynx.—After a few remarks by the President Dr Grant replied.—Dr Grant also showed a Bent Glass Tube of a useful form devised by Dr. Leduc of Nantes for enabling a patient to apply remedies in the form of powder to his own larynx —The President showed 1. Photographs of the new electrical department at the Glasgow Royal Infirmary Besides apparatus for x rays and high frequency currents and a very large static machine there was a huge and very powerful electro-magnet for removing foreign bodies from the trachea, &c. 2. Photographs of a case of Cancer of the Nose in a woman aged 60 years Two months ago an old wart took on a very rapid growth. On removal of the external mass it was found to have penetrated the cartilage and to be invading the tissues inside the nose The case was now under treatment by the x rays

Anatomical Society of Great Britain and Ireland —The summer meeting of this society was held at St. Bartholomew's Hospital Medical School on July 3rd and 4th, Mr C B Lockwood the President, being in the chair The meeting which was well attended both by the London and provincial members commenced each day at 3 P.M. Amongst the visitors present was Professor Fürst of Lund, Sweden. The following communications were brought before the notice of the society —Dissections of Two Twin Monsters with lantern illustrations and specimens by Dr R. J A. Berry (Edinburgh) Flexor Carpi Radialis of an Elephant showing Great Development of Elastic Tissue, by Mr R. H. Burne a specimen showing a Band formed by a Persistent Vitelline Artery by Mr R. C. Bailey Two Hearts showing peculiarities of the Great Veins, by Dr D N Nabarro the Relations of the Deeper Parts of the Brain to the Surface, illustrated by specimens, photographs and lantern slides by Professor J Symington (Belfast) a lantern demonstration on the Extent to which Lumbar Segments of the Body have been transmuted to Sacral in the Evolution of Man and the Higher Primates by Dr Arthur Keith Vestigial First Rib by Professor Macphail (Glasgow) a Minimal Form of Fissura Facialis by Mr N B Harman Some Points on the Topographical Anatomy of the Thoracic and Abdominal Viscera in Hylobates Hainanus by Professor C J Patten (Sheffield) exhibition of the Skull and other Bones from a case of Acromegaly by Professor A F Dixon (Cardiff), a preliminary communication on the Development of the Pericardium by Professor Arthur Robinson the Sternal Angle in Man by Dr Walter Kidd the Form of the Human Spleen, by Mr R. K. Shepherd (Cardiff) On the morning of July 3rd the members and visitors made a formal visit to the museum of the Royal College of Surgeons of England to view the new museum specimens Mr R. H Burne kindly received them and showed the recent additions which had been made to the museum In the evening the annual dinner was held at the Café Royal Regent-street, and was attended by upwards of 40 members and guests. Amongst the latter were Sir W S Church Mr A. Willett Mr H. T Butlin Professor Haddon Mr F G Hallett, Dr J Calvert, and Professor Fürst. The dinner was one of the most successful that has been held by the society Through the kindness of the officers of the Zoological Society of London arrangements were made for a visit to the Zoological Gardens, Regent's Park on the morning of July 4th, when the members of the society had the special advantage of being accompanied by Mr Frank Beddard F R.S After a tour of the gardens had been made the provincial members and guests were entertained at luncheon by the London members of the society In the evening the President entertained the provincial members at dinner

Dermatological Society of Great Britain and Ireland —A meeting of this society was held on July 16th Dr J H. Stowers the President, being in the chair —Dr A. Eddowes showed (1) a case of Dysidrosis in the form of Erythema Exudativum (a private patient) and (2) a case of Bullous Eruption.—Dr T D Savill showed a case of Hebra's Prurigo —Dr E. G Graham Little showed (1) a Case for Diagnosis (2) a case of Acne Scrofulosorum and (3) a case of Lichen Hypertrophicus with extensive lesions of the mucous membrane of the mouth —The President showed cases of (1) Lupus (2) Lupus Erythematosus and (3) Alopecia.—Dr E Stainer showed (1) a Girl aged 12 years with Linear Papilloma of the Arm, and (2) Tuberculide Eruption on the legs of a boy aged nine years.—At the annual meeting the following officers were elected —President Dr Stowers. President-elect Dr H. Waldo Vice-Presidents Dr P S. Abraham, Dr. R. L. Bowles, Sir Alfred Cooper Dr H. Radcliffe Crocker Sir G F Duffey Dr James Galloway Dr A. J Harrison J P Dr Robert Liveing and Dr H. H. Phillips-Conn. Treasurer Dr W T Freeman. Council Dr W Beatty Dr H A. G Brooke, Dr A. Eddowes Dr A. J Hall Mr T J Hitchins, Dr Graham Little Mr George Pernet, Dr Leslie Roberts, Mr G W Sequeira, Dr R. Travers Smith Dr Stainer and Dr C H. Thompson Secretaries Mr Arthur Shillitoe and Dr Wilfrid B Warde.

Reviews and Notices of Books.

Ophthalmic Myology A Systematic Treatise on the Ocular Muscles By G C. Savage, M.D Professor of Ophthalmology in the Medical Department of Vanderbilt University Nashville, Tennessee Published by the Author 1902. Crown 8vo Pp 589

The study of the actions of the extrinsic muscles of the eye has been pursued of late years with remarkable energy and enthusiasm by the Americans and the writings of Stevens Duane Swan Burnett, H. Wilson, Culbertson Reber and many others have done much to elucidate our knowledge of these muscles and to explain the consequences of their excessive and of their defective power the appreciation of which has an important bearing on treatment. About the middle of the last century it was customary to perform a tenotomy upon almost every case of squint that appeared amongst the out patients of a hospital and though doubtless many cases proved fairly successful there were others in which the results were disastrous the patient leaving the hospital with a disfigurement greater than that from which he had expected to be relieved. In course of time the study of the refraction of the eyes of the form of the globe of the pathological conditions in the interior of the eye as well as of the extrinsic neuro-muscular apparatus, aided by considerable improvements in the methods of operation has materially assisted the surgeon in selecting appropriate cases hæmorrhage might be external or internal. In the external if the uterine contractions were active then the membranes should be ruptured and the uterus massaged or a tight binder applied. If the bleeding continued then the uterus should be emptied as soon as possible by turning or by forceps Dr Jardine referred to the Rotunda method of plugging and the reasons adduced for its use, but he could not agree with their theory In these cases the uterine wall was not in a normal condition. If strong contractions were occurring then plugging might be used, but if there were no contractions then there would be great risk of converting an external into an internal hæmorrhage He had seen one case in which this happened with fatal result. If the hæmorrhage was severe the uterus should be emptied as quickly as possible, the os being dilated by hand or by a Champetier de Ribes bag As soon as the child was born the hand should be inserted into the uterus and the placenta and clots should be removed Ergotin should be given and the uterus plugged if post-partum hæmorrhage was occurring The plug could be wrung out of suprarenal extract solution A saline infusion should be given if much blood had been lost or if there had been much shock. Concealed internal hæmorrhage was the most fatal of all the forms Rupturing the membranes would only make more room for blood to be poured out, and delivery by accouchement forcé was not very hopeful if the hæmorrhage was severe. In Dr Jardine's experience of many cases such treatment was disastrous He favoured removal of the uterus by Porro's operation. A helpful symptom in diagnosing this condition was that the patient complained of severe pain of a continuous character in the abdomen. If the condition was recognised early then the membranes should be ruptured before there was sufficient bleeding to cause collapse Another source of hæmorrhage in the early stage of labour might be a commencing spontaneous rupture of the uterus, but it could not be diagnosed till the rupture had occurred, when abdominal section and removal of the uterus should be carried out.

After Dr ROBERT BARNES (London) had made some remarks on the use of bags as dilators,

Professor A. R. SIMPSON referred to the pleasure that the societies had in hearing the Nestor of British midwifery open the discussion. He referred to the carelessness of women suffering from hæmorrhage. Many of the subjects of placenta prævia suffered previously from endometritis and thus were accustomed to considerable losses of blood, so that the hæmorrhage during pregnancy did not alarm them. He believed in palliative treatment at first, warning the patient to give immediate intimation of any recurrence, if this should occur the active interference should be at once carried out The worst and most fatal cases were those where there had been repeated hæmorrhages and where only a little was sufficient at last to cause death.

Dr J M MUNRO KERR (Glasgow) referred to his experience in 10 cases He considered it important to diagnose the variety and apply the treatment accordingly

Dr D BERRY HART considered that the best treatment if the hæmorrhage was severe was to dilate the os rapidly till it would admit two or three fingers, then to perform bipolar version, bring down a foot, and allow the case aftewards to be terminated naturally By doing this they would save more children than if they hastened the termination of the labour

Professor J A. C KYNOCH (Dundee) considered that the treatment mainly resolved itself into that by bipolar version. The os must be dilated to permit of this being carried out and this could be accomplished by packing or by the use of bags, but he had never required to use these, having always attained this object by digital dilatation. Careful attention should be given to asepsis in all the procedure, as these cases had a special tendency to sepsis. He considered rapid delivery to be disastrous

Dr J HAIG FERGUSON did not consider Porro's operation or Cæsarean section necessary in any case of accidental hæmorrhage If labour had commenced in such a case he ruptured the membranes and left to nature, applying forceps or turning if afterwards required

Dr J C HERBERTSON (Glasgow) considered that the treatment had to be modified according to the position of the patient, as if she were of the working class she could not lie in bed for a long period and she would increase the danger by getting up Such a case would require interference, whereas another in better circumstances would only necessitate watching

Dr F W N HAULTAIN remarked [illegible] the discussion had revealed a lamentable state of obstetric nomenclature, as was evidenced by the use of the terms "overlapping," "partial," "lateral," &c, for the same condition of placenta. If the hæmorrhage was not urgent he gave the patient the benefit of the doubt and used palliative measures, but he warned the patient of the risk. He considered that the patient should be informed of the condition and be allowed to decide for herself whether she cared to run the risk Those of the patients who died did so from post-partum hæmorrhage and this often consisted in a steady ooze of blood which pressure and the hot douche would not stop Plugging was the only method to stop it, and yet there were text-books which taught students not to do so in post-partum hæmorrhage He supported the treatment of concealed accidental hæmorrhage by abdominal operation

Dr ALEXANDER MILLER (Glasgow) had no faith in palliative measures, if the hæmorrhage were severe and the patient near full time he administered chloroform, used digital dilatation, performed podalic version, and delivered the child as soon as possible The sooner the uterus was emptied the better

Dr MICHAEL DEWAR stated that he had only met three cases of placenta prævia in 2000 cases attended in practice. The great point with a practitioner was to distinguish between accidental and unavoidable, and this was not always easy, especially if the os was not dilated and the blood was escaping in considerable gushes

Dr S MACVIE (Chirnside) said that country practitioners considered these cases from a different point of view, there was no cut-and dry system for them He did not put the decision of the treatment to the mother but kept her in the dark so as not to put her into an alarming state of nervous excitement. He first palpated the uterus carefully to locate the placenta if possible, as this helped subsequent treatment very much. He dilated the os by the fingers and turned till he got hold of a foot, this when pulled down might stop external bleeding but yet some internal hæmorrhage might be occurring and he felt more satisfied when the body was down. He alluded to the tight packing that had been recommended during the discussion and advised caution, as a neighbour of his had plugged the vagina so tightly in one case as to cause sloughing

The PRESIDENT referred to the general opinion in favour of plugging in post-partum hæmorrhage Statistics of the frequency of placenta prævia differed very much and this affected the mortality percentage. He believed that many cases of marginal placenta prævia were overlooked in private practice. The diagnosis of placenta prævia from the examination of the after birth by measuring the distance between the rupture in the membranes and the edge of the placenta was not trustworthy

Dr JARDINE, in reply, referred to several cases of placenta prævia which had a previous history of endometritis or curetting and there was probably a causal relation He always carried out antiseptic treatment very carefully He thought that a mortality of 23 per cent. was too high, of 150 cases in the Glasgow Maternity he found that the death-rate was 5 per cent. in more recent years and 17 per cent. previously, so that the advance in treatment had influenced the mortality These cases were often admitted moribund into hospital and swelled the mortality He adhered to his opinion in advising Porro's operation in cases of serious concealed hæmorrhage There might be placenta prævia cases converted into concealed by internal hæmorrhage, but whatever the cause if the uterus was so dilated that the walls seemed ready to burst he considered operation to be the woman's best chance. He had not yet operated in such a case but he intended doing so in the next one as in all such cases which he had met the patients had died under other treatment

Dr A. W RUSSELL and Dr G BALFOUR MARSHALL (Glasgow) also joined in the discussion

The Fellows afterwards dined together

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION —A meeting of this society was held on July 11th, Dr J Macintyre, the President, being in the chair —Dr V H Wyatt Wingrave read notes of a case of Bilateral Adductor Paralysis in a boy, aged 7 years —Mr Lennox Browne inquired if adenoids were present or if there was any symptom pointing to reflex disturbance.—Dr J Dundas Grant said that he had seen the patient and had found the larynx to be normal in every respect. He regarded the case as one of hysterical aphonia.—Mr E. Dennis Vinrace asked if there had been a tendency to relapse.—Dr Wingrave, replying said that he had removed adenoids. One application of the interrupted current quickly restored the voice.—Mr Lennox Browne read notes of a case of Keratosis of the Tonsils without Leptothrix in a young adult. He had removed the tonsils, of which Dr Wingrave now showed microscopical sections.—Dr Wingrave described two varieties of Tonsillar Keratosis, one in which the horny growth projected through the open mouth of the crypt, the other where, the orifice being closed, the horny epithelium formed a perle" in the lacuna.—Dr Grant remarked that the condition was apt to disappear without apparent cause.—After some observations by Mr W J Chichele Nourse, Dr W Jobson Horne, and the President Mr Lennox Browne and Dr Wingrave replied.—Dr W H Kelson showed a case of Tuberculous Tracheitis. The patient, whose two brothers died from phthisis, had congestion of the larynx and ulceration at the upper and anterior part of the trachea. The sputa contained quantities of tubercle bacilli.—Dr Kelson also read notes of a case of Singer's Nodes on both Cords in a choir boy —Dr Grant showed a case of Congenital Papillomata of the Larynx in a female aged 23 years, who had worn a tracheotomy tube from infancy until the time that she consulted him four weeks ago Her voice then resembled that of functional aphonia. The lips and tongue moved but there was no phonation Dr Grant removed the papillomata with forceps and snare and cleared the larynx, so that the patient was able to breathe through the natural channel Later he closed the tracheal wound. The patient had now a fair voice.—Mr Lennox Browne congratulated Dr Grant upon the result. The patient, who was before voiceless, could now utter a good vowel sound. He could recall only one similar case. In that instance it was some time after the removal of the papillomata before the patient was able to speak —Dr Kelson pointed out that the case was evidence in support of the view that tracheotomy alone was not curative in cases of papillomata of the larynx.—After a few remarks by the President Dr Grant replied.—Dr Grant also showed a Bent Glass Tube of a useful form devised by Dr Leduc of Nantes for enabling a patient to apply remedies in the form of powder to his own larynx —The President showed 1. Photographs of the new electrical department at the Glasgow Royal Infirmary Besides apparatus for x rays and high frequency currents and a very large static machine there was a huge and very powerful electro-magnet for removing foreign bodies from the trachea, &c. 2. Photographs of a case of Cancer of the Nose in a woman, aged 60 years Two months ago an old wart took on a very rapid growth. On removal of the external mass it was found to have penetrated the cartilage and to be invading the tissues inside the nose. The case was now under treatment by the x rays

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND —The summer meeting of this society was held at St. Bartholomew's Hospital Medical School on July 3rd and 4th Mr C B. Lockwood the President being in the chair The meeting which was well attended both by the London and provincial members commenced each day at 3 P M Amongst the visitors present was Professor Fürst of Lund Sweden. The following communications were brought before the notice of the society —Dissections of Two Twin Monsters with lantern illustrations and specimens by Dr R. J A. Berry (Edinburgh), Flexor Carpi Radialis of an Elephant showing Great Development of Elastic Tissue, by Mr R. H. Burne a specimen showing a Band formed by a Persistent Vitelline Artery by Mr R. C. Bailey Two Hearts showing peculiarities of the Great Veins by Dr D N Nabarro the Relations of the Deeper Parts of the Brain to the Surface, illustrated by specimens, photographs and lantern slides by Professor J Symington (Belfast) a lantern demonstration on the Extent to which Lumbar Segments of the Body have been transmuted to Sacral *in the Evolution of Man and the Higher Primates*, by Dr Arthur Keith Vestigial First Rib by Professor Macphail (Glasgow) a Minimal Form of Fissura Facialis, by Mr N B Harman Some Points on the Topographical Anatomy of the Thoracic and Abdominal Viscera in Hylobates Hainanu, by Professor C. J Patten (Sheffield), exhibition of the Skull and other Bones from a case of Acromegaly by Professor A. F Dixon (Cardiff), a preliminary communication on the Development of the Pericardium by Professor Arthur Robinson the Sternal Angle in Man, by Dr Walter Kidd, the Form of the Human Spleen, by Mr R. K. Shepherd (Cardiff). On the morning of July 3rd the members and visitors made a formal visit to the museum of the Royal College of Surgeons of England to view the new museum specimens Mr R. H Burne kindly received them and showed the recent additions which had been made to the museum. In the evening the annual dinner was held at the Café Royal, Regent-street, and was attended by upwards of 40 members and guests. Amongst the latter were Sir W S. Church, Mr A. Willett, Mr H. T Butlin Professor Haddon, Mr F G Hallett, Dr J Calvert, and Professor Fürst. The dinner was one of the most successful that has been held by the society Through the kindness of the officers of the Zoological Society of London arrangements were made for a visit to the Zoological Gardens, Regent's Park on the morning of July 4th, when the members of the society had the special advantage of being accompanied by Mr Frank Beddard F R.S After a tour of the gardens had been made the provincial members and guests were entertained at luncheon by the London members of the society In the evening the President entertained the provincial members at dinner

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND —A meeting of this society was held on July 16th Dr J H. Stowers the President, being in the chair —Dr A Eddowes showed (1) a case of Dysidrosis in the form of Erythema Exudativum (a private patient) and (2) a case of Bullous Eruption.—Dr T D Savill showed a case of Hebra's Prurigo.—Dr E. G Graham Little showed (1) a Case for Diagnosis (2) a case of Acne Scrofulosorum, and (3) a case of Lichen Hypertrophicus with extensive lesions of the mucous membrane of the mouth —The President showed cases of (1) Lupus (2) Lupus Erythematosus and (3) Alopecia.—Dr E. Stainer showed (1) a Girl aged 12 years with Linear Papilloma of the Arm and (2) Tuberculide Eruption on the legs of a boy aged nine years.—At the annual meeting the following officers were elected —President, Dr Stowers. President-elect Dr H. Waldo. Vice-Presidents Dr P S. Abraham, Dr R. L. Bowles, Sir Alfred Cooper Dr H. Radcliffe Crocker Sir G F Duffey Dr James Galloway Dr A. J Harrison, J P Dr Robert Liveing and Dr H. H. Phillips-Conn. Treasurer Dr W T Freeman. Council Dr W Beatty Dr H. A. G Brooke, Dr A. Eddowes Dr A. J Hall Mr T J Hitchins, Dr Graham Little, Mr George Pernet, Dr Leslie Roberts, Mr G W Sequeira, Dr R. Travers Smith Dr Stainer and Dr C H. Thompson. Secretaries Mr Arthur Shillitoe and Dr Wilfrid B Warde.

Reviews and Notices of Books.

Ophthalmic Myology A Systematic Treatise on the Ocular Muscles By G C SAVAGE, M D Professor of Ophthalmology in the Medical Department of Vanderbilt University Nashville Tennessee Published by the Author 1902. Crown 8vo. Pp 589

THE study of the actions of the extrinsic muscles of the eye has been pursued of late years with remarkable energy and enthusiasm by the Americans and the writings of Stevens Duane Swan Burnett, H. Wilson, Culbertson Reber and many others have done much to elucidate our knowledge of these muscles and to explain the consequences of their excessive and of their defective power the appreciation of which has an important bearing on treatment. About the middle of the last century it was customary to perform a tenotomy upon almost every case of squint that appeared amongst the out patients of a hospital and though doubtless many cases proved fairly successful there were others in which the results were disastrous the patient leaving the hospital with a disfigurement greater than that from which he had expected to be relieved. In course of time the study of the refraction of the eyes of the form of the globe of the pathological conditions in the interior of the eye as well as of the extrinsic neuro-muscular apparatus, aided by considerable improvements in the methods of operation, has materially assisted the surgeon in selecting appropriate cases sinus The dura mater bulged into the opening and no pulsation was visible, but pulsation could be felt by pressing in with the finger The dura mater was then opened and there was very marked protrusion of the cerebellum, demonstrating the high degree of intracranial tension A pair of fine sinus forceps was introduced in an inward and forward direction for about two inches and again in both an upward and downward direction, each time with a negative result The wound was rapidly stitched up and a similar opening was made on the left side A similar bulging of dura mater and cerebellum was found The sinus forceps was pushed in an inward and forward direction and at a depth of about half an inch from the surface an abscess was opened and thick very foul-smelling pus was evacuated. The forceps on being pushed further gave a sensation to the touch as if it was in a fair sized cavity The forceps was opened in withdrawal to enlarge the opening The moment the pus oozed out it was noticed that spontaneous respiration began and continued from this time onwards, though artificial respiration had previously been necessary for 80 minutes A rubber drainage tube was inserted and altogether about two or three drachms of stinking pus were evacuated A hole was made in the base of the flap, the tube being brought through this and stitched to the skin The flap was stitched up, the wound was dressed, and the patient was sent back to the ward The breathing remained somewhat of the Cheyne Stokes character The patient became conscious about three hours after, but then had three convulsive attacks, and he died six hours after the termination of the operation

Necropsy —At the post-mortem examination it was found that the only abnormal condition in the cranial cavity was a ragged-walled abscess cavity occupying the major portion of the left lateral lobe of the cerebellum There was no meningitis and no caries or necrosis was perceptible on the intracranial aspect of the temporal bones There was general enlargement of the mesenteric glands and a patch of lymph was found on the pericardium No other abnormal condition was observed

Remarks by Mr CUNNING —The reason for calling attention to this case is that the diagnosis of cerebellar abscess is still a matter of difficulty and the localisation is of still greater difficulty For this reason I think that all cases should be recorded, as each may contribute something to our store of knowledge and help in the treatment of this dangerous condition. There is a feature in this case, also, that, so far as I know, has not been noted before—that the whole operation was performed during the maintenance of artificial respiration and the necessity for the performance of the latter was abolished as soon as the abscess was opened. The interesting points of the case are as follows

1. The difficulty of diagnosis For 10 days the patient was under observation and his only constant symptom was abnormal slowness of the pulse The headache, mental slowness, deafness, vomiting, and tenderness over the mastoid all improved. Then vomiting subnormal temperature, giddiness, and increased mental dulness came on

2. The localisation of the abscess The points given by Acland and Ballance quoted in Jacobson's "Operations of Surgery" are (1) paralysis of the upper extremity on the same side, (2) conjugate deviation of the eyes to the opposite side, (3) lateral nystagmus, (4) exaggerated knee jerk on the side of the lesion, (5) a tendency to face towards the side of the lesion in walking, (6) staggering gait and a tendency to fall towards the side opposite to the lesion, and (7) attitude in bed, the patient lying on the side opposite to the lesion Of these different symptoms, there were absent in the present case paralysis of the arm, conjugate deviation of the eyes, and lateral nystagmus The patient was never examined as to his gait. So the only localising symptoms were (1) exaggerated knee jerk on the left side, and (2) inability to lie on the right side The former turned out to be accurate but the latter did not.

3 The anæsthetic. The fact of the pulse rate increasing from 42 to 120 I can only explain as due to pressure on the vagus centre rendering it more easily inhibitable by chloroform than when it is in a normal condition Whether a different result might have been brought about if no anæsthetic had been given is to be considered. Where there is so much pressure upon the medulla it may be that the depressing influence of the anæsthetic is sufficient to upset the already precariously kept balance On the other hand, it would not be easy to explore both sides of the cerebellum th local anæsthesia, though it might be worth trying It has been asserted recently that chloroform always produces heart-failure before respiratory failure In this case there seems little doubt that chloroform precipitated the respiratory failure without interfering greatly with the action of the heart.

4 The respiration The beginning and carrying through of the whole operation, in spite of the patient making no attempt at breathing, was amply compensated for by the immediate return of activity in the respiratory centre when the abscess was opened One other point as to the cause of death is whether the cavity being emptied quickly caused œdema to occur in the medulla oblongata when the pressure was suddenly relieved—whether it would have been better to allow the cavity to empty very slowly so that vessels with their walls paralysed by pressure might have time to recover

I have to thank Mr Roughton for his great courtesy in allowing me to make use of this case

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NORTHAMPTON GENERAL INFIRMARY

A CASE OF THROMBOSIS OF THE CEREBRAL SINUSES FOLLOWING ON CHLOROSIS, RECOVERY

(Under the care of Dr P S HICHENS)

THROMBOSIS of the cerebral sinuses occurs in two forms which differ greatly from one another In one form the coagulation of the blood is produced by septic organisms generally spreading from the middle ear In this septic variety of thrombosis surgical interference is indicated, for spontaneous recovery is extremely rare. In the other form the thrombosis is due to the increased coagulability of the blood which results from anæmia, and the following case is a good example of it There can be but little doubt about the diagnosis, for there is no other known condition capable of producing all the signs and symptoms present. For the notes of the case we are indebted to Dr George H Lewis, house physician.

A domestic servant, aged 18 years, was admitted into the Northampton General Infirmary on Jan 10th, 1902, complaining of shortness of breath, palpitation, amenorrhœa, and the other symptoms common to chlorosis In addition to these she complained of vomiting which for the past two or three weeks had been getting more frequent, she said that on the day prior to admission she had vomited a little blood With the exception of an attack of chlorosis two years ago her general health had been good On admission she walked into the hospital and did not appear to be seriously ill She was somewhat pale but presented no symptoms differing from a case of ordinary chlorosis which is so frequently met with in the out-patient department of any hospital. On examining her chest a loud systolic murmur was heard in the pulmonary area and there was a well-marked bruit in the veins of the neck There was nothing abnormal in the lungs The urine was acid, of specific gravity 1018, and contained no abnormal constituents The history of hæmatemesis was so indefinite that peptonised milk was given in small quantities at frequent intervals and produced no ill effects Two days after admission (Jan 12th) the patient complained of severe frontal headache and pain in the left lumbar region Her temperature rose to 102° F and the headache became more and more severe. Her face was dull and expressionless, she was slow in answering questions, and she gazed about her with a vacant stare At one time she was very restless, trying to get out of bed, whilst at another she lay very quiet and helpless Occasionally she cried out. She vomited twice and gradually passed into a state of unconsciousness, not recognising her relatives and passing her fæces and urine in bed Her pupils were widely dilated and a specimen of her urine withdrawn by a catheter contained a large amount of albumin. There were no spots on the abdomen suggestive of enteric fever and no enlargement of the spleen was observed She remained in this condition for about 36 hours when she again began to grow restless, then to recognise her relatives and to show other signs of gradually returning consciousness, and on the 17th (five days after the onset of the headache, &c.) she was able to answer simple questions She said that she was free from pain in her forehead. She drank her milk readily but still passed fæces and urine in bed On examining her eyes there was found to be distinct optic neuritis in each eye and a small hæmorrhage was seen below the left optic disc. By the 25th the cerebral symptoms had entirely disappeared and the albumin had greatly diminished in the urine there being only a faint trace, but the optic neuritis had slightly increased especially in the right eye On the following day she complained of great pain in the right thigh and leg which was accompanied by a large amount of swelling presenting a typical example of a thrombosis of the right femoral vein. The temperature, which had been normal for 10 days, rose to 101 6° The pain and swelling in the leg lasted for a few days and then gradually subsided, and on Feb 11th all the symptoms of the thrombosis in the femoral vein had disappeared there was no albumin in the urine and the optic neuritis had slightly diminished. A fortnight later the optic neuritis had entirely disappeared from the left eye, but there was still some absence of definition of the margin of the right disc, but no distinct exudation and no hæmorrhage into the retina were present. The vision equalled $\frac{6}{6}$ in each eye. The patient made an uninterrupted recovery the percentage of hæmoglobin rising from 30 to 68 per cent , the red blood corpuscles amounted to 4 000,000 per cubic millimetre at the time of admission and did not increase or diminish She was discharged from the hospital on March 15th. She has since attended as an out-patient three or four times and has shown no untoward symptoms, she is no longer short of breath and has no sickness and menstruation has recommenced.

Remarks by Dr LEWIS.—After reading Dr C O Hawthorne's interesting article in the *British Medical Journal* of Feb. 8th 1902, in which he says It is certain that double optic neuritis may be included among the symptoms of thrombosis of the cerebral sinuses, I thought that the above case might be worth recording The chief points of interest are, I think its extreme rarity when compared with the large number of cases of anæmia in girls the presence of almost all the symptoms associated with sinus thrombosis—viz. headache, mental dulness, unconsciousness vomiting dilatation of the pupils and double optic neuritis and the occurrence of thrombosis in the right femoral vein. Another interesting point, but one which I am not prepared to account for was the presence of pain in the left lumbar region associated with a large amount of albumin in the urine which occurred simultaneously with the frontal headache. Professor T Clifford Allbutt in his ' System of Medicine," vol. vi. p 201 states that of 78 cases of venous thrombosis associated with chlorosis in only six of them was there thrombosis of the cerebral sinuses and of the lower extremities in 32 of the cases there was no thrombosis of the extremities, only thrombosis of the cerebral sinuses. These figures are apt to make one imagine that thrombosis more commonly occurs in the sinuses than in the extremities but Professor Allbutt's explanation that 'thrombosis of the extremities is far more frequently met with, but in a large number of cases the effects produced are not so serious as to make the case sufficiently interesting for publication will be agreed to by all.

The thrombosis in the femoral vein had many interesting features in its development when compared with that of the cerebral sinuses the onset of pain and the similar rises in the temperature indicated that similar changes were occurring somewhere in the system, the mental dulness, headache, optic neuritis, &c. localising the one in the cerebral sinuses, and the swelling of the thigh and the leg localising the other in the femoral vein. The diagnosis of sinus thrombosis is one to which some may take exception but I do not know of any other condition occurring in chlorosis which would account for the above symptoms , the thrombosis in the femoral vein occurring at a later date seems to me to justify the diagnosis being made.

I am indebted to Dr Hichens for his kind permission to publish this case

References—Douglas Powell THE LANCET Dec 8th, 1888, p 1124 (hæmic murmurs and left-sided paralysis); Bristowe's Diseases of the Nervous System, p 184; Duckworth and Buzzard, Brit. Med Jour 1886 vol i., p. 149; and A G Phear Brit. Med Jour 1897 vol. ii. p 1069

MANCHESTER ROYAL INFIRMARY —The scheme for rebuilding the Manchester Royal Infirmary on the present site has been submitted to a meeting of the trustees and defeated by a large majority Lord Egerton of Tatton and others urged the wisdom of building a new hospital in Stanley Grove on the site offered by the Whitworth trustees. A poll was demanded and will be taken by circular

Medical Societies.

EDINBURGH OBSTETRICAL SOCIETY

Hæmorrhage during Pregnancy

A SPECIAL combined meeting of this society with the Glasgow Obstetrical and Gynæcological Society was held in Edinburgh on July 9th Dr JAMES RITCHIE, the President of the former being in the chair

Dr ROBERT JARDINE (Glasgow) opened a discussion on Hæmorrhage during the Later Months of Pregnancy and Early Stages of Labour Unavoidable hæmorrhage arose from the separation of an abnormally situated placenta—that was one entirely or partly attached below the retraction ring As soon as dilatation began separation must occur and this separation meant the opening up of sinuses and consequent hæmorrhage. In the central variety the entire placenta must separate and very severe hæmorrhage result , in the lateral variety the greater part of the placenta must separate and severe hæmorrhage also occur while in the marginal variety when only a small portion was below Bandl's ring the bleeding would not be great. This last was probably more frequent than was supposed and was the cause of slight hæmorrhage in the early stages of labour In the treatment of unavoidable hæmorrhage, the viability of the fœtus must be considered. If not viable then palliative measures should be tried, unless the hæmorrhage was very severe Absolute rest in bed with perhaps an opiate and attention to the bowels and diet were all that might be required. Styptics were of no use. The patient and friends must be warned to notify any recurrence of bleeding immediately Unfortunately many women were so accustomed to large losses of blood that they were not easily alarmed and they might delay until it was too late. If the fœtus was viable and the hæmorrhage was severe, then active treatment must be carried out. The most efficient way to stop the bleeding was plugging If the os was not dilated or only slightly then plugging should be resorted to if possible inserting one plug into the os and afterwards the vagina should be packed till it was completely filled If the os was dilated sufficiently then a Barnes or a Champetier de Ribes bag might be used but if the os was dilated sufficiently to permit of the insertion of one of these then it would permit of the performance of bipolar version in a head or transverse case so as to bring a leg down into the vagina. In a breech case one leg should be brought down as soon as possible The plug should be removed in a few hours and the os was usually found dilated to permit of further treatment. Once a leg was down then gentle traction would control the hæmorrhage. The labour should not be hastened after this as forcible traction of the child through an os not completely dilated would produce laceration of the cervix and very serious hæmorrhage owing to its special vascularity in this condition. If the os was quite dilated then delivery should be effected as quickly as possible by version or by forceps. If the placenta was central the hand must be passed through or round it. Stripping off the placenta was useful, as it allowed dilatation of the os to occur more easily In the marginal placenta prævia the membranes might be punctured and the uterus stimulated by friction till the placenta was pressed on by the presenting part. After the birth of the child if the placenta did not come away at once it should be removed If post-partum hæmorrhage occurred ergotin should be given hypodermically and pressure applied bimanually Hot water douching was of questionable advantage as it might wash away the clots out of the sinuses and so promote hæmorrhage Dr Jardine had of late been using 30 grains of suprarenal gland to the pint for douching and it seemed to have a good effect But if there was any tendency to post partum hæmorrhage he invariably plugged the uterine cavity the cervix and the vagina. Reference was then made to the operation of Cæsarean section in placenta prævia as first proposed by Lawson Tait. Eight cases had thus been treated by Cæsarean section or Porro's operation , five mothers and six children were saved Two cases were hopeless before operation But even omitting these two the resulting mortality was much higher than was present in cases treated by the other method where there was a mortality of about 1 in 20. The treatment by abdominal section seemed unjustifiable. Accidental hæmorrhage might be external or internal. In the external if the uterine contractions were active then the membranes should be ruptured and the uterus massaged or a tight binder applied. If the bleeding continued then the uterus should be emptied as soon as possible by turning or by forceps Dr Jardine referred to the Rotunda method of plugging and the reasons adduced for its use, but he could not agree with their theory In these cases the uterine wall was not in a normal condition. If strong contractions were occurring then plugging might be used, but if there were no contractions then there would be great risk of converting an external into an internal hæmorrhage He had seen one case in which this happened with fatal result. If the hæmorrhage was severe the uterus should be emptied as quickly as possible, the os being dilated by hand or by a Champetier de Ribes bag As soon as the child was born the hand should be inserted into the uterus and the placenta and clots should be removed Ergotin should be given and the uterus plugged if post partum hæmorrhage was occurring The plug could be wrung out of suprarenal extract solution. A saline infusion should be given if much blood had been lost or if there had been much shock Concealed internal hæmorrhage was the most fatal of all the forms Rupturing the membranes would only make more room for blood to be poured out, and delivery by accouchement forcé was not very hopeful if the hæmorrhage was severe In Dr Jardine's experience of many cases such treatment was disastrous He favoured removal of the uterus by Porro's operation. A helpful symptom in diagnosing this condition was that the patient complained of severe pain of a continuous character in the abdomen If the condition was recognised early then the membranes should be ruptured before there was sufficient bleeding to cause collapse. Another source of hæmorrhage in the early stage of labour might be a commencing spontaneous rupture of the uterus, but it could not be diagnosed till the rupture had occurred, when abdominal section and removal of the uterus should be carried out.

After Dr **ROBERT BARNES** (London) had made some remarks on the use of bags as dilators,

Professor **A. R. SIMPSON** referred to the pleasure that the societies had in hearing the Nestor of British midwifery open the discussion He referred to the carelessness of women suffering from hæmorrhage. Many of the subjects of placenta prævia suffered previously from endometritis and thus were accustomed to considerable losses of blood, so that the hæmorrhage during pregnancy did not alarm them. He believed in palliative treatment at first, warning the patient to give immediate intimation of any recurrence, if this should occur the active interference should be at once carried out The worst and most fatal cases were those where there had been repeated hæmorrhages and where only a little was sufficient at last to cause death

Dr **J M MUNRO KERR** (Glasgow) referred to his experience in 10 cases He considered it important to diagnose the variety and apply the treatment accordingly

Dr **D BERRY HART** considered that the best treatment if the hæmorrhage was severe was to dilate the os rapidly till it would admit two or three fingers, then to perform bipolar version, bring down a foot, and allow the case aftewards to be terminated naturally By doing this they would save more children than if they hastened the termination of the labour

Professor **J A. C KYNOCH** (Dundee) considered that the treatment mainly resolved itself into that by bipolar version. The os must be dilated to permit of this being carried out and this could be accomplished by packing or by the use of bags, but he had never required to use these, having always attained this object by digital dilatation Careful attention should be given to asepsis in all the procedure, as these cases had a special tendency to sepsis He considered rapid delivery to be disastrous

Dr **J HAIG FERGUSON** did not consider Porro's operation or Cæsarean section necessary in any case of accidental hæmorrhage If labour had commenced in such a case he ruptured the membranes and left to nature, applying forceps or turning if afterwards required

Dr **J C HERBERTSON** (Glasgow) considered that the treatment had to be modified according to the position of the patient, as if she were of the working class she could not lie in bed for a long period and she would increase the danger by getting up Such a case would require interference, whereas another in better circumstances would only necessitate watching

Dr **F W N HAULTAIN** remarked that the discussion had revealed a lamentable state of obstetric nomenclature, as was evidenced by the use of the terms "overlapping," "partial," "lateral," &c, for the same condition of placenta. If the hæmorrhage was not urgent he gave the patient the benefit of the doubt and used palliative measures, but he warned the patient of the risk. He considered that the patient should be informed of the condition and be allowed to decide for herself whether she cared to run the risk Those of the patients who died did so from post-partum hæmorrhage and this often consisted in a steady ooze of blood which pressure and the hot douche would not stop Plugging was the only method to stop it, and yet there were text-books which taught students not to do so in post-partum hæmorrhage. He supported the treatment of concealed accidental hæmorrhage by abdominal operation.

Dr **ALEXANDER MILLER** (Glasgow) had no faith in palliative measures, if the hæmorrhage were severe and the patient near full time he administered chloroform, used digital dilatation, performed podalic version, and delivered the child as soon as possible The sooner the uterus was emptied the better

Dr **MICHAEL DEWAR** stated that he had only met three cases of placenta prævia in 2000 cases attended in practice. The great point with a practitioner was to distinguish between accidental and unavoidable, and this was not always easy, especially if the os was not dilated and the blood was escaping in considerable gushes

Dr **S MACVIE** (Chirnside) said that country practitioners considered these cases from a different point of view, there was no cut-and dry system for them He did not put the decision of the treatment to the mother but kept her in the dark so as not to put her into an alarming state of nervous excitement. He first palpated the uterus carefully to locate the placenta if possible, as this helped subsequent treatment very much He dilated the os by the fingers and turned till he got hold of a foot, this when pulled down might stop external bleeding but yet some internal hæmorrhage might be occurring and he felt more satisfied when the body was down. He alluded to the tight packing that had been recommended during the discussion and advised caution, as a neighbour of his had plugged the vagina so tightly in one case as to cause sloughing

The **PRESIDENT** referred to the general opinion in favour of plugging in post-partum hæmorrhage Statistics of the frequency of placenta prævia differed very much and this affected the mortality percentage. He believed that many cases of marginal placenta prævia were overlooked in private practice The diagnosis of placenta prævia from the examination of the after birth by measuring the distance between the rupture in the membranes and the edge of the placenta was not trustworthy

Dr **JARDINE**, in reply, referred to several cases of placenta prævia which had a previous history of endometritis or curetting and there was probably a causal relation He always carried out antiseptic treatment very carefully He thought that a mortality of 23 per cent. was too high, of 150 cases in the Glasgow Maternity he found that the death rate was 5 per cent. in more recent years and 17 per cent. previously, so that the advance in treatment had influenced the mortality These cases were often admitted moribund into hospital and swelled the mortality He adhered to his opinion in advising Porro's operation in cases of serious concealed hæmorrhage. There might be placenta prævia cases converted into concealed by internal hæmorrhage, but whatever the cause if the uterus was so dilated that the walls seemed ready to burst he considered operation to be the woman's best chance. He had not yet operated in such a case but he intended doing so in the next one as in all such cases which he had met the patients had died under other treatment.

Dr **A. W RUSSELL** and Dr **G BALFOUR MARSHALL** (Glasgow) also joined in the discussion

The Fellows afterwards dined together

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION—A meeting of this society was held on July 11th, Dr J Macintyre, the President, being in the chair—Dr V H Wyatt Wingrave read notes of a case of Bilateral Adductor Paralysis in a boy, aged 7 years—Mr Lennox Browne inquired if adenoids were present or if there was any symptom pointing to reflex disturbance—Dr J Dundas Grant said that he had seen the patient and had found the larynx to be normal in every respect. He regarded the case as one of hysterical aphonia.—Mr E. Dennis Vinrace asked if there had been a tendency to relapse.—Dr. Wingrave, replying said that he had removed adenoids. One application of the interrupted current quickly restored the voice.—Mr Lennox Browne read notes of a case of Keratosis of the Tonsils without Leptothrix in a young adult. He had removed the tonsils, of which Dr Wingrave now showed microscopical sections.—Dr Wingrave described two varieties of Tonsillar Keratosis one in which the horny growth projected through the open mouth of the crypt, the other where, the orifice being closed, the horny epithelium formed a perle" in the lacuna.—Dr Grant remarked that the condition was apt to disappear without apparent cause.—After some observations by Mr W J Chichele Nourse Dr W Jobson Horne, and the President, Mr Lennox Browne and Dr Wingrave replied.—Dr W H Kelson showed a case of Tuberculous Tracheitis. The patient, whose two brothers died from phthisis, had congestion of the larynx and ulceration at the upper and anterior part of the trachea. The sputa contained quantities of tubercle bacilli.—Dr Kelson also read notes of a case of Singer s Nodes on both Cords in a choir boy —Dr Grant showed a case of Congenital Papillomata of the Larynx in a female, aged 23 years, who had worn a tracheotomy tube from infancy until the time that she consulted him four weeks ago Her voice then resembled that of functional aphonia. The lips and tongue moved but there was no phonation Dr Grant removed the papillomata with forceps and snare and cleared the larynx so that the patient was able to breathe through the natural channel Later he closed the tracheal wound. The patient had now a fair voice.—Mr Lennox Browne congratulated Dr Grant upon the result. The patient, who was before voiceless could now utter a good vowel sound He could recall only one similar case In that instance it was some time after the removal of the papillomata before the patient was able to speak —Dr Kelson pointed out that the case was evidence in support of the view that tracheotomy alone was not curative in cases of papillomata of the larynx —After a few remarks by the President Dr Grant replied.—Dr Grant also showed a Bent Glass Tube of a useful form devised by Dr Leduc of Nantes for enabling a patient to apply remedies in the form of powder to his own larynx.—The President showed 1. Photographs of the new electrical department at the Glasgow Royal Infirmary Besides apparatus for x rays and high frequency currents and a very large static machine there was a huge and very powerful electro-magnet for removing foreign bodies from the trachea, &c. 2. Photographs of a case of Cancer of the Nose in a woman, aged 60 years Two months ago an old wart took on a very rapid growth. On removal of the external mass it was found to have penetrated the cartilage and to be invading the tissues inside the nose. The case was now under treatment by the x rays

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND —The summer meeting of this society was held at St. Bartholomew's Hospital Medical School on July 3rd and 4th, Mr C B Lockwood the President being in the chair The meeting which was well attended both by the London and provincial members commenced each day at 3 P M Amongst the visitors present was Professor Fürst of Lund Sweden. The following communications were brought before the notice of the society —Dissections of Two Twin Monsters, with lantern illustrations and specimens, by Dr R. J A. Berry (Edinburgh) Flexor Carpi Radialis of an Elephant showing Great Development of Elastic Tissue, by Mr R. H. Burne a specimen showing a Band formed by a Persistent Vitelline Artery by Mr R C Bailey Two Hearts showing peculiarities of the Great Veins, by Dr D N Nabarro the Relations of the Deeper Parts of the Brain to the Surface illustrated by specimens, photographs and lantern slides by Professor J Symington (Belfast) a lantern demonstration on the Extent to which Lumbar Segments of the Body have been transmuted to Sacral in the Evolution of *Man and the Higher Primates*, by Dr Arthur Keith Vestigial First Rib by Professor Macphail (Glasgow) a Minimal Form of Fissura Facialis, by Mr N B Harman Some Points on the Topographical Anatomy of the Thoracic and Abdominal Viscera in Hylobates Hainanus by Professor C. J Patten (Sheffield), exhibition of the Skull and other Bones from a case of Acromegaly by Professor A. F Dixon (Cardiff), a preliminary communication on the Development of the Pericardium by Professor Arthur Robinson the Sternal Angle in Man, by Dr Walter Kidd the Form of the Human Spleen by Mr R. K. Shepherd (Cardiff). On the morning of July 3rd the members and visitors made a formal visit to the museum of the Royal College of Surgeons of England to view the new museum specimens Mr R. H. Burne kindly received them and showed the recent additions which had been made to the museum. In the evening the annual dinner was held at the Café Royal Regent-street, and was attended by upwards of 40 members and guests. Amongst the latter were Sir W S. Church Mr A. Willett, Mr H. T Butlin Professor Haddon Mr F G Hallett, Dr J Calvert, and Professor Fürst. The dinner was one of the most successful that has been held by the society Through the kindness of the officers of the Zoological Society of London arrangements were made for a visit to the Zoological Gardens, Regent s Park on the morning of July 4th, when the members of the society had the special advantage of being accompanied by Mr Frank Beddard F R.S After a tour of the gardens had been made the provincial members and guests were entertained at luncheon by the London members of the society In the evening the President entertained the provincial members at dinner

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND —A meeting of this society was held on July 16th Dr J H. Stowers, the President, being in the chair —Dr A Eddowes showed (1) a case of Dysidrosis in the form of Erythema Exudativum (a private patient) and (2) a case of Bullous Eruption.—Dr T D Savill showed a case of Hebra s Prurigo.—Dr E. G Graham Little showed (1) a Case for Diagnosis (2) a case of Acne Scrofulosorum, and (3) a case of Lichen Hypertrophicus with extensive lesions of the mucous membrane of the mouth —The President showed cases of (1) Lupus (2) Lupus Erythematosus and (3) Alopecia.—Dr E. Stainer showed (1) a Girl aged 12 years with Linear Papilloma of the Arm and (2) Tuberculide Eruption on the legs of a boy aged nine years.—At the annual meeting the following officers were elected —President, Dr Stowers. President-elect Dr H. Waldo. Vice-Presidents Dr P S. Abraham Dr R. L. Bowles, Sir Alfred Cooper Dr H Radcliffe Crocker Sir G F Duffey, Dr James Galloway Dr A. J Harrison, J P Dr Robert Liveing and Dr H. H. Phillips-Conn. Treasurer Dr W T Freeman. Council Dr W Beatty Dr H A. G Brooke Dr A. Eddowes, Dr A. J Hall Mr T J Hitchins, Dr Graham Little Mr George Pernet, Dr Leslie Roberts Mr G W Sequeira, Dr R. Travers Smith Dr Stainer and Dr C H. Thompson Secretaries Mr Arthur Shillitoe and Dr Wilfrid B Warde.

Reviews and Notices of Books.

Ophthalmic Myology A Systematic Treatise on the Ocular Muscles. By G C. SAVAGE, M D Professor of Ophthalmology in the Medical Department of Vanderbilt University Nashville, Tennessee Published by the Author 1902. Crown 8vo. Pp 689

THE study of the actions of the extrinsic muscles of the eye has been pursued of late years with remarkable energy and enthusiasm by the Americans and the writings of Stevens Duane Swan Burnett, H. Wilson Culbertson Reber and many others have done much to elucidate our knowledge of these muscles and to explain the consequences of their excessive and of their defective power the appreciation of which has an important bearing on treatment. About the middle of the last century it was customary to perform a tenotomy upon almost every case of squint that appeared amongst the out-patients of a hospital and though doubtless many cases proved fairly successful there were others in which the results were disastrous the patient leaving the hospital with a disfigurement greater than that from which he had expected to be relieved. In course of time the study of the refraction of the eyes of the form of the globe of the pathological conditions in the interior of the eye, as well as of the extrinsic neuro-muscular apparatus aided by considerable improvements in the methods of operation, has materially assisted the surgeon in selecting appropriate cases for operation and has enabled him to feel some confidence in the good effects which he can promise to the patient.

A precise knowledge of the action of the muscles is fundamental and Dr Savage deals with these actions at great length and with considerable originality The reader must not expect to find any anatomical or histological details in regard to the muscles of the eye. There is only a broad description of their attachment, the author dealing entirely and exclusively with their action To abbreviate circumlocution a new nomenclature has of late years been introduced and is now constantly employed, embracing such terms as "esophoria," "exophoria," "hyperphoria," "cataphoria," "cyclotropia," and "cyclophoria," terms to which no exception can be taken since they are legitimately formed and precise The earlier pages of the volume are occupied with the planes and axes of the eye, the explanation of single vision with two images, and the nature of the horopter, which, he thinks, would be more correctly designated the "monoscopter," since it signifies the circle of binocular single vision.

The mode in which Dr Savage deals with the defects of the ocular muscles may be illustrated by a reference to his chapter on Exophoria. This condition, which is not quite equivalent to that formerly termed "external squint," is here defined to be "a *tendency* on the part of the external recti muscles and their synergists to make the visual axis deviate from the point of fixation" Now exophoria may be of two kinds, intrinsic exophoria or pseudo exophoria, or the two conditions may be associated In intrinsic exophoria the external recti overpower the internal recti either owing to their superiority in size or their more advantageous insertion or to the greater functional activity of their nerve centres, and to determine the treatment that is required it is necessary to distinguish between sthenic and asthenic exophoria. "Exophoria with abduction of less than 8° and abversion of less than 50° is asthenic and clearly indicates that the externi should not have their tension lessened and just as clearly indicates that the interni must have their tension increased Exophoria with abduction taken with the prism or phorometer of more than 8° and abversion taken with the perimeter of more than 50° is sthenic and the case should be treated with the view of lessening the tension of the externi" In view of the disastrous results of operation in some imperfectly understood cases rules like this, though they may require modification in particular instances, are of considerable value and a great advance on the haphazard mode that was formerly in use.

Dr Savage has arrived at the conclusion that "all tests for lateral heterophoria are wholly unreliable within the first few hours after eyes have been brought under the influence of a mydriatic" and he makes out a good cas [illegible] port of his view The mydriatic, he says, acts [illegible] here extremities of the accommodative nerve fi [illegible] the accommodative centre which remains susc [illegible] ion by the demands upon it from the guiding se [illegible] he enforced rest of the muscles of accommo [illegible] images become progressively less distinc [illegible] sensation calls on the accommodative [illegible] images, and the impulse [illegible] but [illegible] irresponsive Stronger [illegible] effect, but for every deg [illegible] carried into effect by the [illegible] corresponding *tendency* to [illegible] verging centre, and this [illegible] abnormal action, the inter [illegible] sensation is robbed of its [illegible] heterophoria an increased pse [illegible]

In his account of the o [illegible] enumerating the usual instrum [illegible] has just been devised by Dr [illegible] and named the "tendonometer," which consists of a hook that can be passed under the tendon and a graduated shaft suspended by a coil spring in a hollow metal handle It is claimed that by means of this little instrument the resistance of each of the ocular muscles or of uncut fibres when a partial tenotomy is being done can be estimated.

Dr Savage's work as a whole presents many features that are novel, especially those dealing with the obliquity of the images in cases of oblique astigmatism which are well worthy of perusal, and the lines of treatment he suggests are always sensible, but it is hardly a book from which a student will derive much advantage It is adapted for the teacher and will accomplish its end if it leads him to think over the difficult problems connected with troubles of the ocular muscles

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The Earth in Relation to the Preservation and Destruction of Contagion. Being the Milroy Lectures delivered at the Royal College of Physicians in 1899, together with other papers on Sanitation By GEORGE VIVIAN POORE, M D, F R C P Lond, Professor of the Principles and Practice of Medicine, University College, London, Physician to University College Hospital. London Longmans, Green, and Co 1902. Pp 257 Price 5s net

DR. POORE in his brief preface says that he feels no excuse is needed for the republication of the lectures and papers included in this volume, for they deal with subjects of national importance The book, as stated on the title page, contains the Milroy Lectures of 1899, an address on Enteric Fever which was delivered before the Royal Medical and Chirurgical Society, and four papers on other subjects Although the substance of these lectures and addresses may be familiar to readers of THE LANCET, many of them will welcome their republication, and we particularly recommend the book to medical officers of health in rural districts and to country practitioners Dr Poore has for a long series of years conducted experiments in regard to the treatment of house refuse (using the term in its widest sense) and all he says on the subject is of great interest Year by year the problems connected with drainage and water supply are giving more trouble throughout the country and nothing can be more extravagant in cost and more prejudicial to health than many of the ill-devised and badly executed drainage schemes which are being carried out in all parts of England Probably no one would deny that in such a city as London a system of underground drainage is the best arrangement possible and is, indeed, the only one practicable It does not therefore at all follow that such a system is the best for all places and there is no doubt whatever that sufficient attention has not hitherto been given by professional sanitarians to the subject which Dr Poore has [illegible] special hobby Dr Poore sums up as the ch [illegible] what he calls his "sanitary faith" as being th [illegible] hat the protection of the purity of water-sup [illegible] effected by properly tilling the humus "I bel [illegible] organic filth [illegible] kinds should be kept [illegible] to nourish the [illegible] d not be placed be [illegible] the wells, [illegible] eve that the [illegible] eat [illegible] increase [illegible] er has been w [illegible] fouled, [illegible] uling, our [illegible] o [illegible] stically [illegible] po [illegible] its chief [illegible] "sc [illegible] enough [illegible] with a [illegible] ds as [illegible] and [illegible] ern [illegible] ly [illegible] are system " or else he must take a special-delight in the growth of cabbages, which as Dr Poore quite truly points out, grow exuberantly when dressed with night-soil.

It may be hoped that the sanitary officers in charge of the camps on Salisbury Plain will accept in good part the criticisms and will adopt the suggestions which the author gives as to the disposal of the refuse of the camps. The Wiltshire downs were lately amongst the healthiest places of England and it would be scandalous if their sanitary state should be reduced to the Aldershot standard. Dr Poore has done an undoubted and a great public service in calling attention to this question.

More than one of the shorter papers contained in this volume deserves a larger space than it is possible to give to it in a brief review We are not in accord with Dr Poore on every point , it is obvious, for example that his criticisms of the investigations on tabes mesenterica made by the late Sir Richard Thorne are open to objection. The book is an extremely suggestive one and is pleasantly written. It contains a sufficient number of illustrations to explain the text and amongst the most interesting of those are several plans of the sanitary arrangements of an experimental cottage which the author has built near Andover in Hampshire, just outside the boundaries of the borough The site was chosen to escape from possible hindrances and prohibitions " which it was thought the model by laws of the Local Government Board might cause within the area in which they were in force. The sanitarian found it wise to evade sanitary control This gives food for reflection.

LIBRARY TABLE

Atlas of Practical Elementary Zootomy By GEORGE B HOWES, LL.D F R.S. London Macmillan and Co. 24 Plates and Text. Price 10s. net.—This new edition of an atlas brought out by the author to illustrate a number of types required for many examinations differs from the first edition in that the botanical part has been entirely dropped hence the name has been altered from biology to zootomy " The drawings are largely the same, but there are alterations and additions demanded by our growing knowledge of the animals whose structure is delineated. The book is little more than an Atlas with mere explanations of the figures. The author gives as notes a considerable amount of information concerning recent research and heads the work with a brief bibliography of such treatises as will be found most useful to the student who desires not to limit himself to an elementary conception of the facts before him. The bibliography is particularly well arranged and thoroughly up to date The plates are of exactly the same standard of excellence as were those of the earlier edition, but a good many new figures have been interpolated and others have been slightly altered. The alterations and additions are for the most part upon those plates which refer to the frog and to the earthworm. It is perhaps, mainly in these two animals that recent progress has been most active and correction and addition therefore rendered essential to the learner After the most careful examination of the drawings we have not been able, as indeed was to have been expected to find any positive errors. There are, however one or two figures to which we take exception on various grounds In Fig 9 of Plate XIV the oviducal funnel of the earthworm is made to look very different from the corresponding funnels of the sperm ducts while the receptaculum ovorum which is of course a chamber containing eggs and the probable homologue of the sperm sacs is made to look rather like a funnel turned backwards. The abundant lettering which serves as a guide to the drawings will, however render any danger arising from this slight confusion quite impossible. In presenting the student with this useful aid to his studies the author naturally points out that the 30 years experience of the "Huxleyan Type System ' has been its best justification and that being the case it is right for the student to get at his facts as much as possible for himself To do so renders the subsequent lectures of more value. The volume before us should remove all difficulties from the student s path

The Royal London Ophthalmic Hospital Reports. Edited by W LANG, F R.C.S Eng Vol XV Part 2. May 1902. London J & A. Churchill 8vo pp. 106.—The articles contained in this part are 1 The Nerve Supply of the Lacrymal Gland, by J Herbert Parsons F R.C.S. Eng In the course of his observations on this subject the author considers that whilst it cannot be regarded as settled there is yet a sufficient amount of evidence in favour of the facial nerve being the secretory nerve of the lacrymal gland to cast much doubt upon the generally received view in favour of the trigeminal. Reference is made to numerous cases in which there was deficient action of the lacrymal gland with lesion of the seventh nerve. 2. A case of Sympathetic Inflammation affecting the Posterior Part of the Uveal Tract, by J Herbert Fisher F R.C S Eng 3. Cases and Observations by E. Nettleship. These include an account of some cases of temporary blindness from exposure to cold wind some cases of Berry's hyperplastic subconjunctivitis some cases of partial albinism a case of uniocular spasm of accommodation , and cases of retrobulbar optic neuritis. 4 Cases of Mesoblastic Tumours of the Orbit, by A. Quarry Silcock and C Devereux Marshall. 5 Arcus Senilis by J Herbert Parsons, curator of the Ophthalmic Hospital Museum The conclusion arrived at by Mr Parsons is that the arcus senilis is probably a peculiar form of fatty degeneration of the substantia propria of the cornea. 6. A Report of the Cases in which Haab s Magnet was Used for the Extraction of Foreign Bodies from the Eye at the Royal London Ophthalmic Hospital, by A. Ferguson MacCallan, F R.C S Eng 39 cases are reported with varying results It is shown that the removal of a foreign body from the vitreous is far more difficult and more dangerous to vision than its removal from the anterior chamber iris or lens

Laboratory Work in Histology By G CARL HUBER, M.D Junior Professor of Anatomy and Director of the University of Michigan. Third edition, revised and enlarged. Ann Arbor Michigan George Wahr 1900. 8vo pp. 204 —Every student requires a guide to histology The examination of fresh tissues, the methods of isolating fixing hardening decalcifying injecting embedding cutting and staining all require exposition and the means of accomplishing them do not come by nature. The work is divided into two parts the first describes the technique of the microscope and the methods at the disposal of the student , the second discusses the several tissues and the way in which they should be treated. The author very truthfully observes that there is a tendency at the present time to rely upon the newer and more complicated methods of research and to disregard or to belittle the rough and ready methods of the older observers. The student should, however be early led to recognise that important observations may be made with the unaided eye and with simple lenses on tissues removed for such study without further preparation and he should be particularly instructed and encouraged in the examination of fragments of tissue obtained by careful teasing out of larger pieces by means of needles and the scalpel. A better idea," he goes on to say of the shape, size and normal appearance of tissue elements can often be obtained in this way than from sections of tissues prepared after the most approved methods " with all of which we cordially agree. The following quotation of the mode of examining heart muscle will show how the author deals with each subject. 1. Isolated heart-muscle cells.—Small pieces of the cardiac muscle of a dog should be macerated in a 30 per cent. solution of caustic potash for 15 minutes, the maceration is then to be interrupted by placing the tissue in a saturated aqueous solution of potassium acetate. Tease in gum glycerine Observe the short oblong cells, one end usually branched The cells show a cross and longitudinal striation and possess one, occasionally two, oval nuclei. Draw several as seen under high power" It is to be observed that two or three blank pages are intercalated in the text on which the student may make, and thus preserve, his sketches "2. Section of heart muscle—Small pieces from the ventricles of the human heart should be fixed in Zenker's fluid, embedded in celloidin, sectioned and stained in hæmatoxylin and eosine, mounted in balsam, and studied under low and high powers Note how the cells are cemented into fibres and then into anastomosing bundles In cross sections of the muscle the nuclei are seen occupying the centre of the cells Sketch as seen under high power" The attention of the student might perhaps have been called to the absence of a sarcolemma and the size of the elements might have been mentioned. A great number of stains are given, of which may be mentioned Böhmer's hæmatoxylin solution, Mayer's acid hæmalum solution, Ehrlich's hæmatoxylin solution, Heidenhain's hæmatoxylin solution, Heidenhain's iron lack hæmatoxylin solution, Grenacher's borax carmine solution, Grenacher's alum solution, Orth's lithium-carmine solution, Orth's picro lithium carmine solution, Ozocor's alum-cochineal solution, a large number of aniline stains, Ehrlich's and Bizzozero's gentian violet solution, various modes of double staining as by van Gieson's acid fuchsin picric acid solution, Weigert's picro carmine, Rawitz orange G and hæmatoxylin, Stroebe's aniline-blue and safranin, and many others Dr Huber's book will prove a useful addition to any laboratory

Analytical Records

FROM

THE LANCET LABORATORY.

BYNO CASCADA

(ALLEN AND HANBURYS LIMITED, BETHNAL-GREEN LONDON, E.)

As the name to some extent implies this preparation is a combination of liquid malt extract (bynin) with *Rhamnus purshiana*, to which has been added *Rhamnus frangula* It appears that the addition of a certain proportion of extract of frangula bark is useful in re-establishing the aperient effect of cascara in patients who have become habituated to it. We find that the preparation is not disagreeable to the taste and it exhibits a marked digestive effect upon starch The combination is useful as a laxative, the liquid malt contributing to the action and at the same time helping the powers of digestion Whilst producing a satisfactory aperient action there is no griping effect.

ELIXIR OF THE GRANDE CHARTREUSE

(AGENCY, H. RIVIÈRE, 25 CRUTCHED FRIARS, LONDON E C)

This elixir has an origin and history resembling that of the celebrated liqueur of the Grande Chartreuse The recipe, it is stated, was given in 1607 to the Chartreuse of Paris, but the monks of this monastery, owing to the difficulty of procuring the Alpine plants, handed it over to the Grande Chartreuse in 1735 Later "the brother Jèrome Maubec, qualified by a manuscript of the time as a very skilful apothecary, modified and brought to perfection the first formula." The elixir presents the same colour as the so-called green Chartreuse and when examined by the spectroscope exhibits absorption bands peculiar to chlorophyll. So far as our examination has gone we were not able to trace any but vegetable colouring matters. Our analysis gave the following results alcohol, by weight 52 23 per cent, by volume 60 07 per cent., equal to proof spirit 100 27 per cent. , residue, chiefly sugar, 11 29 per cent ; and mineral matter, 0 03 per cent The elixir gives an agreeable sensation of warmth in the stomach and the aromatic oils present serve as carminatives. On this account the elixir has been used in indigestion and flatulence, while it is regarded also as a cardiac tonic and febrifuge

COCOA POWDER

(A DRIESSEN, ROTTERDAM DE BEER BROTHERS AND COMPANY, 28, MINORIES, LONDON, E C)

The features of this preparation calling for remark are its excellent flavour and degree of solubility The results of the analysis, which are normal, were as follows moisture, 3 98 per cent , mineral matter, 6 42 per cent. , alkalinity reckoned as potash, 2 54 per cent , and fat, 34 80 per cent The particular method of preparation of this cocoa is calculated to render it easily assimilable and digestible, while the aroma and flavour characteristic of good cocoa are preserved

EVIAN (SOURCE CACHAT) WATER

(AGENCY, E GALLAIS AND CO , LIMITED, 90, PICCADILLY, LONDON W)

Evian-les-Bains is picturesquely situated in the Upper Savoy on the Lake of Geneva opposite to Lausanne The water is remarkable for its organic purity It contains trifling amounts of carbonate of soda, common salt, and carbonate of lime. The total mineral contents, according to our analysis, do not exceed 23 grains per gallon and these consist chiefly of carbonate of soda with a little salt and calcium carbonate. The water is used for its diuretic properties A continued course of the water is said to favour the action of the digestive processes and to be an advantage in hepatic disorders

VARIOUS SOAPS

(J F MACFARLAN & CO EDINBURGH AND 9, AND 11, MOOR LANE, FORE-STREET, LONDON, E C)

These soaps give evidence of careful preparation and the choice of special ingredients both for the soap basis and for the medicament. According to our examination the soaps are superfatted and it is stated that the fats used for the purpose are edible We could find no evidence of alkaline excess or of the presence of irritants The specimens were as follows lysol 5 per cent , ichthyol 15 per cent., carbolic acid 10 per cent , lanoline and "cream skin" soap The last two are very pleasant to use, giving a smooth creamy lather without waste

ODOL

(ODOL CHEMICAL WORKS 26, SOUTHWARK BRIDGE ROAD, LONDON, S E)

Odol is intended as an antiseptic mouth-wash and consists, according to our examination, of a spirituous, fluid turning milky on the addition of water The milkiness proved to be due to the presence of an oil, a definite compound of phenol, and salicylic acid The two constituents are easily separated on saponification by soda. Odol is powerfully antiseptic and forms an agreeable and effective mouth wash It possesses a smell recalling oil of peppermint

NOBES DISINFECTANT

(THE NOBES DISINFECTANT CO AGENCY CAMPBELL, SHEARER, AND CO., 4 EASTCHEAP LONDON, E C)

The most powerful germicide known is probably formaldehyde which is the most important constituent of this disinfectant fluid. The fluid is pink in colour and exhibits a slight fluorescence. On evaporation to dryness a solid residue was obtained amounting to a little over 1 per cent. This residue evolved formaldehyde when heated. The preparation is, of course, not only an effective germicide but a deodorant also Moreover formaldehyde may be successfully used for aerial disinfection.

TABLOID" LITHIUM CITRATE AND SODIUM SULPHATE (EFFERVESCENT)

(Burroughs Wellcome, and Co, Snow Hill-buildings London E.C)

The tabloid lithium citrate and sodium sulphate is of about the size of a shilling piece but of three times the thickness. When placed in water it dissolves with abundant disengagement of carbonic gas, yielding a medicinal and refreshing draught. The combination of a small dose of a saline purgative with lithium citrate is obviously called for in some conditions. One tabloid contains 30 grains of sulphate of soda and five grains of citrate of lithium.

PAUTAUBERGE SOLUTION (CHLORHYDRO-PHOSPHATE OF LIME AND CREASOTE)

Agency: Wilcox and Co 49 Haymarket London S W

This combination of creasote with phosphate of lime and hydrochloric acid has been proposed for the treatment of bronchial catarrh and pulmonary tuberculosis and instances are cited in which while creasote could not be tolerated or else did little good this form gave favourable results. Pautauberge solution is of the colour of a dilute solution of perchloride of iron with a marked taste and odour of creasote. On the addition of an alkali such as ammonium hydrate the calcium phosphate is precipitated Good results in various affections of the respiratory organs are recorded in French clinics. The preparation is a decided pharmaceutical success in presenting creasote in a far less objectionable form than is commonly the case and its association with tonics is another advantage

BERI BERI

PROFESSOR UCHERMANN'S VIEWS.

AT a meeting of the Norwegian Scientific and Literary Society held at Christiania on May 30th Professor Uchermann gave an account of the results of the investigations of the committee appointed for the consideration of Beri Beri and showed that the problem had been solved as far as was possible until the poison itself was determined He briefly noticed the distribution of the disease its pathological anatomy and the supposed causes—causes which might be classed under the two heads indirect or disposing and direct or initiating both however being equally doubtful and unproved. He then mentioned the various theories founded thereon the most important of which were the following (1) that beri beri was an infectious disease due to a specific microbe (2) that it was a constitutional disease due to inadequate or physiologically insufficient food, especially the want of azote (albuminates) and fat, and (3) that it was due to an intoxication through the food some considering it a rice intoxication and others a fish intoxication those articles undergoing chemical changes possibly through the action of micro organisms. Others considered it to be an auto-intoxication the ptomaines of the food and of the intestinal canal being absorbed while yet others thought that it was an intoxication due to the presence of inorganic poisons, especially arsenic, in the food. None of these theories explained in a satisfactory way the appearance in late years of the disease in Europe and especially on European sailing ships Norwegian among the number Hitherto there had not been placed before the public any collective material from which to judge of the causes of beri beri on ships but only isolated cases that had been criticised from the standpoint of the more varied experience drawn from India, Japan and Java.

The material before the committee was based on the replies to certain questions made through consuls or received by members of the committee from master mariners and sailors, the information being obtained from 104 ships in all These facts enabled a person for the first time critically to weigh the various views that could be entertained concerning the causes of beri beri in ships It was evident (1) that the general opinion in dating the appearance of beri-beri on Norwegian ships to the last decade of the late century and its especial prevalence after the year 1895 was correct (2) that the Norwegian ships and as far as the small number allowed a conclusion to be drawn Scandinavian and Finnish ships were most attacked the German ships coming next in the proportion of cases, while the English ships suffered very little (3) that the disease appeared to be most common on sailing ships (of the 104 ships attacked there was but one steamer and that had one patient), (4) that the great majority of the opinions expressed tended to the belief that inadequate food and especially much tinned food directly produced beri beri or indirectly furthered it, (5) that the drinking water could not be the cause of it, (6) that the disease had appeared on ships where rice had neither been used nor had been on board at all (7) that the partaking of tinned food was not necessarily followed by an appearance of want of nourishment in the patient (8) that lime juice was not a sure prophylactic against beri beri, though it might exercise a certain preventive influence against the disease or occasionally a favourable influence on its course (9) that the foregoing conclusion held good also with regard to fruit and fresh vegetables especially potatoes (10) that beri beri appeared on sailing ships on long voyages though they had departed from a region free from beri beri (this was the case with 10 ships) and though the disease had not previously appeared on board nor the crew previously had the disease (11) that there was no indication of any rule for the time of the incubation of the disease, such time varying from the first to the 120th day after leaving port (12) that the hydropic form of the disease was the most common in the ships (only three or four cases of the atrophic form were mentioned) while in Japan it hardly amounted to one-half the cases, (13) that the disease was afebrile, (14) that animals were also attacked (15) that in several cases vomiting appeared at the very beginning of the disease but stopped immediately the patients went on board another ship and got different food, (16) that generally speaking fresh provisions in the form of meat fruit, and fresh vegetables in a short time cured the disease in the vast majority of cases, when it was not too far advanced, and (17) that symptoms resembling scurvy did not appear

After a critical examination of the theories Professor Uchermann concluded that beri beri was the Oriental name of multiple neuritis and was due to a toxin intoxication by tainted vegetable or animal food The vegetable form closely corresponded with the Asiatic beri beri and was usually owing to the eating of tainted rice. The animal form corresponded particularly with the beri beri which appeared on European sailing ships and was due chiefly to the eating of tainted tinned food. It might indeed be supposed that the beri beri poison might appear not only in vegetable but also in animal nitrogenous food stuffs that were or had been undergoing decomposition of a microbic nature as yet undecided These microbes were probably not specific, and in all likelihood were different in the animal and vegetable forms of the disease. Nor need the poisons themselves from a theoretical point of view be absolutely identical in both forms even if they were in all probability homogeneous and in some degree isodynamic. As to the importance of lime juice, potatoes &c. it might be supposed that the vegetable acids contained in these articles of food entered into compounds with the toxins generally basic, rendering them innocuous or making them more easily secreted In accordance with these conclusions the committee advised (1) a restriction in the use of tinned food (according to French investigations of the various kinds of tinned food from 70 to 80 per cent. contained viable microbes) (2) that fat should be made a component part, even if a limited part, in the scale of diet in warm climates (3) that potatoes and fresh vegetables should be provided for the whole voyage, ships being provided with a better system of preserving these articles (4) that fresh fruit and fresh provisions should be used during the stay in port (5) that on long voyages the quantity of sugar and dried fruit should be increased and (6) that on long voyages the use of a water filter (Chamberland Pasteur) should be enjoined. In addition the committee gave careful directions as to the quality purchase preservation and final packing of the provisions (the food being inspected when purchased and afterwards once a fortnight) and directions as to how to act should beri beri scurvy or similar food diseases appear at sea (the nearest port to be sought.) Finally lime juice was enjoined on voyages south of 33 S if the potatoes should run short.

which hospital physicians might easily come to a common understanding

The cases of small pox treated during the period reported on were 1810 in number Of these patients no less than 1643 had been vaccinated, while 45 were doubtful, and 122 were unvaccinated Dividing the "doubtfuls" equally among the vaccinated and unvaccinated the latter amount to about 8 per cent. of the total cases. In Glasgow primary vaccination is so general that only 3 or 4 per cent. of the population are omitted, and the "crude" result appears to be that the 3 or 4 per cent contributed about 8 per cent. of the small-pox. So far as it goes, that is as might be expected, and there is an easy explanation of the unvaccinated not having contributed a much larger percentage of the total admissions than these figures indicate It is to be found in the ages of the vaccinated patients Of 1643 only 3 were below the age of five years, only 31 between five and ten years, and only 93 between ten and fifteen years. It is in the adult ages that we find the great numbers of vaccinated cases admitted to Belvidere Hospital. Of the total 1643 patients no less than 627 were between 25 and 35 years old None of these had been revaccinated and their protection against attack by small pox had largely disappeared, though it still remained very effective against death by small-pox. But there is a further and a most unsatisfactory explanation of the percentage of vaccinated admissions In the 1643 cases 886 had only one mark of vaccination and 589 had two marks, while only 94 had three and 74 had four marks. Abundant recorded experience of small pox and vaccination makes it safe to assume that the well vaccinated yield much fewer small-pox cases in proportion to their numbers than the imperfectly vaccinated, and the above figures show that there is far too much one- and two-mark vaccination in Glasgow So long as this is the case, and the inefficient primary protection is not supplemented by revaccination, small pox outbreaks will find many victims among the vaccinated.

The fatality of the disease in Belvidere Hospital shows the usual discrimination between vaccinated and unvaccinated, the respective rates being 9 13 per cent. and 51·64 per cent It is suggested in the paper that the fatality rates of pre vaccination times included inoculated small pox. That is very doubtful, but it is quite true, as also urged in the paper, that trustworthy statistics of fatality rates on a large scale for early times are very scanty It might have been added that the best known of these old rates cover only a limited period of time and do not distinguish ages Obviously also the fatality of some infectious diseases varies greatly as between one time and another and one place and another, while in small pox, whatever be the gross fatality, that of the vaccinated is always much less than that of the unvaccinated, age for age. In Belvidere Hospital, among 258 vaccinated patients under 20 years old there were two deaths, and among 86 unvaccinated patients under 20 years old there were 44 deaths. These latter, however, may have included some babies under six months One fact which should appeal to a Scotch town council's sense of economy is given in the paper Of cases which recovered the average residence of the vaccinated was 29 days in hospital and of the unvaccinated 56 days, the relative cost per case being £6 10s 6d and £12 12s

The Belvidere Hospital staff, being revaccinated, experienced that immunity from small pox which though so familiar is none the less remaarkble. As usual, also, there were certain unintentional or unavoidable control experiments Of six revaccinated vanmen regularly bringing supplies to the hospital none took small-pox, "but on one occasion a substitute who had not been revaccinated was sent in place of one of these. This man paid only one visit to the hospital and was admitted a fortnight later with small-pox " Of 230 workmen employed to erect temporary pavilions 217 were successfully revaccinated and all escaped small pox, while 13 refused or escaped revaccination, and of these five contracted small pox and one died. It is sometimes alleged by opponents of vaccination that the immunity of small pox nurses is due to their being accustomed to such work That is amply disproved by the way in which they succumb to other infectious diseases Here however no such sophistry, worthless as it is, can be brought forward. Let it be observed that the 230 were not nurses habituated to hospital work, but were introduced from the outside for a purely temporary purpose. The revaccinated nurses, it need hardly be added, also remained free from small pox. In conclusion, there is one point which we would suggest to the authors of the paper for further research, or at least for further report. It seems from page 20 that, in revaccinating, what amounts to Bryce's test, so well known in JENNER'S time, was regularly practised. A record of the results would be interesting and valuable

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Juries and Actions for Malpraxis

WE find published in the *Canada Lancet* for June a full report of an interesting and instructive judgment delivered, in an action for alleged malpraxis, by the Hon W G FALCONBRIDGE, Chief Justice of the King's Bench, Ontario It is instructive because it deals exhaustively with the facts before the learned judge and with the law applicable to them, and not the least interesting point in connexion with it is a declaration of the practice prevailing in the Canadian courts with regard to this class of action The action was brought by the wife of a farmer against two medical men practising in partnership, on the ground that they had negligently, improperly, and unskilfully treated her for injuries to her foot and ankle, the result of a fall, so that her foot was distorted and twisted and she was rendered permanently lame, with consequent additional injury to her general health. With regard to the legal practice in such cases the learned judge observed as follows "Actions of this kind were, as a matter of course, formerly tried, both here—i.e., in Canada—and in England, by a jury, and it was the almost inevitable result that juries, perhaps innocently and unconsciously, looked more favourably upon the case presented by the patient than on that presented by the physician or surgeon. To remedy this condition of affairs, and not to leave doctors entirely at the mercy of juries, the courts of this country early became astute to lay down limitations and restrictions on the actions of the Twelve, or rather as to what matters ought to be left to them to deal with For example, in 1889 the Court of Queen's Bench held in

JACKSON v HYDE, 28 U C R 294 that in an action against a surgeon for negligent malpractice, where the evidence is as consistent with the absence as with the existence of negligence, the case should not be left to the jury " It is upon this aspect of the case and not upon the purely surgical questions of diagnosis in reference to injuries about the ankle joint that we propose to comment

There must be evidence from which negligence may reasonably be inferred before a case is left to a jury to deal with in England as well as in Canada, but the observations of Chief Justice FALCONBRIDGE point to a withdrawal of cases from Canadian juries which in England would be left to them such withdrawals being apparently to some extent due to the influence rather than to the authority of the judge. The opinions of Canadian judges with regard to juries appear to be expressed with considerable candour When an English judge rebukes a jury for a perverse and obviously unjust verdict in a case which he may nevertheless have been compelled to leave to their decision he is usually made the subject of unfavourable comment by newspapers ignorant of the circumstances, although newspapers curiously enough are frequently themselves victims of verdicts which in their own cases they would protest against if it were possible safely to do so One of the judges in JACKSON v HYDE the Canadian case referred to said however —and we believe that he put the matter truthfully and temperately It is notorious that there are many cases in which jurors are not the most dispassionate or most competent persons to try the rights of parties and an action of this kind (against a surgeon for malpraxis) comes within the class to which I have alluded In England, however the plaintiff in such actions as we are referring to may always ask for a jury and we are not aware that his request is ever refused nor do we blame him for demanding the tribunal which is most likely to find in his favour In Canada it appears to be left to the discretion of the judge to put pressure on the parties to try the case before him alone, for in the case on which we are commenting Chief Justice FALCONBRIDGE states that he tried the issues without a jury both parties having consented to his doing so. The matter was left in thoroughly good hands

In this case it was proved that one of the partners sued had with another surgeon attended the plaintiff who had recently injured her ankle. The evidence of these two gentlemen was to the effect that they had set a fracture the precise nature of which the report does not clearly show, and had reduced a dislocation of the astragalus while their treatment, particularly with regard to the method of bandaging and keeping the ankle in position was approved by three surgeons who gave evidence on their behalf A surgeon appointed by order of the court, a practice not used in England reported to the effect that at the time when he made his examination the astragalus was not in its normal position that there was no sign of there ever having been any fracture of the tibia or fibula, and that though the pain in using the foot might diminish the deformity caused by the dislocation would be permanent On the side of the plaintiff evidence was given by two medical witnesses that, if it were granted that the injury was correctly diagnosed the treatment was improper There was direct affirmative evidence called by the defendants including that of two women friends of the plaintiff, that the plaintiff herself had at an early stage tampered with the bandages and that these were loosened by her to such an extent that the dislocation, undoubtedly still existing might by these means have taken place In these circumstances there was a case such as in England would have been left to a jury to decide and the Canadian judge is to be congratulated on having dispensed at the outset with the aid of twelve men of varied intelligence and experience and on having relied upon himself seeking apparently a responsibility which many English judges accustomed to juries would do their best to avoid. The judgment delivered by Chief Justice FALCONBRIDGE, thoughtfully prepared and carefully reasoned concluded by entirely acquitting the defendants of blame, and contained passages relating to matters of evidence the full weight of which many jurors would have failed to appreciate. In fact, the case was one in which a verdict might easily have been given for the plaintiff, in defiance of justice by many well meaning juries.

It was for example, urged on behalf of the plaintiff that there had been a wrong diagnosis and that no fracture had ever existed this being supported by evidence that the x rays revealed none. We have pointed out that when a sufficient time has elapsed for the callus to have become absorbed no change of outline need remain capable of being revealed easily by a skiagram where a fracture has taken place and been accurately reduced. In the case in point the injury took place nearly three years before the trial and two years before the x rays were applied. That a surgeon should imagine a fracture and ignore a dislocation would seem natural to a jury impressed by the dislocated ankle admittedly before the Court and the fact that it would render the plaintiff lame for life The reasons making such an error highly improbable, together with the full import of the patient's own interference and the comparative weight of the evidence of surgeons of varying degrees of professional eminence and opportunities for forming their opinions are, on the other hand matters far more likely to be properly considered and dealt with by a judge The judge also can reserve his decision and deliver it without haste, after the eloquence of counsel has been to some extent forgotten basing it upon a minute and thoughtful study of the evidence. It must be remembered that however fully the judge may grasp the points of a case and however clearly he may indicate the right course to a jury he may still be unable to overcome prejudices and to guide a verdict. A jury may even seek to show its British independence by going against the recommendation of the judge who in his desire to secure justice for a suitor has to exercise the nicest tact and the most ingenious methods of persuasion in order to avoid if possible, rousing suspicion and opposition and so defeating his own object.

An action tried before Mr Justice CHANNELL and a special jury at the recent assizes at Nottingham suggests many points of interest to medical men which we cannot discuss in detail without a fuller report of the evidence than we have at present seen It appears however to have been decided upon evidence in many respects closely resembling that given in the Canadian case which we have just discussed.

THE LANCET.

LONDON SATURDAY, JULY 26, 1902

The Annual Meeting of the American Medical Association

WE received through the courtesy of more than one of our brother editors in the United States advance proofs of many of the addresses delivered in connexion with the fifty-third annual session of the American Medical Association, but until this comparatively late date we have been unable to find an opportunity of giving them the attention that they merit. The presidential address was delivered on June 10th by Dr JOHN ALLEN WYETH of New York. It dealt with many subjects, for the orator passed in review most of the matters which have concerned the medical profession in the United States during the past year. In many of these subjects the medical profession in this country is equally interested. The Medical Department of the United States Army suffers like our own Royal Army Medical Corps in being insufficiently manned. The prospects of promotion, too, are far from good. Dr WYETH rightly urges the importance of the American Medical Association, as the representative organisation of the medical profession in the United States, coöperating with the medical corps of the army in the effort to procure legislation which will not only uphold the rights and dignity of the medical officers in the public service, but will give better protection to the health and lives of the troops. Within the last few years the medical profession in the United States has had to contend with a wide dissemination of the contagion of small pox. The neglect of vaccination in that country, where no law for compulsory vaccination has yet existed, has led to results not very different from those obtaining in the British Isles where laws once compulsory have been so whittled down as to have lost practically nearly all their compulsory powers. Dr WYETH considers compulsory vaccination in the United States to be impolitic and impracticable, but hopes for an extension of vaccination from the labour of physicians in impressing on the community the necessity and safety of this immunising process. The American Medical Association aims to raise the general level of medical education in the United States and also to improve the general status of the profession. It claims to represent 120,000 practitioners of medicine and its efforts should prove fruitful of good not merely to the medical profession itself but also to the people in general. Much has been done within recent years, but still much remains to be done, and the association will deserve well of the profession in all parts of the world if it succeeds in realising its high educational and ethical ideals.

The address in Medicine was delivered by Dr FRANK BILLINGS of Chicago, and the subject was the Relation of Medical Science to Commerce. He pointed out that medicine is of greater importance to the world than ever before in protecting individuals, communities, and nations from infectious diseases which are more dangerous than formerly because of a denser population, increased facilities of communication, and international interchange of food and other products. Medicine has to safeguard man against infection from parasitic diseases of the animals used for food and against contaminated and adulterated food. Dr BILLINGS asks, "Is modern medicine prepared to meet the demands of modern progress?" and he answers the question by showing what medicine has done in the past century and what it is prepared to do if called upon. He showed the vast results which have followed the study of bacteriology which was only made possible by the development of the microscope. The cultural methods of KOCH have made bacteriology an exact science, and they first rendered possible the separation and differentiation of bacteria. The mode of transmission of infection is especially important. Dr BILLINGS pointed out that the rôle played by insects in the transference of micro organisms has been studied and proved, and that the etiology of malaria and yellow fever has been made clear. By the microscope we can recognise malaria and differentiate it from other febrile diseases; nay, more, we can recognise the type of malarial infection and foretell its course. The first example of protection afforded by the inoculation of an attenuated virus was provided by vaccination against small pox, and this method is now firmly established for some other diseases also. The introduction of serum therapy has been a further step in the treatment and prevention of disease and the method has been specially useful in diphtheria. The prevention of infection in the lower animals is of the greatest importance to man, and with our present knowledge of the bacteriology of disease it would be possible to stamp out any microbic disease of the lower animals. The destruction of the infected bodies of animals is often necessary and this may imply loss to the individual or the community, but this temporary loss would prove to be a permanent gain to the whole people. Dr BILLINGS showed how the application of the knowledge of the transmission of yellow fever by means of the mosquito, demonstrated by REED and CARROLL in Cuba, has had immediate practical results. In Havana during 1901 attempts were made by the sanitary authorities to test the mosquito theory of transmission. The city was made clean; the breeding places of the mosquito in and around the city were destroyed as far as possible, and persons suffering from yellow fever were isolated and protected from the mosquito. As a result yellow fever disappeared from Havana and for the first time for years no case had occurred up to May 1st of this year. This freedom from yellow fever removed the necessity for quarantine regulations against ships from Havana and thus a distinct pecuniary saving was effected by medical science. The mosquito is of equal importance in the transmission of malaria, and experiments have shown that non immune persons may live safely in the most malarious districts if simple precautions are taken against the bites of this insect. The value of medical knowledge to the commercial interests of the world is not adequately recognised. Dr BILLINGS'S address concluded with an appeal on behalf of medicine for the moral and financial support of public bodies in the employment of the measures which science had proved to be efficacious in modifying restricting and *abolishing infectious disease. Original research should be* endowed and funds should be provided for the support of investigators in regions now dangerous to the white man.

It is right, therefore, that medical science should demand of the monied *interests of the world the recognition* which, though long withheld is her just due. This she asks not that individuals may profit in either fame or fortune but that she may the more readily rid the world of infectious diseases for the sake of humanity

The opening address in the Surgery Section was delivered by Dr HARRY M. SHERMAN of San Francisco who took for his subject the Suture of Heart Wounds. A most interesting table from this paper is published in this issue on p 233. It is not long since the idea of interfering surgically with *the heart would have been looked upon as utterly absurd* yet when at last an attempt was made to close a wound of the heart it was found that the heart, like many other organs, more readily endured interference than was imagined to be possible. Some years ago ERICHSEN said that in his opinion surgery had nearly reached its final limits and that there must be portions of the human frame that will ever remain sacred" from the intrusion of the surgeon. It is always difficult to foresee the direction in which advance will be made though those advances appear most simple and obvious after they have occurred. Since ERICHSEN wrote surgery has made many and great advances and it is difficult to be sure that no further extension of the field of its activity can occur Until 1896 however the heart had remained untouched, but in that *year an Italian surgeon (FARINA)* succeeded in placing three sutures in the wall of a right ventricle which had been perforated by a stab. The patient died, but not until the sixth day and the cause of death was broncho pneumonia. So that so far as the heart suture itself is concerned this case may be looked upon as a success. The example thus set was soon followed Two other cases were recorded in the same year two in 1897 four in 1898, eleven in 1899 three in 1900 and nine cases in 1901 whilst this year two cases have already been reported. So that up to the present 34 instances of the suture of heart wounds have been placed on record. These provide sufficient material to enable a very definite idea to be formed of the conditions which govern success. Of the 34 patients 13 ultimately recovered—a result which may be looked upon as very satisfactory when we consider the importance of the organ involved. In all but two cases the injury was caused by a stab, in the two exceptions it was due to a bullet The ventricles are much more likely to be injured than are the auricles, for in only two cases was an auricle *implicated* and this is fortunate, for it is far easier to insert sutures in the thick walls of the ventricles than in the far thinner walls of the auricles. Some of the earlier operators held that it was advisable to insert and to tie the sutures during the *diastole of the heart.* At first sight this might seem advisable but, as Dr SHERMAN pointed out a little consideration will show that it is practically impossible for the heart is beating rapidly probably at least 100 times a minute, the interval between two beats is so extremely short that even the most skilful surgeon could not insert a stitch in the time. It is as well not to penetrate the endocardium but this fortunately is not at all easy in the case of the ventricles. The material of the suture appears to be unimportant silk has been chiefly used, but in several cases catgut has been employed with success Interrupted and continuous sutures have been tried and the only difference appears to be that the continuous suture can be applied a little more rapidly

The heart resents interference much less than might have been expected, though if the edge of the heart wound be held with forceps the heart may contract more violently on account of the local stimulation. The chief point of difference between the suture of the heart and of ordinary skeletal muscle is that the latter can be kept at rest during healing while the heart must still continue to contract more than 70 times a minute Suture of wounds of the heart must be judged by results and the 13 successful cases that we have already mentioned prove conclusively that the operation is good and it may now be definitely laid down that when the heart is wounded an attempt should be made to close the wound. Of course it frequently must happen that the loss of blood is so great and rapid that death occurs before a suture can be applied. In fact, of the 34 cases recorded five patients died on the operating table and 10 very soon afterwards from the effects of hæmorrhage and shock so that for a correct appreciation of the value of the operation we may not unreasonably exclude these thereby raising greatly the percentage of recoveries Up to the present the application of sutures to a wounded heart is the only operation that has been undertaken but it would be unwise to declare that surgery will attempt nothing more in connexion *with the heart* A *note by* Sir LAUDER BRUNTON published in our columns on Feb. 8th, 1902, suggested the possibility that the grave effects of stenosis of the mitral valve might be relieved by surgical division of the diseased valve but as yet there is not much evidence before the medical profession that good would follow such a heroic proceeding We felt it our duty to disapprove of the suggestion, but we willingly admit that at present surgeons cannot see what is really practicable and what is not. Time must be allowed to play its usual part

Small-pox in Belvidere Hospital

DR. R. S THOMSON and Dr R. FULLARTON have reprinted a paper contributed by them to the Transactions of the Royal Philosophical Society of Glasgow giving an account of small pox in Belvidere Hospital Glasgow from April 10th, 1900 to June 30th 1901 From beginning to end the paper is brimful of most interesting material illustrated by well informed and thoughtful comment. Though addressed to a lay audience every part of it is medically valuable and not the least so the preliminary explanation of the exact sense in which well known terms— discrete confluent foveated " doubtfully vaccinated and so *forth*—are used at Belvidere. It is, indeed most desirable that throughout the country and especially in hospital work, there should be uniformity in the application of such words and phrases so that outbreaks of small pox in their relation to vaccination might be more exactly compared with each other than is possible at present. These are matters with regard to which hospital physicians might easily come to a common understanding.

The cases of small pox treated during the period reported on were 1810 in number. Of these patients no less than 1643 had been vaccinated, while 45 were doubtful, and 122 were unvaccinated. Dividing the "doubtfuls" equally among the vaccinated and unvaccinated the latter amount to about 8 per cent. of the total cases. In Glasgow primary vaccination is so general that only 3 or 4 per cent of the population are omitted, and the "crude" result appears to be that the 3 or 4 per cent contributed about 8 per cent. of the small pox. So far as it goes, that is as might be expected, and there is an easy explanation of the unvaccinated not having contributed a much larger percentage of the total admissions than these figures indicate. It is to be found in the ages of the vaccinated patients. Of 1643 only 3 were below the age of five years, only 31 between five and ten years, and only 93 between ten and fifteen years. It is in the adult ages that we find the great numbers of vaccinated cases admitted to Belvidere Hospital. Of the total 1643 patients no less than 627 were between 25 and 35 years old. None of these had been revaccinated and their protection against attack by small pox had largely disappeared, though it still remained very effective against death by small pox. But there is a further and a most unsatisfactory explanation of the percentage of vaccinated admissions. In the 1643 cases 886 had only *one mark of vaccination* and 589 had *two marks*, while only 94 had three and 74 had four marks. Abundant recorded experience of small pox and vaccination makes it safe to assume that the well vaccinated yield much fewer small-pox cases in proportion to their numbers than the imperfectly vaccinated, and the above figures show that there is far too much one- and two-mark vaccination in Glasgow. So long as this is the case, and the inefficient primary protection is not supplemented by revaccination, small pox outbreaks will find many victims among the vaccinated.

The fatality of the disease in Belvidere Hospital shows the usual discrimination between vaccinated and unvaccinated, the respective rates being 9·13 per cent. and 51·64 per cent. It is suggested in the paper that the fatality rates of pre vaccination times included inoculated small pox. That is very doubtful, but it is quite true, as also urged in the paper, that trustworthy statistics of fatality rates on a large scale for early times are very scanty. It might have been added that the best known of these old rates cover only a limited period of time and do not distinguish ages. Obviously also the fatality of some infectious diseases varies greatly as between one time and another and one place and another, while in small pox, whatever be the gross fatality, that of the vaccinated is always much less than that of the unvaccinated, age for age. In Belvidere Hospital, among 258 vaccinated patients under 20 years old there were two deaths, and among 86 unvaccinated patients under 20 years old there were 44 deaths. These latter, however, may have included some babies under six months. One fact which should appeal to a Scotch town council's sense of economy is given in the paper. Of cases which recovered the average residence of the vaccinated was 29 days in hospital and of the unvaccinated 56 days, the relative cost per case being £6 10*s* 6*d* and £12 12*s*.

The Belvidere Hospital staff, being revaccinated, experienced that immunity from small-pox which though so familiar is none the less remaarkble. As usual, also, there were certain unintentional or unavoidable control experiments. Of six revaccinated vanmen regularly bringing supplies to the hospital none took small-pox, "but on one occasion a substitute who had not been revaccinated was sent in place of one of these. This man paid only one visit to the hospital and was admitted a fortnight later with small-pox." Of 230 workmen employed to erect temporary pavilions 217 were successfully revaccinated and all escaped small-pox, while 13 refused or escaped revaccination, and of these five contracted small pox and one died. It is sometimes alleged by opponents of vaccination that the immunity of small pox nurses is due to their being accustomed to such work. That is amply disproved by the way in which they succumb to other infectious diseases. Here however no such sophistry, worthless as it is, can be brought forward. Let it be observed that the 230 were not nurses habituated to hospital work, but were introduced from the outside for a purely temporary purpose. The revaccinated nurses, it need hardly be added, also remained free from small pox. In conclusion, there is one point which we would suggest to the authors of the paper for further research, or at least for further report. It seems from page 20 that, in revaccinating, what amounts to Bryce's test, so well known in JENNER'S time, was regularly practised. A record of the results would be interesting and valuable.

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Juries and Actions for Malpraxis

WE find published in the *Canada Lancet* for June a full report of an interesting and instructive judgment delivered, in an action for alleged malpraxis, by the Hon W G FALCONBRIDGE, Chief Justice of the King's Bench, Ontario. It is instructive because it deals exhaustively with the facts before the learned judge and with the law applicable to them, and not the least interesting point in connexion with it is a declaration of the practice prevailing in the Canadian courts with regard to this class of action. The action was brought by the wife of a farmer against two medical men practising in partnership, on the ground that they had negligently, improperly, and unskilfully treated her for injuries to her foot and ankle, the result of a fall, so that her foot was distorted and twisted and she was rendered permanently lame, with consequent additional injury to her general health. With regard to the legal practice in such cases the learned judge observed as follows. "Actions of this kind were, as a matter of course, formerly tried, both here—i.e., in Canada—and in England, by a jury, and it was the almost inevitable result that juries, perhaps innocently and unconsciously, looked more favourably upon the case presented by the patient than on that presented by the physician or surgeon. To remedy this condition of affairs, and not to leave doctors entirely at the mercy of juries, the courts of this country early became astute to lay down limitations and restrictions on the actions of the Twelve, or rather as to what matters ought to be left to them to deal with. For example, in 1869 the Court of Queen's Bench held in

JACKSON v HYDE, 28 U C R 294 that in an action against a surgeon for negligent malpractice, where the evidence is as consistent with the absence as with the existence of negligence the case should not be left to the jury' It is upon this aspect of the case and not upon the purely surgical questions of diagnosis in reference to injuries about the ankle joint that we propose to comment.

There must be evidence from which negligence may reasonably be inferred before a case is left to a jury to deal with in England as well as in Canada but the observations of Chief Justice FALCONBRIDGE point to a withdrawal of cases from Canadian juries which in England would be left to them such withdrawals being apparently to some extent due to the influence rather than to the authority of the judge. The opinions of Canadian judges with regard to juries appear to be expressed with considerable candour. When an English judge rebukes a jury for a perverse and obviously unjust verdict in a case which he may nevertheless have been compelled to leave to their decision he is usually made the subject of unfavourable comment by newspapers ignorant of the circumstances although newspapers curiously enough are frequently themselves victims of verdicts which in their own cases they would protest against if it were possible safely to do so. One of the judges in JACKSON v HYDE, the Canadian case referred to said however —and we believe that he put the matter truthfully and temperately It is notorious that there are many cases in which jurors are not the most dispassionate or most competent persons to try the rights of parties, and an action of this kind (against a surgeon for malpraxis) comes within the class to which I have alluded. In England, however the plaintiff in such actions as we are referring to may always ask for a jury and we are not aware that his request is ever refused nor do we blame him for demanding the tribunal which is most likely to find in his favour In Canada it appears to be left to the discretion of the judge to put pressure on the parties to try the case before him alone, for in the case on which we are commenting Chief Justice FALCONBRIDGE states that he tried the issues without a jury both parties having consented to his doing so The matter was left in thoroughly good hands.

In this case it was proved that one of the partners sued had with another surgeon attended the plaintiff who had recently injured her ankle. The evidence of these two gentlemen was to the effect that they had set a fracture the precise nature of which the report does not clearly show and had reduced a dislocation of the astragalus, while their treatment, particularly with regard to the method of bandaging and keeping the ankle in position was approved by three surgeons who gave evidence on their behalf A surgeon appointed by order of the court, a practice not used in England reported to the effect that at the time when he made his examination the astragalus was not in its normal position that there was no sign of there ever having been any fracture of the tibia or fibula, and that though the pain in using the foot might diminish the deformity caused by the dislocation would be permanent On the side of the plaintiff evidence was given by two medical witnesses that if it were granted that the injury was correctly diagnosed the treatment was improper There was direct affirmative evidence called by the defendants, including that of two women friends of the plaintiff that the plaintiff herself had at an early stage tampered with the bandages and that these were loosened by her to such an extent that the dislocation, undoubtedly still existing might by these means have taken place In these circumstances, there was a case such as in England would have been left to a jury to decide and the Canadian judge is to be congratulated on having dispensed at the outset with the aid of twelve men of varied intelligence and experience and on having relied upon himself, seeking, apparently a responsibility which many English judges accustomed to juries would do their best to avoid. The judgment delivered by Chief Justice FALCONBRIDGE, thoughtfully prepared and carefully reasoned concluded by entirely acquitting the defendants of blame, and contained passages relating to matters of evidence the full weight of which many jurors would have failed to appreciate In fact, the case was one in which a verdict might easily have been given for the plaintiff in defiance of justice by many well meaning juries.

It was for example, urged on behalf of the plaintiff that there had been a wrong diagnosis and that no fracture had ever existed this being supported by evidence that the x rays revealed none. We have pointed out that when a sufficient time has elapsed for the callus to have become absorbed no change of outline need remain capable of being revealed easily by a skiagram where a fracture has taken place and been accurately reduced. In the case in point the injury took place nearly three years before the trial and two years before the x rays were applied. That a surgeon should imagine a fracture and ignore a dislocation would seem natural to a jury impressed by the dislocated ankle admittedly before the Court and the fact that it would render the plaintiff lame for life. The reasons making such an error highly improbable, together with the full import of the patient's own interference and the comparative weight of the evidence of surgeons of varying degrees of professional eminence and opportunities for forming their opinions are, on the other hand matters far more likely to be properly considered and dealt with by a judge The judge also can reserve his decision and deliver it without haste, after the eloquence of counsel has been to some extent forgotten basing it upon a minute and thoughtful study of the evidence. It must be remembered that however fully the judge may grasp the points of a case and however clearly he may indicate the right course to a jury he may still be unable to overcome prejudices and to guide a verdict. A jury may even seek to show its British independence by going against the recommendation of the judge who in his desire to secure justice for a suitor has to exercise the nicest tact and the most ingenious methods of persuasion in order to avoid if possible, rousing suspicion and opposition and so defeating his own object.

An action tried before Mr Justice CHANNELL and a special jury at the recent assizes at Nottingham suggests many points of interest to medical men which we cannot discuss in detail without a fuller report of the evidence than we have at present seen. It appears however to have been decided upon evidence in many respects closely resembling that given in the Canadian case which we have just discussed.

The action was based upon the alleged negligent and unskilful treatment of the plaintiff by the defendant, a medical man. The injury was a dislocation of the elbow which the defendant, a surgeon, said that he had reduced, not immediately on account of the swelling, but after an interval of some days. He further stated that he had discovered that the elbow was again dislocated several weeks later, when he sent the plaintiff to the Nottingham General Hospital whence he found his way to Charing Cross Hospital There was medical evidence that the defendant should, in the opinion of the witness, have been able to diagnose and to reduce the dislocation at once. There was also evidence that while under the care of the defendant the plaintiff visited two local "bone setters" who presumably handled the elbow, for they stated that at that time the joint was dislocated. For the fair trial of a case such as this, involving as it does the weighing of scientific evidence and the consideration of matters likely to arouse prejudice, a jury, even a special jury, is not necessarily the best possible tribunal. We are not in a position to criticise the verdict in this particular instance, but we may point out that the amount awarded, £25, is a curious sum. If the plaintiff, a collier, was either permanently or for some considerable time (the accident took place in November, 1900) disabled from following his employment, it seems hardly enough, on the other hand, if the disablement was not due to the malpraxis of the defendant the plaintiff was not entitled to any damages at all We refer to the case because in many of its features it is exactly the sort of case where the decision of a sound and strong judge might have been more satisfactory than the verdict of a jury

Annotations.

"Ne quid nimis"

THE HEALTH OF THE KING

WE are glad to announce that the health of the King continues to progress favourably in every direction. Sir Frederick Treves and Sir Francis Laking, who with Surgeon Bankart, R.N, are on board H.M.Y *Victoria and Albert*, are, as will have been seen from the bulletins, able to report that their illustrious patient is doing well in all respects. We may add that the wound is granulating nicely and every precaution is taken to ensure rest to the parts The King still keeps strictly to the recumbent position and has not yet left his couch He is moved from his bed to the couch daily and is wheeled on deck when the weather permits The report that we are now able to give should entirely reassure those who have been a little apprehensive as to the comforts and value of sojourn on board a yacht during the spell of nasty weather with which last week closed and under which this week opened. The complete rest of body and mind which the King is now enjoying will be of the greatest service to his physique.

EXPERIMENTAL PSYCHOLOGY AT KING'S COLLEGE, LONDON

PSYCHOLOGY is now a subject which admits of practical laboratory work, but very few of our universities and colleges have instituted practical departments for the study of this important branch of science. The council of King's College, London, has shown itself abreast of the times by providing a new laboratory for experimental psychology, and Mr W G Smith, M A., Ph D, has been appointed lecturer on the subject The new laboratory will be in contiguity to the physiological laboratory and will be under Dr W D Halliburton's general supervision. Dr Smith is already well known for his work in connexion with the subject at Leipsic and Harvard and more recently for that which he has carried out in the laboratory of the Claybury Asylum in *coöperation with Dr Mott*

HENRY MEMBURY WAKLEY

WE regret to announce the death of Mr Henry Membury Wakley, which occurred on Friday, July 18th Mr Henry Wakley was the second son of Thomas Wakley, M P, coroner for West Middlesex and Founder of THE LANCET, and was born in Brompton in 1824, the year after the first issue of this journal. His second name was that of the village in Devonshire, Membury, from which his father came For some two years he studied medicine at University College Hospital but the work was not congenial to him and subsequently he became a barrister and was for a tim
secretary to the New Equitable Life Assuranc Let
pany, a company which came into existence situated
his father's ideal of a life assurance office the outside
medical men for medical men, where the ted nurses, it
tioner should take the place of the sc om small pox.
and referee Mr Henry Wakley was a would suggest
period deputy coroner for his father but wa ch, or at least
the three sons of the Founder of THE at, in revaccina
never associated with him in his editorial well known in
Wakley had lived in a very retired manner record of the
many years before his death, during the la
having been a great invalid. The body
provisions of the will, was cremated a
22nd inst., the ashes being subsequen
Columbarium at Brookwood Cemetery

Malpraxis

MEDICAL FEES IN CRIMIN *t* for June a full

IN a leading article in THE LANCET gment delivered,
p 85, we dealt at some length with the Hon W G
to medical witnesses in criminal cases, Bench, Ontario
to a scale fixed in 1858, and we illust ly with the facts
reference to a case which recently occ
this case certain medical men refuse law applicable to
girl, said to have been indecently assa in connexion with
that the fees which would be paid to in the Canadian
evidence at assizes or quarter sessions The action was
being thus invited to give would be wholl dical men
to compensate them for the loss of time hey had
entailed There was, we need hardly say no for
of rendering medical aid to an injured per
simply a question of evidence as to whether the that
genital organs had been tampered with We o red
that Mr Justice Kennedy when the attitude her
medical men in this matter was brought to his
expressed a full appreciation of their position, and it will
seen also from a report which we publish at p 237 that t
magistrates of the district, under the chairmanship of Mr Rider Haggard, fully understood the point raised and made a practical suggestion to remedy the difficulty that has arisen. A temperate and well reasoned article in the *East Anglian Daily Times* shows that the medical men in question enjoy the sympathy of their neighbours while it endorses the views of the magistrates—namely, that the proper course is to appoint a medical man to act for the police in all such matters It is obvious that a man who undertakes the duties of a police surgeon, knowing that he will have to make such examinations as those referred to, with the liability to give evidence as a consequence,

places himself by his own act in the position that he occupies, whereas the ordinary medical witness in a criminal case is the victim of circumstances It will be seen however from the report of the proceedings before the Bungay magistrates that the question raised as to expert evidence has been referred to the Home Secretary by the East Suffolk police, and we would call our readers attention to the answers returned. Mr Ritchie differs from Mr Justice Kennedy and we may fairly say from the report quoted that the views of Mr Ritchie do not coincide with those held by the magistrates. Mr Ritchie thinks that 'such refusals must be considered as very discreditable to the medical men concerned but he is glad to believe that such incidents are very rare" We would like Mr Ritchie to explain why it should be discreditable to a medical man to decline to make an examination of a healthy girl s vagina because she has brought an accusation against someone of which he knows nothing when he is aware, perhaps from bitter experience, that his examination may entail his spending a wholly uncertain period at an assize town in return for a fee of a guinea a day with half a crown a night towards his hotel bill, should he incur one. For this is usua a day he will have to leave his patients, making newspape rangements he can for their welfare, and he to make those arrangements in complete un papers curiou to the length of his enforced absence. of verdicts whi tinues the Home Secretary are, as a rule, against if it w to undertake an examination of this sort, judges in JACK t they will only be paid their expenses as to said, however is the expert evidence of Mr Ritchie on a truthfully and t to which we should like to know what his have been. The perfect willingness of are many cases such circumstances is a condition new to passionate or mo while their expenses as witnesses sug parties and an a tchie would expect them to give evidence malpraxis) comes railway fares and the *2s 6d* a night In England, how for their hotel bills But Mr Ritchie ly to propose In an exceptional are referring to n to the refusal of a medical man not aware that hi examination there might be danger blame him for d carriage of justice, you should com likely to find in the Director of Public Prosecutions left to the discret essary employ an expert to make the parties to try the the exceptional nature of the case and carriage of justice, "serious or other on which we are co ised Mr Ritchie does not suggest, but states that he tried rather charge the Imperial Exchequer having consented t iously would be considerable for the fees thoroughly good the expert" supplied by the Public

In this ca han revise a scale of payments arranged had with a century ago and permit medical witnesses recently numerated from the county fund with some gentlem o their loss and the anxiety inflicted upon them of the expression very discreditable by the Home the pr ry is amazing for it is wholly inapplicable to circum and h which no fair minded man can hold to be discredit- treat at all and we regret that there is not in the Home be cretary s letter evidence of that careful consideration of terial facts that should precede official pronouncements, articularly those purporting to convey serious censure of individuals or of a class.

THE METROPOLITAN WATER-SUPPLY

THE report of the condition of the Metropolitan water supply during the month of May has been published recently The Water Examiner states that the Thames water was in good condition at Hampton, Molesey and Sunbury during the whole of the month and that the average daily supply delivered *from the river was 124 094 946 gallons* which is nearly 60 per cent. of the total amount distributed by the London water companies. From the Lee the average quantity abstracted daily was 36,338,271 gallons, and from springs and wells 47 916,315 gallons The total daily quantity was 208,378 583 gallons (including 29 051 gallons daily from the Hampstead and Highgate ponds) for a population estimated at 6 362,684 and this represents a daily consumption per head of 32 75 gallons. In the case of every company the number of gallons supplied per head was less during the month than it was during the corresponding month of the previous year The Chelsea, East London, Grand Junction, and West Middlesex companies now profess to give constant service to all their customers. In the case of the other companies—the Kent New River Southwark, and Vauxhall and Lambeth—constant supplies are respectively given to 98 4 95 93 1 and 76·7 per cent. of the customers. The water supplied by the New River Company was of very good quality The East London Company distributed water which on the average, was of rather better quality than that supplied by four of the Thames companies. A considerable proportion of the water of the East London Company is now obtained from wells. The daily average supply which amounted to 38 790 000 gallons, was made up as follows from the Lee and storage 14 595,269 gallons, from the Thames, 8 174 000 gallons from wells, 10 251 731 gallons, from Hanworth Springs, 1,659 000 gallons, from the Thames, per Southwark and Vauxhall Company," 4 110 000 gallons The water of ' Hanworth Springs" is in reality well water so that the total proportion of well water obtained by the East London Company amounts to little less than one-third of the total supply Samples of the water of all the companies were taken on May 21st and a complete analysis was made of them by Dr T E. Thorpe, F R.S the chemist to the Local Government Board. He found that the relative amount of organic impurity in these samples was represented numerically as follows. Kent and New River 18 Chelsea 24 Lambeth 27, Southwark and Vauxhall and East London, 28 Grand Junction, 29 West Middlesex, 31. The proportion of brown tint seen in samples in a two-foot tube ranged from 3 degrees to 19 degrees of the standard in use. The water of the Lambeth Company exhibited the deepest average shade of brown. The most important results of Dr Thorpe s examination are given in the appended table which shows the results of the analysis expressed in parts per 100 000

Company	Organic carbon.	Organic nitrogen.	Nitrogen as nitrates and nitrites	Total combined nitrogen.
Chelsea ..	0·126	0·017	0 154	0·171
West Middlesex ...	0·163	0·016	0·125	0 141
Southwark ...	0·151	0·016	0 161	0·177
Grand Junction	0·157	0·016	0·170	0·186
Lambeth ..	0·147	0·015	0·187	0·207
New River ..	0·063	0 008	0·187	0 195
East London	0·143	0 016	0·354	0·370
Kent	0 061	0·005	0 673	0·678

BARON LARREY

THERE are few names more honoured not only in France but throughout the civilised world than that of Jean Dominique Larrey—the virtuous Larrey as the great Napoleon called him. In his native country three statues have been erected in his honour and now a fourth monument has appeared in the form of an octavo volume of 756 pages[1] by Dr Paul Triaire. Having had access to many unpublished official and private documents including some collected with filial care by Baron Hippolyte Larrey, the author was afforded an opportunity of producing an exhaustive work and has conscientiously and efficiently performed his task. The book which he has produced is one to be read from cover to cover Larrey's long and strenuous career receives full justice, while incidentally matter of great interest concerning the notable characters and the historical scenes with which he was associated is constantly introduced. "Drawn in the footsteps of the conqueror throughout his vertiginous course," says Dr Triaire in his exordium, "Larrey filled an important place in the Napoleonic epic. He was present on every battle field, and established his ambulances in all the capitals of Europe. In this long and glorious series of campaigns, in this marvellous and dramatic triumphal march when the armies of France advanced from the Nile to the Danube, from Austerlitz to Madrid, from Wagram to Moscow, and from Leipzig to Waterloo, the figure of this army surgeon emerges, stands forth in surprising relief by the side of those of warriors whom a hundred victories have consecrated A character is revealed wherein science, authority, valour, and humanity are combined in a degree never seen before, and probably never to be seen again. In spite of a defective organisation, Larrey contrived single handed to raise the medical service to a level with the rest of Napoleon's army By the side of the machine made perfect for conquest and for death he placed another equally perfect but designed to succour and to preserve From the inferior and discredited rank wherein, notwithstanding their talents, their good service, and their personal sacrifices, the members of the healing art were subordinated in old time armies he raised himself to the level of the most illustrious captains and of the most celebrated physicians From the one class he borrowed talent and intrepidity and from the other science and devotion, thus in his own person uniting the virtues of both" Baron Larrey studied medicine at Toulouse and on graduating entered the French navy In 1793 he was transferred to the army, and in 1797 he joined Napoleon in Italy In 1805 he was placed at the head of the medico surgical department and soon afterwards was created a baron of the empire

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[1] Tours Alfred Mame et Fils 1902.

A SLANDER CASE

In a leading article in our present issue we venture to suggest that a jury, the vaunted Palladium of British liberty, is not always the most just and satisfactory tribunal for the decision of issues where scientific questions and the interests of medical men are involved. An action tried last June at the assizes at Bury St. Edmunds aptly illustrates our point. The plaintiff Mr A. H Gibbon, medical officer of health of the borough, practising in partnership with Dr R E Nix, the public vaccinator in the same locality, sued a member of the town council for words uttered with reference to himself and his action in recommending certain precautionary measures during the recent outbreak of small pox. The words complained of were, "It is all d——d rot. It is only a got up job on the part of Gibbon and Nix to put money into their pockets for vaccination fees" It was denied that the defendant had used these words and the evidence on the subject was conflicting, but Mr Justice Kennedy told the jury in plain terms that if they found that the defendant did in fact use them there could be no doubt that they were grossly slanderous. To this proposition we should have thought all reasonable men would assent and the point involved in it is one tolerably simple and easy to be grasped If the words were used, as there was no shadow of an attempt to justify their use, it was right that the speaker should be made liable to pay reasonable but not vindictive damages. The jury, however, found that the slander had been uttered, that damages were due to the medical man slandered, and assessed them at one farthing, for which sum judgment was given with costs Such a verdict may well cause fair-minded men to endorse the opinion of Chief Justice Falconbridge[1] upon the defects of the jury system exhibited in actions where prejudice is involved and in particular where medical men are concerned

ARMY ESTIMATES VOTE FOR MEDICAL ESTABLISHMENT

A large portion of the debate in the House of Commons last week on the Army Estimates was taken up with the case of Sir Redvers Buller and relatively little time, considering the importance of the subject, was given to that on the vote of £1,025,000 for the medical establishment We are always glad to see attention called to the army medical service, but it is unfortunate that discussions in the House regarding that service are so frequently unsatisfactory reading to those actually acquainted with the facts and regulations It is confessedly a subject about which but few people have sufficient knowledge to enable them to speak competently and with effect. It is, no doubt, a far more difficult and tiresome process to acquire an up-to date knowledge of official ways and regulations than to sum up the whole matter as the antiquated red tape notions of permanent officials, but general statements and criticism of this sort are very ineffective and do not tend to carry us much "forrader" With regard to the supplies of hospitals and stores for the sick and wounded we are all in favour of simplifying methods of administration and procedure in war and of reducing to the utmost practicable extent the clerical work of medical officers, and we look to Mr Brodrick to see that this is done There are in this and several other directions many desirable changes and improvements which we make no doubt could be carried out if they were properly set about on commonsense lines Concerning these the views of medical officers —who are, after all, most concerned—should be obtained Mr Brodrick should avoid a repetition of the great mistake that occurred in the constitution of the committee for the reorganisation of the medical services—namely, the omission to have upon it an experienced medical officer of high rank. It must always be borne in mind that an army medical officer is called upon by the constitution and terms of his service to discharge a number of duties other than those of a purely professional kind and such as do not fall to the lot of a practitioner in civil life It is only right to add, however, that, speaking generally, we quite concur in what Dr Farquharson said in the debate in question Mr Brodrick and his advisers, if they have not altogether gone on the lines that we suggested or carried out all that we have desired, have nevertheless made many radical and needful changes and introduced many very important and valuable improvements in the army medical service. Mr Brodrick pointed to the fact that there were between 70 and 80 candidates for the 32 vacancies in the Royal Army Medical Corps We are very glad to hear it and hope that the new measures which, taken as a whole, are very good and in the right direction will continue to attract a high class of candidates from the medical schools

THE SUTURING OF HEART WOUNDS

Dr. Harry M Sherman of San Francisco recently delivered an address before the American Medical Association on the Closing of Wounds of the Heart by means of Sutures We have referred to this address elsewhere (p 226) and have analysed the main points of the operation, but some surgeons may desire to have the particulars of

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[1] See p 228

CASES OF SUTURES OF WOUNDS OF THE HEART *

No	Operator and year	Location of external wound.	Chamber wounded and size of wound.	Time of operation after injury	Anæsthetic.	Results and remarks
1	Farina, 1896.	Just above the margin of the left sixth rib near the sternum	Right ventricle, one quarter of an inch; three stitches	—	—	Death on sixth day from broncho-pneumonia.
2	Cappelen 1896	Fourth left intercostal space in mid axillary line.	Left ventricle, four fifths of an inch.	One hour	—	Death after several days; pericarditis; branch coronary artery cut
3	Rehn 1896.	Fourth left intercostal space near the sternum.	Right ventricle three stitches	*The following evening*	—	*Recovery*; empyema.
4	Parozzani 1897	Seventh left intercostal space in the mid-axillary line	Left ventricle, three-quarters of an inch.	Five hours.	None.	Recovery
5	Parozzani.	Third left intercostal space	Left ventricle, three fifths of an inch.	Half an hour		Death on second day from anæmia (?) Interventricular septum had been cut.
6	Fummi 1896.	Under the left nipple.	Apex; cavity not opened; one stitch.	Several hours.	—	Recovery; empyema.
7	Ninni 1898.	Fifth left intercostal space	Left ventricle; three stitches.	Quickly	None	Death on the table
8	Parlavecchio 1896.	"	Left ventricle, one and a half inches; apex.	Eight hours.	Chloroform.	Recovery
9	Giordano, 1898.	Second left intercostal space.	Left auricle, four-fifths of an inch; four stitches.	Half an hour	None	Death on nineteenth day from empyema; abscesses of the right lung
10	Nicholai 1899	Fourth left intercostal space midway between the margin of the sternum and the nipple	Right ventricle	One and a half hours.	Yes	Death after 12 hours
11	*Tuzzi*	*Fourth left intercostal space.*	*Two wounds non penetrating*	—	None.	Death on the twenty second day from empyema; pericarditis.
12	Longo.	Fifth left intercostal space, two-fifths of an inch internal to the nipple.	Left ventricle; three stitches.	At once.		Death in 15 minutes.
13	Ramoni	At third left cartilage, four fifths of an inch from the sternum	Right ventricle; two wounds; one non penetrating four stitches	—		Recovery
14	Marion 1899	Shot through the breast.	Right ventricle; catgut suture.	—	—	Death
15	Rosa, 1899.	Fifth intercostal space.	Left ventricle, three-fifths of an inch; not certain it penetrated ventricle.	—	None.	Recovery
16	Horodynski 1899	—	Right ventricle one and a half centimetres long	—	—	Death
17	Maliszewski 1899	—	—	—	—	"
18	Maliszewski 1899	—	—	—	—	
19	Bufnoir 1899	Sixth left intercostal space.	Right ventricle gunshot 22 calibre.	—	—	Death; necropsy showed perforation of ventricle and the anterior opening only had been sutured
20	Pagenstecher 1899	Fourth left intercostal space beneath the nipple.	Left ventricle, near the apex; two stitches	16 hours	None	Recovery
21	Nanu, 1900	Third intercostal space, four centimetres from the edge of the sternum	Right ventricle, two centimetres long; two interrupted sutures	—	—	Death on the fifth day from infection of the pericardium and pleura.
22	Maselli 1900	Below and internal to the left nipple, cutting the sixth rib	Left ventricle, near the apex; two stitches	One and a half hours	—	Death in 12 hours.
23	Fontan 1900	Six wounds with scissors between the third and the seventh ribs in the cardiac region	Left ventricle 12 millimetres long continuous catgut sutures; three stitches	Six hours	Chloroform	Recovery.
24	Nietert 1901.	—	Right ventricle penetrated; three silk sutures	—	—	Death after 36 hours
25	Vaughan 1901	Fifth left costal cartilage divided	Left ventricle two and a half centimetres long; continuous silk sutures seven stitches	Three-quarters of an hour	Ether	Death on the table from hæmorrhage about completion of operation
26	Nietert, 1901	Left of the sternum.	Left ventricle not sure cavity was penetrated; two sutures	—	—	Recovery
27	Ninni 1901.		Right auricle	—	—	Death in four days *sepsis*
28	Mignon et Sieur 1901	—	Right ventricle	—	—	Death
29	Fontan 1901	—	Left ventricle; catgut sutures.	—	—	Recovered; had empyema.
30	Brenner † 1901	Left of the sternum, near the sixth cartilage.	Right ventricle seven centimetres	The following day	Yes	Death on the table; degenerate heart muscle
31	Watten,‡ 1901	Fourth right intercostal space.	Right ventricle 3·5 to 4 centimetres	—	—	Recovery; right pleura wounded; *pneumothorax*
32	Lastaria, 1901.	—	Left ventricle.	—	—	Died soon.
33	Launay § 1902.	—	Left ventricle, anterior and posterior walls; pistol shot catgut suture in each	—	—	Recovery; no complications
34	Nietert ‖ 1902.	Left sixth interspace, to the right of the papillary line	Left ventricle far back two centimetres; penetration uncertain; two interrupted silk sutures	14½ hours	—	Recovery; purulo-sanguinolent effusion and thoracotomy

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* Cases 1 to 26 inclusive from table of Dr Geo T Vaughan Philadelphia Medical News Dec 7th 1901 † Wiener Klinische Wochenschrift 1901 No. 11 ‡ Deutsche Medicinische Wochenschrift 1901 No 37 § La Presse Médicale March [illegible]th 1902. ‖ Philadelphia Medical Journal May 3rd 1902.

collected with filial care by Baron Hippolyte Larrey, the author was afforded an opportunity of producing an exhaustive work and has conscientiously and efficiently performed his task. The book which he has produced is one to be read from cover to cover. Larrey's long and strenuous career receives full justice, while incidentally matter of great interest concerning the notable characters and the historical scenes with which he was associated is constantly introduced. "Drawn in the footsteps of the conqueror throughout his vertiginous course," says Dr Triaire in his exordium, "Larrey filled an important place in the Napoleonic epic. He was present on every battle field, and established his ambulances in all the capitals of Europe. In this long and glorious series of campaigns, in this marvellous and dramatic triumphal march when the armies of France advanced from the Nile to the Danube, from Austerlitz to Madrid, from Wagram to Moscow, and from Leipzig to Waterloo, the figure of this army surgeon emerges, stands forth in surprising relief by the side of those of warriors whom a hundred victories have consecrated. A character is revealed wherein science, authority, valour, and humanity are combined in a degree never seen before, and probably never to be seen again. In spite of a defective organisation, Larrey contrived single handed to raise the medical service to a level with the rest of Napoleon's army. By the side of the machine made perfect for conquest and for death he placed another equally perfect but designed to succour and to preserve. From the inferior and discredited rank wherein, notwithstanding their talents, their good service, and their personal sacrifices, the members of the healing art were subordinated in old time armies he raised himself to the level of the most illustrious captains and of the most celebrated physicians. From the one class he borrowed talent and intrepidity and from the other science and devotion, thus in his own person uniting the virtues of both." Baron Larrey studied medicine at Toulouse and on graduating entered the French navy. In 1793 he was transferred to the army, and in 1797 he joined Napoleon in Italy. In 1805 he was placed at the head of the medico surgical department and soon afterwards was created a baron of the empire.

A SLANDER CASE

In a leading article in our present issue we venture to suggest that a jury, the vaunted Palladium of British liberty, is not always the most just and satisfactory tribunal for the decision of issues where scientific questions and the interests of medical men are involved. An action tried last June at the assizes at Bury St. Edmunds aptly illustrates our point. The plaintiff, Mr A. H Gibbon, medical officer of health of the borough, practising in partnership with Dr R E Nix, the public vaccinator in the same locality, sued a member of the town council for words uttered with reference to himself and his action in recommending certain precautionary measures during the recent outbreak of small pox. The words complained of were, "It is all d——d rot. It is only a got up job on the part of Gibbon and Nix to put money into their pockets for vaccination fees." It was denied that the defendant had used these words and the evidence on the subject was conflicting, but Mr Justice Kennedy told the jury in plain terms that if they found that the defendant did in fact use them there could be no doubt that they were grossly slanderous. To this proposition we should have thought all reasonable men would assent and the point involved in it is one tolerably simple and easy to be grasped. If the words were used, as there was no shadow of an attempt to justify their use, it was right that the speaker should be made liable to pay reasonable but not vindictive damages. The jury, however, found that the slander had been uttered, that damages were due to the medical man slandered, and assessed them at one farthing, for which sum judgment was given with costs. Such a verdict may well cause fair-minded men to endorse the opinion of Chief Justice Falconbridge[1] upon the defects of the jury system exhibited in actions where prejudice is involved and in particular where medical men are concerned.

ARMY ESTIMATES VOTE FOR MEDICAL ESTABLISHMENT

A LARGE portion of the debate in the House of Commons last week on the Army Estimates was taken up with the case of Sir Redvers Buller and relatively little time, considering the importance of the subject, was given to that on the vote of £1,025,000 for the medical establishment. We are always glad to see attention called to the army medical service, but it is unfortunate that discussions in the House regarding that service are so frequently unsatisfactory reading to those actually acquainted with the facts and regulations. It is confessedly a subject about which but few people have sufficient knowledge to enable them to speak competently and with effect. It is, no doubt, a far more difficult and tiresome process to acquire an up to date knowledge of official ways and regulations than to sum up the whole matter as the antiquated red tape notions of permanent officials, but general statements and criticism of this sort are very ineffective and do not tend to carry us much "forrader." With regard to the supplies of hospitals and stores for the sick and wounded we are all in favour of simplifying methods of administration and procedure in war and of reducing to the utmost practicable extent the clerical work of medical officers, and we look to Mr Brodrick to see that this is done. There are in this and several other directions many desirable changes and improvements which we make no doubt could be carried out if they were properly set about on commonsense lines. Concerning these the views of medical officers—who are, after all, most concerned—should be obtained. Mr Brodrick should avoid a repetition of the great mistake that occurred in the constitution of the committee for the reorganisation of the medical services—namely, the omission to have upon it an experienced medical officer of high rank. It must always be borne in mind that an army medical officer is called upon by the constitution and terms of his service to discharge a number of duties other than those of a purely professional kind and such as do not fall to the lot of a practitioner in civil life. It is only right to add, however, that, speaking generally, we quite concur in what Dr Farquharson said in the debate in question. Mr Brodrick and his advisers, if they have not altogether gone on the lines that we suggested or carried out all that we have desired, have nevertheless made many radical and needful changes and introduced many very important and valuable improvements in the army medical service. Mr Brodrick pointed to the fact that there were between 70 and 80 candidates for the 32 vacancies in the Royal Army Medical Corps. We are very glad to hear it and hope that the new measures which, taken as a whole, are very good and in the right direction will continue to attract a high class of candidates from the medical schools.

THE SUTURING OF HEART WOUNDS

DR. HARRY M SHERMAN of San Francisco recently delivered an address before the American Medical Association on the Closing of Wounds of the Heart by means of Sutures. We have referred to this address elsewhere (p 226) and have analysed the main points of the operation, but some surgeons may desire to have the particulars of

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[1] See p 228

CASES OF SUTURES OF WOUNDS OF THE HEART *

No.	Operator and year	Location of external wound	Chamber wounded and size of wound	Time of operation after injury	Anæsthetic	Results and remarks
1	Farina 1896.	Just above the margin of the left sixth rib near the sternum	Right ventricle, one quarter of an inch; three stitches	—	—	Death on sixth day from broncho-pneumonia.
2	Cappelen 1896.	Fourth left intercostal space in mid-axillary line	Left ventricle, four-fifths of an inch	One hour	—	Death after several days; pericarditis; branch coronary artery cut.
3	Rehn 1896	Fourth left intercostal space near the sternum	Right ventricle three stitches	The following evening	—	Recovery; empyema.
4	Parozzani, 1897	Seventh left intercostal space in the mid-axillary line	Left ventricle three-quarters of an inch.	Five hours	None.	Recovery
5	Parozzani	Third left intercostal space	Left ventricle, three fifths of an inch	Half an hour		Death on second day from anæmia (?) Interventricular septum had been cut
6	Fummi 1893.	Under the left nipple.	Apex; cavity not opened; one stitch	Several hours.	—	Recovery; empyema.
7	Ninni 1898.	Fifth left intercostal space	Left ventricle; three stitches.	Quickly	None	Death on the table
8	Parlavecchio 1893.		Left ventricle one and a half inches; apex.	Eight hours.	Chloroform	Recovery
9	Giordano, 1898.	Second left intercostal space.	Left auricle, four fifths of an inch; four stitches.	Half an hour	None	Death on nineteenth day from empyema; abscess of the right lung
10	Nicholai 1899	Fourth left intercostal space midway between the margin of the sternum and the nipple	Right ventricle.	One and a half hours.	Yes.	Death after 12 hours
11	Tuzzi	Fourth left intercostal space.	Two wounds non penetrating	—	None	Death on the twenty second day from empyema; pericarditis
12	Longo	Fifth left intercostal space, two-fifths of an inch internal to the nipple.	Left ventricle; three stitches.	At once		Death in 15 minutes
13	Ramoni	At third left cartilage, four fifths of an inch from the sternum	Right ventricle two wounds; one non-penetrating; four stitches.	—		Recovery
14	Marion 1899	Shot through the breast.	Right ventricle; catgut suture.	—	—	Death
15	Rosa, 1899	Fifth intercostal space	Left ventricle, three-fifths of an inch; not certain it penetrated ventricle.	—	None	Recovery
16	Horodynski 1899	—	Right ventricle one and a half centimetres long	—	—	Death
17	Maliszewski, 1899	—	—	—	—	
18	Maliszewski, 1899	—	—	—	—	
19	Dufnoir 1899	Sixth left intercostal space.	Right ventricle gunshot 22 calibre	—	—	Death; necropsy showed perforation of ventricle and the anterior opening only had been sutured
20	Pagenstecher 1899	Fourth left intercostal space beneath the nipple.	Left ventricle near the apex two stitches	16 hours	None	Recovery
21	Nanu, 1900	Third intercostal space, four centimetres from the edge of the sternum	Right ventricle two centimetres long; two interrupted sutures.	—	—	Death on the fifth day from infection of the pericardium and pleura
22	Maselli 1900	Below and internal to the *left nipple, cutting the* sixth rib	Left ventricle, near the apex; *two stitches*	One and a *half hours.*	—	Death in 12 hours
23	Fontan 1900	Six wounds with scissors between the third and the seventh ribs in the cardiac region	Left ventricle, 12 millimetres long; continuous catgut sutures; three stitches.	Six hours	Chloroform	Recovery
24	Nietert 1901.	—	Right ventricle penetrated; three silk sutures	—	—	Death after 36 hours
25	Vaughan 1901.	Fifth left costal cartilage divided	Left ventricle two and a half centimetres long; continuous silk sutures seven stitches	Three-quarters of an hour	Ether	Death on the table from hæmorrhage about completion of operation
26	Nietert 1901	Left of the sternum.	Left ventricle, not sure cavity was penetrated; two sutures	—	—	Recovery
27	Ninni 1901		Right auricle	—	—	Death in four days; sepsis.
28	Mignon et Sieur 1901	—	Right ventricl	—	—	Death
29	Fontan 1901	—	Left ventricle; catgut sutures.	—	—	Recovered; had empyema
30	Brenner † 1901	Left of the sternum near the sixth cartilage	Right ventricle, seven centimetres	The following day	Yes.	Death on the table; degenerate heart muscle
31	Watten,‡ 1901	Fourth right intercostal space	Right ventricle 3·5 to 4 centimetres	—	—	Recovery; right pleura wounded; pneumothorax
32	Lastaria, 1901	—	Left ventricle	—	—	Died soon.
33	Launay § 1902.	—	Left ventricle anterior and posterior walls; pistol shot; catgut suture in each	—	—	Recovery; no complications.
34	Kletert,∥ 1902.	Left sixth interspace to the right of the papillary line	Left ventricle far back, two centimetres; penetration uncertain; two interrupted silk sutures	1½ hours.	—	Recovery; purulo-sanguinolent effusion and thoracotomy

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* Cases 1 to 26 inclusive from table of Dr. Geo. T Vaughan Philadelphia Medical News Dec 7th 1901 † Wiener Klinische Wochenschrift, 1901, No. 11 ‡ Deutsche Medicinische Wochenschrift 1901 No. 37 § La Presse Medical March 29th 1902. ∥ Philadelphia Medical Journal May 3rd 1902.

use two pins are bent into the form of retractors and kept in position by tapes or one pin may be so fashioned as to maintain the patency of the tracheal wound and similarly secured by tapes, and (5) as a drainage tube The ends of the hair-pin are bent outwards to prevent it from slipping into the wound and the rounded end is passed in If two are used with their planes at right angles the wound will be kept more open. It is obvious that the same results can be attained by the use of any piece of wire, but hair-pins may be available when no other form of wire can be obtained.

THE PREVALENCE OF SMALL-POX

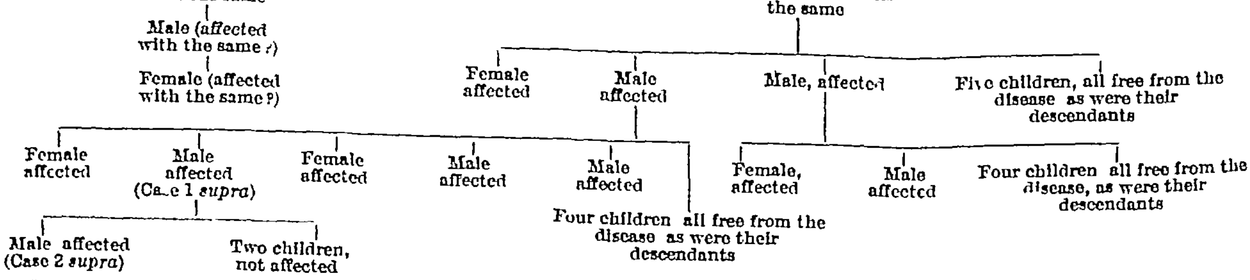
THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned on Saturday, July 19th, there were 2 fresh cases, on Sunday, the 20th, there was 1 fresh case, on Monday, the 21st, there were 5 fresh cases, on Tuesday, the 22nd, there were 6 fresh cases, and on Wednesday, the 23rd, there were 2 fresh cases

THE SOCIETY OF MEDICAL PHONOGRAPHERS

THIS society will hold its next annual shorthand examination early in May, 1903 Two prizes will be offered, each of the value of £5, one for first-year students and one for students of more than one year's standing The competition will be open to any registered medical student in the United Kingdom who has not taken a first prize at one of the society's previous examinations It will be held simultaneously in London, Edinburgh, Dublin, and at any provincial medical centre in the United Kingdom at which not fewer than three candidates shall offer themselves Intending candidates should send in their names as early as possible to Dr P G Griffith, Bonhams, Farnborough, Hants, who will furnish them in return with a detailed prospectus of the examination The latest date for receiving entries will be April 15th, 1903

THE HEREDITARY NATURE OF SPASTIC SPINAL PARALYSIS 14 CASES IN FIVE GENERATIONS OF A FAMILY

THE separate existence of spastic paralysis of spinal as distinguished from cerebral origin is still doubted, but the hereditary and familial nature of the affection is acknowledged by all In some families the cerebral type seems to occur in certain members (Bernhardt) and the spinal type in others, and in recent years various cases of the disease have been reported by Strümpell, Erb, and others. In the *Philadelphia Medical Journal* of June 21st last, Professor William G Spiller of the University of Pennsylvania reports a remarkable instance which illustrates the hereditary and familial nature of spastic spinal paralysis—viz, its occurrence in 14 individuals belonging to five generations of a family The following is the genealogical table —


Female, slightly affected with spinal spastic paralysis
Female affected with the same
Male (affected with the same ?)
Female (affected with the same ?)
Male affected with the same
Female affected
Male affected
Male, affected
Five children, all free from the disease as were their descendants
Female affected
Male affected (Case 1 supra)
Female affected
Male affected
Male affected
Four children all free from the disease as were their descendants
Female, affected
Male affected
Four children all free from the disease, as were their descendants
Male affected (Case 2 supra)
Two children, not affected

Two of the 14 cases were observed by Professor Spiller and the following is a brief report of each case Case 1.—The patient was a man, aged 32 years, by occupation a telegraph operator He was able to walk with difficulty owing to the prevalence of spinal spastic paralysis of hereditary origin. Both legs exhibited contractures and the left foot was in a position of equino-varus. The knee jerks were exaggerated on both sides Case 2.—The patient, a boy aged eight years, was the son of the above man He suffered from spinal spastic paralysis and talipes equino varus His mother is a healthy woman and has borne two other children who seem to be free from any traces of the disease. A study of the genealogical table will serve to show that the disease is more liable to be transmitted from the parents to the elder than to the younger children of a family

THE BAKERS' SUNDAY REST

IT is always satisfactory to find workmen and their employers working in hearty coöperation for a common and beneficent purpose A circular has been forwarded to us announcing that the London Master Bakers' Protection Society and the Amalgamated Union of Operative Bakers are making united efforts to maintain and to enforce the law of 1822 which prohibits the baking and delivery of bread on Sundays It might be justly conceived that it is the business of the Government to enforce the laws of the land, but we know too well that this is only an ideal conception Laws are enacted but no machinery is instituted to insure their application This notably was the case with the Act of 1822 on bakeries and consequently the law is now openly violated. The bakers themselves have had to institute proceedings and have already spent upwards of £1000 in endeavouring to enforce the Sunday's rest But it is difficult to produce evidence against the offenders, the proceedings against them are costly, and the magistrates interpret the law differently, suspect the prosecutors of interested motives, and only inflict small fines when they do not pronounce an acquitment. From the health point of view there can be no doubt that one day's rest in the seven is an imperative necessity, particularly in trades that are often conducted under unwholesome conditions This is the case in bakeries. The fumes, notably of sulphur, escaping into the bakehouse or cellar from the oven have a marked effect upon the health of the journeyman bakers This is demonstrated by the fact that the statistics of the societies giving sick allowances show that tall men employed in the trade are more frequently on the sick list than are men of shorter stature It is in the upper part of the bakehouses that the fumes accumulate, and the taller the man working there the more impure is the air he breathes Such considerations emphasise the necessity of at least one day's complete rest in the week. On this point there is no division of opinion. But there are differences in regard to the day to be selected for rest. The Jew bakers—and they are numerous—want to rest on the

Saturday and the chief offenders against the law are members of the Jewish community or else such bakers as cater for the wealthy classes As however the vast majority of the inhabitants of this country agree that Sunday should be the day of rest it is urged that the minority must conform to this custom From the practical point of view there is much to be said in favour of this contention, for it greatly simplifies the task of inspection. But from the health point of view all that is needed is the strict observance of one day's complete rest in the seven and if the Jews desire to select Saturday for that purpose it is only in keeping with the modern spirit of religious toleration to allow them to have their own way even at the risk of creating denominational bakehouses. Perhaps a compromise might be possible. A law is always better enforced when all parties concerned approve of the law and we believe that the Jews would assent to compulsory rest on the Saturday In any case rest there must be and we hope that the Home Secretary who has been asked to receive a deputation on this subject, will see his way to realise this principle

THE ETIOLOGY AND PATHOLOGY OF GRAVES'S DISEASE

PROFESSOR CHARLES DANA of New York contributes an interesting article to the *New York Medical Journal* of June 14th last which throws some light on the vexed question as to whether exophthalmic goitre or Graves's disease is a neurosis or a glandular disorder associated with hyper secretion of the thyroid gland. Professor Dana concludes that the primary seat of the disease is in the nervous centres concerned with the innervation of the thyroid gland. An etiological factor the importance of which has been recognised only recently—viz. infection—also plays says Professor Dana a part in the production of the disease. Thus a study of reported cases will show striking instances of Graves's disease following upon fevers sepsis operative procedures, and pregnancies. In his own experience Professor Dana has seen three cases of exophthalmic goitre which developed after typhoid fever One of the curious and instructive facts connected with the pathology of this disease is according to Professor Dana, that in its acute fatal forms the nervous centres in the medulla oblongata or bulb seem to be exhausted and even paralysed. Of interest too are the changes found in the bulbar nuclei in old cases of the disease. Both these facts are shown in the following two cases the second of which also illustrates the very rare incident of embolism in Graves's disease In the first case the patient was a woman aged 23 years who was admitted to the Bellevue Hospital with severe headache and nausea. Inquiry showed nothing of importance in the family history She was of nervous temperament but had been well generally with the exception that for the six years preceding her admission to hospital she suffered from occasional fainting spells but no convulsions The symptoms of headache and nausea were attended with attacks of vomiting She was found on examination to be quite anæmic and there were distinct exophthalmos and enlargement of the thyroid gland especially of its right lobe The carotids were unduly pulsatile and a thrill could be felt over the gland. The pulse was rapid and varied from 90 to 108 (tachycardia) and the respirations were 26 per minute. The temperature was 99·5 F The left ventricle of the heart was somewhat enlarged and there was an intense anæmic murmur at the apex. The liver the kidneys and the urine were normal Her nervousness now increased tremors at first slight, now became frequent and distressing and the tachycardia became more pronounced. On the seventeenth day after admission she passed into a stuporous condition and was unable to swallow food or to talk distinctly There were also a slight ptosis of the left eyelid and other symptoms which led to the belief that there was some lesion of the pons. The pulse-beats increased in frequency and the temperature rose to 107° death occurring on the nineteenth day The post-mortem examination disclosed a normal condition of the heart, the lungs, the kidneys and of the other organs with the exception of the brain and the thyroid. The left crus cerebri was the seat of softening, but there was no hæmorrhage, and the sections showed that the lesion must have been due to thrombosis or embolism The blood vessels showed no evidence of atheroma or of syphilis. The second case was that of a woman aged 45 years with typical symptoms of Graves's disease terminating fatally four months and one week after admission to hospital The necropsy disclosed in this case striking degenerative changes in the bulbar nuclei of the hypoglossal pneumogastric, and other nerves in the form of pigmentation and vacuolation of the cell bodies and a moderate degree of chromatolysis or loss of the Nissl granules of the nerve-cells. The foregoing histories show adds Professor Dana that Graves's disease at times runs an acute course and that in cases of some duration decided changes are found in the nerve-cells of the pneumogastric the hypoglossal, and other nerves within the bulb.

THE death is announced on July 21st, of Dr Carl Gerhardt He died on his estate of Damberg in Baden. Dr Gerhardt was a well known authority on diseases of the lungs and on diseases of children. He was one of those who attended the Crown Prince of Germany afterwards the Emperor Frederick in his fatal illness He it was who discovered the laryngeal growth early in March 1887 He was the editor of A Handbook of Children's Diseases by various writers which was published at Tübingen in 1877 his own contribution being an article on Abdominal Typhoid.

THE BUNGAY MEDICAL PRACTITIONERS AND THE HOME OFFICE

WE have already commented[1] upon the situation produced by the action of the medical men in the district of Bungay Suffolk refusing to examine a child stated to have been indecently assaulted on the ground that the fees for medical witnesses were totally inadequate At the opening of the Bungay petty sessional court on July 17th (there being present Mr H. Rider Haggard in the chair Mr C. G Kemball, and Mr R C Mann) the matter was carried a stage further

Superintendent ANDREWS handed to the Chairman a letter

The CHAIRMAN asked if the Chief Constable wished that the letter should be read from the bench and on Superintendent Andrews answering that this was so, said The matter is this. Some two months ago a case came before this bench of criminal assault upon a child named Alice Jefferies by a man named Howes. In the course of the evidence that was offered it appeared that the child had not been examined by any medical man in the town because the medical men to whom application was made refused to carry out an examination Ultimately the case was committed for trial it went to trial and I believe that the man was convicted The police communicated with the authorities upon the matter of the refusal of the medical men to examine the child The authorities appear to have communicated with the Home Secretary and the Home Office has written a letter to the Chief Constable of East Suffolk who has now formally requested me to read this letter in court I need hardly say that this bench has nothing to do with the question at issue between the medical men and the Home Office The business of this bench in the question is only to try to arrange that the course of justice shall not be interfered with in future in any such cases that may be brought before it The letter is as follows:—

Whitehall, 17th June 1902.

SIR,—In reply to your letter of the 17th ultimo respecting the refusal of certain medical men to examine a child alleged to have been indecently assaulted on the ground that if called as witnesses in a criminal prosecution their remuneration would be insufficient I am directed by the Secretary of State to say that there is no means of compelling a doctor to make the examination. Such refusal as those all the cases which have been published up to the present, we therefore give the accompanying table

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[1] THE LANCET July 12th p 85

CHEMICAL QUALIFICATION IN IRELAND

AN important step has been decided upon by the council of the Institute of Chemistry by which chemists in Ireland may present themselves for examination in Dublin. Persons thus desirous of qualifying themselves to be public and technical analysts may attend the examinations at the laboratories of the Royal University of Ireland, Dublin The next intermediate and final examinations in Ireland of the Institute will be held in July, 1903

SHOULD THE GOUTY DRINK CIDER?

A BEVERAGE for the gouty relatively harmless and yet containing a small percentage of alcohol is one for which a large number of sufferers from gout would be very grateful, and the medical practitioner is frequently asked if cider is permissible in this respect. The best test of the suitability or otherwise of any beverage for those of arthritic tendencies, either inherited or acquired, is that of experience—i e., as to whether it produces in such subjects an attack of articular gout or other gouty manifestations, and in many cases this test is a very delicate one, any indulgence being frequently followed by some disturbance recognisable both by the patient and the practitioner as the result. Judged by this standard it may be stated that, though as a general rule the gouty are better without alcoholic liquors, yet ordinary "rough" cider, fully fermented and free from sugar, is practically harmless, having little or no tendency to excite an attack of gout. The percentage of alcohol is small and the acidity is chiefly due to malic acid, which is in the body converted into alkaline carbonates and excreted as such, and cider has not therefore the injurious effects in gout of the sweet and highly alcoholic wines On the other hand, partially fermented "sweet cider" or the artificially sweetened and aerated variety, "champagne cider," may excite gouty manifestations in those liable or predisposed to the disease, and should therefore be prohibited Unfortunately the rough cider is to most people less palatable than the sweet variety and especially to the gouty who are in many cases fond of sweet foods and beverages

THE ASSOCIATION FOR PROMOTING THE COMPULSORY REGISTRATION OF MIDWIVES

THE annual meeting of the Association for Promoting Compulsory Registration of Midwives was held on July 22nd at 3, Grosvenor place, London, S W Sir Michael Foster, M P, in seconding the motion for the adoption of the report and balance sheet took the opportunity of accentuating the triumph which those belonging to his school of thinking have obtained over the very large proportion of the medical profession who hold opposite views. Sir Michael Foster declared that it was a great privilege to congratulate the members of the association on their well earned success when they had had to contend against a very considerable section of the medical profession For that very reason we think that Sir Michael Foster might have been a little more thoughtful about the future, perhaps the considerable section will be justified in their opinion It is true that he allowed that there were dangers in connexion with the midwives, and he considered that the members of that association would be doing good service by continuing their organisation and devoting their efforts towards securing that the women for whom they had been working so long should deserve the measure passed on their behalf—and here he was more or less anticipating Dr F H Champneys, the obstetric physician of St. Bartholomew's Hospital, said that the association had now to show that there was no ground of apprehension in regard to all the horrors predicted from what was called the new class of practitioners He was thankful to think that there was a prospect of a body being formed which would overlook the midwives and in a few years' time he believed that the proper limits of a midwife's duty would be settled to general satisfaction Perhaps, but it is probable that neither Sir Michael Foster nor Dr Champneys knows much about the way in which the new Act is likely to operate in rural districts

THE DISTRIBUTION OF PLAGUE

THE weekly return of the Director-General of the Sanitary Department in Egypt shows that for the week ending July 13th there were 5 new cases admitted, 2 of which occurred in Europeans The deaths numbered 6, the recoveries 2, and 9 cases remained under treatment. With respect to sanitary measures, 17,455 rooms were disinfected and 533 were lime washed 119 sacks of effects were disinfected and 7530 sacks of rubbish were burnt. The number of rats killed and burned was 1093

THE ANTI-MEDICAL BIAS

Le Temps, a journal hitherto noted for its temperance of utterance and sanity of outlook, has recently devoted considerable space to the discussion of a work said to have created a *furore* on the continent. The book in question is entitled "Mémoires d'un Médecin," by "Dr Veressaïef"—not by Dumas *pere*—which in 1900 ran serially in the pages of the *Mir Bogyi*, one of the leading St Petersburg reviews. It has been translated into French and into German, and the acute critics of the one nation and the philosophers of the other are said to have acclaimed it To the innate conservatism, or to the honour, of England shall we attribute the fact that an English translation is not yet forthcoming? The work of "Dr Veressaïef," whose real name is Vincent Szmidowicz, is apparently an outcome of the latest development of that dislike of the medical profession which is world old and world wide The writer, we are informed, is the son of an austere, old fashioned practitioner, an adherent of the "vitalist" theories of the early nineteenth century, a devout religionist and severe disciplinarian—in fact, a Russian Puritan and faddist—and to this parent he is said to owe a certain grave moral attitude towards all medical questions He has suffered, moreover, for his opinions. Hence, perhaps, much of the bias of his book, which passes in review a score or more grievances against the profession, well known, *mutatis mutandis*, to all students of the history of society and of medicine, but apparently startlingly novel to the quidnuncs who now dabble in science as once they did in æsthetics The career of a Russian medical student is described and we are informed that a hospital course in Russia convinces the aspirant to a degree of several unpleasant truths—(1) that patients are unduly fatigued by staff and students alike, (2) that the modesty of women is unduly, nay, cruelly, wounded by the same persons, and (3) that the poor are made to pay very dearly for the care bestowed upon them in the wards Dr Szmidowicz has for seven years been attached to a large St. Petersburg hospital devoted to the working classes, but his words would be more convincing were it not possible to parallel them in what we may term medical folklore. It has long been a truism among our own poor who benefit by hospitals that they are experimented upon in those institutions, where they are the *corpora vilia* of teachers and learners alike. This complaint is generally baseless, but it should act as a gloss on the gravamen of the Russian writer The notion that the modesty of women is wounded is as old as the day when throughout Europe the male obstetrician was decried by a generation as little able as its successors to grasp the elementary notion that science views nudity in a purely impersonal light. The ancient doubt in the *bona fides* of medicine justifiable enough in pre-scientific times, lingers unreasonably in the pages of this last exponent of what might be termed *Aerztenhasse* doctor hatred" on the analogy of *Judenhasse* He implies that medicine and surgery are utterly careless of life because many common operations—in Russia at least—have fatal results. Medical innovations, he avers, according to *Le Temps*, are often rather poisons than remedies, and medicine in its present stage knows and can achieve scarcely anything in the direction of positive science The terrible indictment culminates in the enumeration of scores of experiments in serum therapy undertaken upon human subjects by well known men of science in a spirit we seem to be invited to regard as little short of ghoulish. The tirade would be appalling were it not so familiar The writer in fact, belongs to the same category as the anti vivisectionists, the anti vaccinationists the people who ' do not believe in doctors and physic." Only he is more brilliant and better informed in error

THE ASSOCIATION OF BRITISH POSTAL MEDICAL OFFICERS

THE annual dinner of the Association of British Postal Medical Officers was held at the Whitehall Rooms of the Hôtel Métropole, London, on Thursday July 17th Dr J Walton Browne, the President, being in the chair The occasion was honoured by the presence of the Marquess of Londonderry K G, His Majesty's Postmaster General, and a large number of guests distinguished in various walks in life so much so that, perhaps, there was an absence of the usual distinctly medical tone. The meeting at any rate formed an example of the influence which the medical profession and its various branches can bring to bear on the world at large, while it served to emphasise the regret that must be felt that medical men do not unite to make their public value more freely felt than it is. (It might have been thought that things were improving somewhat in this direction but we are afraid that we cannot hope for much real improvement when we find only some 120 medical men assembling to record their votes on such a serious occasion as a change of the constitution of the British Medical Association with its many thousand members.) However on the present occasion there can be no doubt that the British postal medical officers attracted a brilliant company to their banquet which was of a most pleasant nature. The Postmaster General said kind things about Mr Henniker Heaton which Mr Henniker Heaton courteously reciprocated. Sir John Leng M P made friendly remarks about Sir George Murray K.C B the secretary of the Post Office, and Sir George Murray in an able speech promised Sir John Leng that he would keep him to his word In the course of the toast list a presentation consisting of five handsome bowls was made to the energetic and courteous honorary general secretary of the association Dr R. Ritchie Giddings. The presentation was made by the President and suitably acknowledged by Dr Giddings. Other toasts were The Houses of Parliament," proposed by Sir Robert Hunter (solicitor to the Post Office) and replied to by Mr Edward Bond, M P and Mr Joseph Walton, M P Our Colonies, proposed by Sir Hugh Gilzean Reid LL.D and replied to by Sir William Mulock K.C.M G (Postmaster-General of Canada) Sir Walter Peace K.C.M G (Agent General for Natal Colony) and Mr W G Hamilton (Postmaster-General of Transvaal Colony) were also announced to reply but other engagements had unfortunately called them away before owing to the great length of the proceedings the toast was reached. ' The Association of British Postal Medical Officers was proposed by Sir James Crichton Browne and acknowledged by the President; and finally "The Guests given by Dr. R. Paramore, was responded to by Sir Dyce Duckworth. The Imperial Quintette played a good selection of music during the dinner and some excellent songs admirably rendered by Miss Elsie Mackenzie, Miss Ethel Bevans and Mr Herbert Emlyn added much to the enjoyment of the evening's proceedings which did not finish until past midnight this leads us to remark that the only fault we have to find with the executive authorities of the Association is that they are inclined to be even a little too kind to their guests.

THE SURGICAL USES OF THE HAIR-PIN

IN cases of emergency especially in country districts an operation may be necessary and some of the requisite instruments may not be at hand Articles of domestic use can sometimes be adapted and used as substitutes in a manner that the uninitiated would never imagine. The subject has not received the attention from surgical writers that its practical importance demands. Our transatlantic brethren with their great mechanical ingenuity give us some valuable hints. In *American Medicine* of April 5th Dr J Torrance Rugh has published a most useful article on the surgical uses of the hair pin. The subject has previously been treated in a more limited manner by Dr Eberson of Tarnow[1] Ubiquity ease of sterilisation, convenient size, and adaptability to any desired shape by bending render the hair pin exceedingly useful If it is japanned or enamelled the covering can easily be removed by heat. The hair pin may be used in three ways—in its natural form straightened and bent or twisted In its natural form it may be used —1. To pin on dressings or bandages (for this purpose the points may be sharpened) 2. To remove concretions or foreign bodies from a sinus or natural canal. The rounded end of the hair pin is passed over the object which is then withdrawn. Professor Horwitz of the Jefferson Medical College has suggested bending the rounded end on the flat to an angle of 10° or 15 which facilitates the removal of a body from a canal such as the urethra. 3. As a blunt curette. Dr Eberson has suggested this use. For the removal of soft granulation tissue or of any softened or broken-down material the hair pin is as useful as any blunt curette If the granulations are deep the hairpin may be used grasped in forceps. 4 As an æsthesiometer The points of the hair pin may be set close or wide and the sensitiveness of the part determined. 5 To catheterise a female The rounded end is passed through the urethra the points being firmly held to prevent the hair pin from slipping into the bladder or better the ends are first bent outwards which renders this accident impossible. 6. To pass under a blood vessel and with a figure-of eight ligature or by compression to arrest hæmorrhage. 7 As a pair of callipers Straightened the hair pin may be used—1 As a probe. Dr Rugh has easily explored Stenson's duct with it to determine the presence of a calculus. 2. To wire bones together in cases of resection and fracture. 3. After sterilisation to rupture the membranes during labour 4 As a small cautery 5 As hare lip pins 6. As a hook to abstract foreign bodies from canals and sinuses. 7 As a tenaculum. Bent or twisted into the required shape the hair pin may be used (1) as a nasal speculum (2) as a retractor for wounds or for the eye lids nose lips and labia (3) as an aneurysm needle, (4) in lieu of a tracheotomy tube—for this most important use two pins are bent into the form of retractors and kept in position by tapes or one pin may be so fashioned as to maintain the patency of the tracheal wound and similarly secured by tapes, and (5) as a drainage-tube. The ends of the hair-pin are bent outwards to prevent it from slipping into the wound and the rounded end is passed in If two are used with their planes at right angles the wound will be kept more open. It is obvious that the same results can be attained by the use of any piece of wire, but hair-pins may be available when no other form of wire can be obtained.

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[1] Zeitschrift für Krankenpflege 1899 No 1

THE PREVALENCE OF SMALL-POX

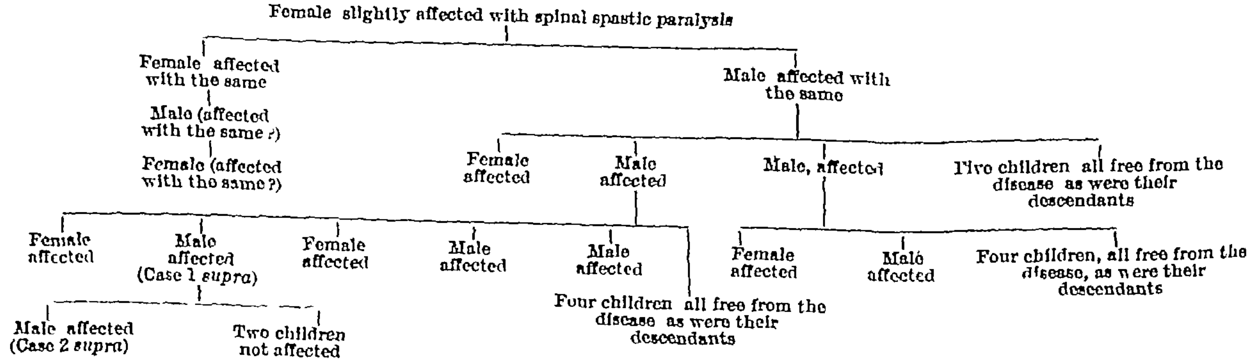
THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned on Saturday, July 19th, there were 2 fresh cases, on Sunday, the 20th, there was 1 fresh case, on Monday, the 21st, there were 5 fresh cases, on Tuesday, the 22nd, there were 6 fresh cases, and on Wednesday, the 23rd, there were 2 fresh cases

THE SOCIETY OF MEDICAL PHONOGRAPHERS

THIS society will hold its next annual shorthand examination early in May, 1903 Two prizes will be offered, each of the value of £5, one for first-year students and one for students of more than one year's standing The competition will be open to any registered medical student in the United Kingdom who has not taken a first prize at one of the society's previous examinations It will be held simultaneously in London, Edinburgh, Dublin, and at any provincial medical centre in the United Kingdom at which not fewer than three candidates shall offer themselves Intending candidates should send in their names as early as possible to Dr P G Griffith, Bonhams, Farnborough, Hants, who will furnish them in return with a detailed prospectus of the examination The latest date for receiving entries will be April 15th, 1903

THE HEREDITARY NATURE OF SPASTIC SPINAL PARALYSIS 14 CASES IN FIVE GENERATIONS OF A FAMILY

THE separate existence of spastic paralysis of spinal as distinguished from cerebral origin is still doubted, but the hereditary and familial nature of the affection is acknowledged by all In some families the cerebral type seems to occur in certain members (Bernhardt) and the spinal type in others, and in recent years various cases of the disease have been reported by Strümpell, Erb, and others In the *Philadelphia Medical Journal* of June 21st last, Professor William G Spiller of the University of Pennsylvania reports a remarkable instance which illustrates the hereditary and familial nature of spastic spinal paralysis—viz, its occurrence in 14 individuals belonging to five generations of a family The following is the genealogical table —


Female slightly affected with spinal spastic paralysis
Female affected with the same
Male (affected with the same ?)
Female (affected with the same ?)
Male affected with the same
Female affected
Male affected
Male, affected
Five children all free from the disease as were their descendants
Female affected
Male affected (Case 1 supra)
Female affected
Male affected
Male affected
Four children all free from the disease as were their descendants
Female affected
Male affected
Four children, all free from the disease, as were their descendants
Male affected (Case 2 supra)
Two children not affected

Two of the 14 cases were observed by Professor Spiller and the following is a brief report of each case. Case 1.—The patient was a man, aged 32 years, by occupation a telegraph operator He was able to walk with difficulty owing to the prevalence of spinal spastic paralysis of hereditary origin Both legs exhibited contractures and the left foot was in a position of equino-varus The knee jerks were exaggerated on both sides Case 2.—The patient, a boy aged eight years, was the son of the above man He suffered from spinal spastic paralysis and talipes equino-varus His mother is a healthy woman and has borne two other children who seem to be free from any traces of the disease A study of the genealogical table will serve to show that the disease is more liable to be transmitted from the parents to the elder than to the younger children of a family

THE BAKERS' SUNDAY REST

IT is always satisfactory to find workmen and their employers working in hearty coöperation for a common and beneficent purpose A circular has been forwarded to us announcing that the London Master Bakers' Protection Society and the Amalgamated Union of Operative Bakers are making united efforts to maintain and to enforce the law of 1822 which prohibits the baking and delivery of bread on Sundays. It might be justly conceived that it is the business of the Government to enforce the laws of the land, but we know too well that this is only an ideal conception Laws are enacted but no machinery is instituted to insure their application. This notably was the case with the Act of 1822 on bakeries and consequently the law is now openly violated. The bakers themselves have had to institute proceedings and have already spent upwards of £1000 in endeavouring to enforce the Sunday's rest. But it is difficult to produce evidence against the offenders, the proceedings against them are costly, and the magistrates interpret the law differently, suspect the prosecutors of interested motives, and only inflict small fines when they do not pronounce an acquitment From the health point of view there can be no doubt that one day's rest in the seven is an imperative necessity, particularly in trades that are often conducted under unwholesome conditions This is the case in bakeries The fumes, notably of sulphur, escaping into the bakehouse or cellar from the oven have a marked effect upon the health of the journeyman bakers. This is demonstrated by the fact that the statistics of the societies giving sick allowances show that tall men employed in the trade are more frequently on the sick list than are men of shorter stature It is in the upper part of the bakehouses that the fumes accumulate, and the taller the man working there the more impure is the air he breathes Such considerations emphasise the necessity of at least one day's complete rest in the week. On this point there is no division of opinion. But there are differences in regard to the day to be selected for rest. The Jew bakers—and they are numerous—want to rest on the

Saturday and the chief offenders against the law are members of the Jewish community or else such bakers as cater for the wealthy classes. As however, the vast majority of the inhabitants of this country agree that Sunday should be the day of rest it is urged that the minority must conform to this custom. From the practical point of view there is much to be said in favour of this contention, for it greatly simplifies the task of inspection. But from the health point of view all that is needed is the strict observance of one day's complete rest in the seven, and if the Jews desire to select Saturday for that purpose it is only in keeping with the modern spirit of religious toleration to allow them to have their own way even at the risk of creating denominational bakehouses. Perhaps a compromise might be possible. A law is always better enforced when all parties concerned approve of the law and we believe that the Jews would assent to compulsory rest on the Saturday In any case rest there must be and we hope that the Home Secretary who has been asked to receive a deputation on this subject, will see his way to realise this principle.

THE ETIOLOGY AND PATHOLOGY OF GRAVES'S DISEASE

PROFESSOR CHARLES DANA of New York contributes an interesting article to the *New York Medical Journal* of June 14th last which throws some light on the vexed question as to whether exophthalmic goitre, or Graves's disease is a neurosis or a glandular disorder associated with hyper secretion of the thyroid gland. Professor Dana concludes that the primary seat of the disease is in the nervous centres concerned with the innervation of the thyroid gland. An etiological factor the importance of which has been recognised only recently—viz. infection—also plays says Professor Dana a part in the production of the disease Thus a study of reported cases will show striking instances of Graves's disease following upon fevers sepsis operative procedures and pregnancies. In his own experience Professor Dana has seen three cases of exophthalmic goitre which developed after typhoid fever One of the curious and instructive facts connected with the pathology of this disease is, according to Professor Dana that in its acute fatal forms the nervous centres in the medulla oblongata or bulb seem to be exhausted and even paralysed. Of interest too are the changes found in the bulbar nuclei in old cases of the disease. Both these facts are shown in the following two cases the second of which also illustrates the very rare incident of embolism in Graves's disease In the first case the patient was a woman aged 23 years who was admitted to the Bellevue Hospital with severe headache and nausea. Inquiry showed nothing of importance in the family history She was of nervous temperament but had been well generally with the exception that for the six years preceding her admission to hospital she suffered from occasional fainting spells but no convulsions The symptoms of headache and nausea were attended with attacks of vomiting She was found on examination to be quite anæmic and there were distinct exophthalmos and enlargement of the thyroid gland especially of its right lobe. The carotids were unduly pulsatile and a thrill could be felt over the gland The pulse was rapid and varied from 90 to 108 (tachycardia) and the respirations were 26 per minute. The temperature was 99·6 F The left ventricle of the heart was somewhat enlarged and there was an intense anæmic murmur at the apex. The liver the kidneys and the urine were normal. Her nervousness now increased tremors, at first slight, now became frequent and distressing and the tachycardia became more pronounced. On the seventeenth day after admission she passed into a stuporous condition and was unable to swallow food or to talk distinctly There were also a slight ptosis of the left eyelid and other symptoms which led to the belief that there was some lesion of the pons. The pulse-beats increased in frequency and the temperature rose to 107° death occurring on the nineteenth day The post-mortem examination disclosed a normal condition of the heart, the lungs, the kidneys and of the other organs with the exception of the brain and the thyroid. The left crus cerebri was the seat of softening but there was no hæmorrhage, and the sections showed that the lesion must have been due to thrombosis or embolism. The blood vessels showed no evidence of atheroma or of syphilis. The second case was that of a woman aged 45 years with typical symptoms of Graves's disease, terminating fatally four months and one week after admission to hospital The necropsy disclosed in this case striking degenerative changes in the bulbar nuclei of the hypoglossal pneumogastric, and other nerves in the form of pigmentation and vacuolation of the cell bodies and a moderate degree of chromatolysis or loss of the Nissl granules of the nerve-cells. The foregoing histories show adds Professor Dana, that Graves's disease at times runs an acute course and that in cases of some duration decided changes are found in the nerve-cells of the pneumogastric, the hypoglossal, and other nerves within the bulb.

THE death is announced on July 21st, of Dr Carl Gerhardt He died on his estate of Damberg in Baden. Dr Gerhardt was a well known authority on diseases of the lungs and on diseases of children. He was one of those who attended the Crown Prince of Germany afterwards the Emperor Frederick in his fatal illness. He it was who discovered the laryngeal growth early in March, 1887 He was the editor of A Handbook of Children's Diseases, by various writers which was published at Tübingen in 1877 his own contribution being an article on Abdominal Typhoid.

THE BUNGAY MEDICAL PRACTITIONERS AND THE HOME OFFICE

WE have already commented[1] upon the situation produced by the action of the medical men in the district of Bungay Suffolk refusing to examine a child stated to have been indecently assaulted on the ground that the fees for medical witnesses were totally inadequate At the opening of the Bungay petty sessional court on July 17th (there being present Mr H. Rider Haggard in the chair Mr C. G Kemball and Mr R C Mann) the matter was carried a stage further

Superintendent ANDREWS handed to the Chairman a letter

The CHAIRMAN asked if the Chief Constable wished that the letter should be read from the bench and on Superintendent Andrews answering that this was so said The matter is this. Some two months ago a case came before this bench of criminal assault upon a child named Alice Jefferies by a man named Howes In the course of the evidence that was offered it appeared that the child had not been examined by any medical man in the town because the medical men to whom application was made refused to carry out an examination Ultimately the case was committed for trial; it went to trial and I believe that the man was convicted. The police communicated with the authorities upon the matter of the refusal of the medical men to examine the child. The authorities appear to have communicated with the Home Secretary and the Home Office has written a letter to the Chief Constable of East Suffolk who has now formally requested me to read this letter in court I need hardly say that this bench has nothing to do with the question at issue between the medical men and the Home Office The business of this bench in the question is only to try to arrange that the course of justice shall not be interfered with in future in any such cases that may be brought before it The letter is as follows —

Whitehall 17th June, 1902.

SIR,—In reply to your letter of the 17th ultimo respecting the refusal of certain medical men to examine a child alleged to have been indecently assaulted on the ground that if called as witnesses in a criminal prosecution their remuneration would be insufficient I am directed by the Secretary of State to say that there is no means of compelling a doctor to make the examination. Such refusal is a thor to which your letter refers must, in Mr Ritchie s opinion, be considered as very discreditable to the medical men concerned, but he is glad to believe that such incidents are very rare Doctors are, as a rule perfectly willing to undertake an examination of this sort though aware that they will only be paid their expenses as witnesses

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[1] THE LANCET July 12th p. 85.

Mr Ritchie would suggest that in an exceptional case where owing to the refusal of a medical man to make such an examination there might be danger of a serious miscarriage of justice you should communicate with the Director of Public Prosecutions who could, if necessary, employ an expert to make the examination

As a general rule however such expenses ought not to be thrown on Imperial funds I am Sir your obedient servant,

Charles S Murdock

The Chief Constable of East Suffolk, Ipswich

The **Chairman** It only remains for the Bench to discover what is the attitude of the medical faculty in this town upon the subject—whether they still decline to deal with such cases or not?

Superintendent **Andrews**: That I am not in a position to say sir I have not conferred with the medical men the matter has been in the hands of Inspector Steggles but I understand from him that they refuse to act in all cases of criminal assault because their remuneration is not sufficient

The **Chairman** Can you ascertain what is the position?

The **Clerk** Mr Tetley is here

The **Chairman** Then Mr Tetley can speak for himself (To Mr Tetley) Do you represent the feeling of the medical men in Bungay?

Mr F H **Tetley**: I am exceedingly obliged to you for allowing me to have the opportunity of hearing this letter read I want it to be plainly understood on behalf of the medical profession in Bungay that the reason we objected to examine this case was as a strong protest against the miserably low fees which are offered to us for attending the quarter sessions or assizes to give evidence The fee we get is a guinea a day and our railway ticket and if detained over one day we get 2*s* 6*d* for our bed I may state also that it is contrary to the ethics of the profession that in any cases where either life or limb is involved or in cases where it is a matter of alleviating human suffering the question of fee or reward scarcely ever—I hope never—enters the mind of a medical man in deciding whether he should give his services or not But in these cases I certainly think that the State should remunerate us better than it does I hope the magistrates do not think that we sprang a mine upon the police in the case referred to for immediately after the case which went from here to the assizes in November last we distinctly told the inspector of police that in future under no conditions whatever until the remuneration was altered would we attend to these sort of cases I may add that it is unfortunate that my colleague Mr G H Ransome is away just now but he is exactly of the same opinion as myself and unless the remuneration is altered we shall decline to examine in any of these cases

The **Chairman**: That is your fixed determination?

Mr **Tetley** Yes and of the medical men in Bungay

Superintendent **Andrews** Is it only the fee allowed for staying over night that you complain of?

Mr **Tetley**: No the fees generally

The **Chairman**: I should like to say that although we have heard from Mr Tetley that the police were given notice in November last that the medical faculty of the town refused to attend these cases of criminal assault and similar cases so far as I am aware I never heard of any such notice The bench knew nothing of it and it therefore came as a surprise to us when this child was brought up unexamined We have listened to what Mr Tetley has said and I again repeat that we have nothing whatever to do with the rights of the matter The question at issue is one for the Home Office to deal with

Mr **Tetley** Mr Chairman could I possibly have a copy of that letter to send to The Lancet? The Lancet is our medical journal and it has taken up the matter

The **Chairman**: The letter having been read here by the request of the police authorities is public property May I make a suggestion? Would it not be possible for a medical man to be appointed for the division to deal with such cases?

Superintendent **Andrews**: I have been thinking the matter over seriously and I feel that the time has arrived when it should be so This matter was duly reported to me by the inspector here and in turn reported by me to my superiors It is, however, a unique case and there was a difficulty in dealing with it But I do think the time has arrived when a medical gentleman should be appointed for each division so far as police matters are concerned

Mr **Tetley** We have been driven to this conclusion by degrees

The **Chairman**: You have raised an important issue which has now got to be settled somehow

Mr **Tetley**: We get no fees from our police cases at all We may be rung up in the middle of the night for a man who may be hanged but we get no fee whatever

Superintendent **Andrews**: That is a matter for the coroner except in cases of paupers when it comes on the parish

Mr **Kimball** You object rather to be taken away from all your work for perhaps two or three days to the county assize (or sessions) at the present remuneration?

Mr **Tetley**: Yes

Superintendent **Andrews** We are in the same position with regard to architects and surveyors whose allowance is but 3*s* 6*d* a day

The **Chairman** (to Superintendent Andrews) Perhaps you will convey to the Chief Constable the suggestion which the bench makes that the Home Office should be communicated with and asked if a medical man could not be appointed for each division The suggestion made by the Home Office that the Director of Public Prosecutions should be communicated with scarcely seems to be adequate because we all know that the delay might mean that any traces of an assault may have vanished by the time that any examination takes place at the instance of the Director of Public Prosecutions

Mr W G Grace, M R C S Eng , L R C P Edin , completed his fifty fourth year on July 18th Lately he has been devoting some attention to the game of bowls and last week he made his 200th three figure score at cricket

THE ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1901

PART I REPORTS

Second Notice[1]

One of the most valuable parts of the chief inspector s report is the summary which he gives of the Factory and Workshops Act, 1901 It may be remembered that two Factory Bills were introduced concurrently into the House of Commons Of these two Bills the first was framed with a view to consolidate the then existing Factory Acts of 1878, 1883, 1891, and 1895, and the Cotton Cloth Factories Acts of 1889 and 1896 The second Bill was drawn up to amend the existing law in certain particulars These Bills passed through Committee and received some amendments in the process The provisions of the second Bill were then added to the first Bill which proceeded in the form of a single measure and received the Royal Assent in August, 1901. A very important feature of the new Act is that the question of ventilation can now in many cases for the first time be efficiently dealt with by the factory inspectors In previous Acts provisions had been made in regard to the amount of air space which had to be provided for the workpeople, but there was no statutory provision to insure the supply of fresh air There was a requirement that the temperature of the air should be reasonable, but there was a complete absence of any necessity on the part of the manufacturer to trouble himself about the purity of the air breathed by the workpeople The manufacturer might, therefore, by any means he choose raise the temperature of the air at the expense of its purity This is in fact what actually happened In the case Deane *v* Beach it was proved that the temperature of a room was raised "by heating it with gas jets and stopping up the chimneys " The magistrate before whom the case was tried regretted that he was obliged to dismiss the summons which was taken out under the section of an Act which reads thus "In every factory or workship adequate measures shall be taken for securing and maintaining a reasonable temperature in each room in which any person is employed "[2] It was held on appeal at the High Court of Justice (King's Bench Division) that the magistrate was right in his decision. Mr Justice Ridley held that temperature is clearly not the same thing as ventilation and that the temperature, which in this case was 61° Fahr , was reasonable and Mr Justice Bigham pointed out that a reasonable temperature was the only thing aimed at in the section which was relied on by the prosecution The magistrate who first tried the case gave it as his opinion that "such an abominable and disgraceful state of things should be remedied." The Act of 1901 which has accomplished this reform provides that sufficient ventilation must be maintained to render harmless all gases, vapours, and dust Attention has been already called[3] to the extremely unsatisfactory condition of the ventilation in many of the cotton-weaving sheds, in which the air had been examined by Mr W Williams, the inspector of cotton cloth factories In his introductory summary to the work done by his department, the Chief Inspector hardly gives sufficient prominence to the report on the cotton cloth factories and he omits to refer the reader to the part of the volume in which this report is to be found The space at our disposal will only admit of a brief summary of the work done by the inspector who gives a full account of the investigations which he made in regard to the quality of the air in certain factories and in weaving sheds During the year 1901 13 new cotton cloth factories were worked and there were 12 additional cotton spinning rooms The regulation of the amount of moisture in the air has already been a matter of considerable importance in these factories If the air be too dry the process of weaving cannot be satisfactorily conducted, and if it be too moist the comfort of the workers is interfered with. On this question there were formerly many complaints and until the year 1889 no legal limit was put on the amount of humidity permissible and it was not until that year that hygrometers were generally introduced into these factories. Improvements followed the introduction of these instruments and in 1896 a committee under the chairmanship of Sir Henry Roscoe, made investigations which led to further changes in the law two years later The condition of the workers has generally improved. Mr Williams pays a pleasing tribute to the exertions of some of the large manufacturers who have raised the standard of sanitation and of comfort in their workshops to a higher level than that demanded by the letter of the law They have been rewarded by an improvement in the quality of the work done and by the diminution in the sick rate of their work people. The improvement in the purity of the air in these factories is a direct result of the recommendation of Sir Henry Roscoe's Committee which was enforced first as a regulation and which has now become a statutory provision and is incorporated in the Factory and Workshop Act, 1901.[4] The inspector of cotton cloth factories, in his report for the year 1900 gave a table showing the amount of improvement which had been affected in 35 weaving sheds[5] In the report for the year 1901 he gives figures respecting tests made during the year 1901 in 43 weaving sheds containing an aggregate of about 7000 workers A comparison of this table with the one published in the previous report shows that a further improvement has been effected during the year A table made from the averages of these two sets of cases is given below It shows in the case of 35 sheds in the year 1900 and in the case of 43 sheds in the year 1901 the number of volumes of carbonic acid found in 10 000 volumes of air[6] (1) before the improvement in ventilating arrangements was effected and (2) after the improvement in ventilating arrangements was effected The figures in columns C and D are obtained by deducting from the amount of carbonic acid experimentally found to be present in the workrooms the amount normally present in the outside air of manufacturing towns which is estimated as four volumes per 10 000 The actual improvement effected is perhaps most easily realised by comparing these two columns.

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[1] The first notice appeared in The Lancet of July 19th, 1902, p 172.

[2] 58 & 59 Vict cap 37

[3] The Lancet Oct 29th, 1901, p 1146

Carbonic Acid (CO_2) in Cotton-weaving Sheds

—	Number of volumes of carbonic acid (CO_2) per 10 000 volumes of air		Approximate number of volumes of CO_2 per 10 000 due to respiration	
			C	D
	Before improvement in ventilating arrangements	After improvement in ventilating arrangements	Before improvement in ventilating arrangements	After improvement in ventilating arrangements
For the year 1900, average of 35 cases … … …	13	7·9	9·8	3·9
For the year 1901, average of 43 cases … … …	12·6	7·7	8·6	3·7

The average of the respiratory impurity in the individual samples of air referred to in the table has been reduced to considerably less than one-half of the amount previously found and in some cases there was even a greater improvement than this Considerable improvement undoubtedly has been effected in the health of the workmen through these changes but no statistical details on the question are to be had as there is a general absence of records of sickness amongst weavers. It is however known that in ill ventilated sheds it was a common thing in the summer for the workers to faint and that this has not been the case since the improved conditions of ventilation have been introduced. Workmen say that they now feel less exhausted at the end of their day's work than they had formerly felt at midday Manufacturers are in general agreement that the work has been better done since the operatives have been placed under less unhygienic conditions. The ventilation of certain spinning rooms is still very unsatisfactory and the average length of life of a spinner is said to be shorter than that of a weaver Many of the rooms in which spinning is done are sufficiently large to provide a fairly liberal amount of cubic space for each worker but efficient provision is not made for the supply of fresh air Sometimes it is said that the condition of the external air is too dry for admission into the rooms and that it would, if it were not first warmed and damped, act injuriously on the work. Moreover the air of Lancashire towns is not free from smoke and fog which are prejudicial to fine yarns The impurity of the atmosphere in some of the mills is simply appalling Some statistics were published from the report for the year 1900[7] The following extract is from one of the tables given in the report for 1901, it shows the gross pollution by carbonic acid found in the air of some of the mills

Carbonic Acid (CO_2) in Cotton Spinning Mills

Number of test.	Process.	Approximate space per head in cubic feet	Temperature in degrees Fahrenheit	Number of volumes of CO_2 per 10 000 volumes of air	Remarks
5	Mule-spinning	4700	89½	16·0	Five gas jets burning Mechanically ventilated
12	„	9900	97	At least 40·2	—
13		10,200	92½	At least 39·8	—
15		9300	95	41 3	—

15 tests in all are quoted. Amongst these the highest space (approximate) per head in cubic feet was 12,660 and the lowest 2700. The temperature varied from 80° to 97° in no case was it under 80° The number of volumes of carbonic acid per 10 000 varied from 7 6 to 41 3. There is little cause for surprise that the life of a cotton spinner should not as a rule, be a long one. In one or two directions considerable improvements have of late taken place in the factories. It now rarely happens that water contaminated by sewage is used for moistening the air of the workrooms but the practice of using impure water for that purpose was formerly quite a common one. The more general use of electricity for lighting purposes is a great boon At the present time the cotton weaving factories which are lighted by gas in many instances contain air much contaminated by carbonic acid gas. In a table recording the results of 23 examinations of air from such factories the amount of carbonic acid gas was found to vary from 13 2 to 41 7 volumes per 10 000 volumes. It seems very remarkable that the floor of a weaving shed is as a rule never washed. It is less a matter for surprise that "spitting on the floors is by no means unknown among weavers" and we have the official assurance that this is the case The general filthiness of many of the weaving sheds may be fairly well gauged from the following gratulatory paragraph from the report "There are says Mr Williams, "I am glad to report, a few sheds in Lancashire where the floors, except immediately under the looms, are washed weekly and the result is so extremely pleasing that it is to be hoped that the practice will extend to other sheds. The inspector of cotton cloth factories has done an enormous amount of useful work, but it is evident that more remains behind

THE COUNTY OF DURHAM MEDICAL UNION

THE fourth annual meeting of this union was held in the Town Hall, Durham on June 23rd Dr E. JEPSON J P (Durham), the President being in the chair There was a large attendance of members amongst those present being Dr James Murphy (Sunderland) the Vice President Mr E. H Davies (West Hartlepool) Mr J Arthur (Wingate),

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[4] "The arrangements for ventilation shall be such that during working hours in no part of the cotton cloth factory shall the proportion of carbonic acid (carbon dioxide) in the air be greater than nine volumes of carbonic acid to every 10,000 volumes of air."

[5] THE LANCET Oct. 26th, 1901, p. 1146

[6] The samples were taken from the breathing level and near to the centre of the shed in each case

[7] THE LANCET Oct 26th 1901 p. 1147

between them being occupied by a kind of ligamentous union of much consistency Should any inconvenience remain, it can be easily obviated by a simple artificial contrivance. It is to be hoped that a full and accurate detail of so interesting an operation will be speedily published but even this slight notice may lead to its immediate adoption in many cases which are perhaps at this moment consigned to an hopeless fate

A similar operation was performed on Friday last, with the most complete success by Mr CUSACK, Surgeon to Stevens's Hospital, who removed a still more extensive portion of the maxillary bone with a tumour several inches in circumference. T

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

of the largest English towns 9112 births and 4123 were registered during the week ending July 19th. ual rate of mortality in these towns, which had 1 15 4 and 14 3 per 1000 in the three preceding ncreased again last week to 14 5 per 1000 In London h rate was 14 1 per 1000 while it averaged 14 6 in other large towns. The lowest death rates in these were 5 5 in Hornsey 5 6 in Handsworth, 6 7 in stow 6 8 in Newport (Mon.) 6 9 in Willesden 7 7 Norton, 8 1 in Great Yarmouth, and 8 6 in Aston o highest rates were 18 2 in Liverpool 18 5 ster 18 8 in Stockport, 21 4 in Rhondda ockton on-Tees, and 25 9 in Merthyr Tydfil deaths in these towns last week included were referred to the principal infectious nst 522 and 533 in the two preceding weeks deaths 129 resulted from measles, 119 -cough, 117 from diarrhœa, 64 from diph n scarlet fever 43 from fever (prin and 27 from small pox. No death from ases was registered last week in Hornsey astings, Great Yarmouth Devonport Preston in the other towns they caused rtional mortality in Portsmouth Plymouth -on Tees, Gateshead, Rhondda, Merthyr The highest death rates from measles outh, Reading West Bromwich Bury l, Stockton-on Tees and Rhondda from teshead from diphtheria in Tottenham whooping-cough in Leyton Portsmouth, y Smethwick, Grimsby, and Barrow in ver in Ipswich Stockton-on Tees and d from diarrhœa in Plymouth Hanley otle, Rotherham and Middlesbrough The ll pox registered last week included 16 ondon, eight to Swansea, three to Gates ootle. The Metropolitan Asylums hos 59 small pox patients on Saturday numbers declining from 1615 to 579 on Saturdays 48 new cases were admitted against 129 58, and 51 in the three pre- The number of scarlet fever patients in these the London Fever Hospital which had been 2352 at the end of the three preceding weeks, n to 2377 at the end of last week 332 new dmitted during the week, against 276, 255, the three preceding weeks. The deaths referred of the respiratory organs in London which 194 168 and 159 in the three preceding weeks declined last week to 155 and were 11 below the d average The causes of 50 or 1 2 per cent, deaths in the 76 large towns were not certified by a registered medical practitioner or by a coroner he causes of death were duly certified in Portsmouth ol Leicester Nottingham Salford, Leeds Newcastle, in 46 other smaller towns the largest proportions of ertified deaths were registered in Birmingham Liverpool Helen s Warrington, and Hull

HEALTH OF SCOTCH TOWNS.

annual rate of mortality in the eight Scotch towns had been 16 3 and 16 2 per 1000 in the two preceding further declined to 14 7 per 1000 during the week July 19th, but showed an excess of 0 2 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13 2 in Leith and 13 6 in Greenock to 15 3 in Edinburgh and 20 2 in Dundee. The 475 deaths in these towns included 15 from measles, 15 from whooping-cough 13 from diarrhœa, and one from scarlet fever but not one from either small pox, diphtheria, or "fever" In all 44 deaths resulted from these principal infectious diseases last week, against 66 and 62 in the two preceding weeks. These 44 deaths were equal to an annual rate of 1 4 per 1000 which was 0 6 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles which had been 15 13, and 22 in the three preceding weeks declined again last week to 15 of which seven occurred in Edinburgh, four in Glasgow, and two in Dundee. The deaths from whooping cough, which had been 14 16 and 14 in the three preceding weeks, rose again to 15 last week and included seven in Glasgow three in Dundee three in Edinburgh, and two in Aberdeen. The fatal cases of diarrhœa, which had been 16, 24 and 15 in the three preceding weeks, further declined last week to 13, of which six were registered in Glasgow two in Edinburgh two in Dundee, and two in Aberdeen The deaths referred to diseases of the respiratory organs in these towns, which had been 101, 87 and 74 in the three preceding weeks, further decreased to 62 last week, and were 17 below the number in the corresponding period of last year The causes of 25 or more than 5 per cent of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin which had been 19 1 and 16 9 per 1000 in the two preceding weeks, rose again to 20 2 per 1000 during the week ending July 19th During the past four weeks the death rate has averaged 19 0 per 1000 the rates during the same period being 14 5 in London and 17 0 in Edinburgh. The 147 deaths belonging to Dublin registered during the week under notice were 24 in excess of the number in the preceding week, and included 14 which were referred to the principal infectious diseases, against nine, 11 and 17 in the three preceding weeks, of these eight resulted from measles, four from fever one from diphtheria, one from diarrhœa, and not one from either small pox scarlet fever or whooping-cough These 14 deaths were equal to an annual rate of 1 9 per 1000 the death rates last week from the same diseases being 2 2 in London and 1 9 in Edinburgh. The fatal cases of measles, which had been six in each of the two preceding weeks increased last week to eight, the four deaths referred to fever corresponded with the number in the preceding week while the mortality from diarrhœa showed a decline The 147 deaths in Dublin last week included 16 of children under one year of age and 31 of persons aged upwards of 60 years, the deaths of infants were slightly below the number in the previous week while those of elderly persons showed a slight excess Eight inquest cases and two deaths from violence were registered and 69 or nearly one-half of the deaths occurred in public institutions. The causes of four or nearly 3 per cent of the deaths registered in Dublin last week were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified —Fleet Surgeon W Eames to the *President* additional for three months course of hospital study Staff Surgeons G Howlett to the *President* additional, for three months course of hospital study E. St. M Nepean to the *Æolus* and F J Burns to the *Royal Sovereign*

ARMY MEDICAL STAFF

Colonel James A. Clery C.B. R A M C. to be Surgeon General vice A F Preston retired. Dated May 23rd 1902.

ROYAL ARMY MEDICAL CORPS.

1st Life Guards

The appointment of Major Nicholas C. Ferguson, C.M.G from the Royal Army Medical Corps to be Surgeon Major which was notified in the *London Gazette* of Feb. 14th 1902, is cancelled

Major Benjamin William Chatterton Deeble, from the Royal Army Medical Corps, to be Surgeon Major Dated July 23rd, 1902.

To be Colonels —Lieutenant-Colonel William G Pratt, on augmentation (dated April 1st, 1902), Lieutenant-Colonel William E Webb, vice J A Clery, promoted (dated May 23rd, 1902

Lieutenant M G Sterling assumes medical charge of the Louise Margaret Hospital District Staff, Army Pay Department, Fire Brigade, Military Police, Army Chaplains' Department, Model School, and Army Veterinary Department not attached to units at Aldershot

ARMY MEDICAL RESERVE OF OFFICERS

Surgeon Major E L Freer to be Surgeon-Lieutenant-Colonel

MENTIONED IN DESPATCHES

In a despatch from Lord Kitchener, dated Pretoria, June 1st, to the Secretary of State for War, the following names are mentioned —

Surgeon Major J A. Devine, Canadian Mounted Rifles, for good service in the action at Boschbult on March 31st

Civil Surgeon A. L Hoops who, in the same action, was four times wounded, and when no longer able to move about refused to be taken to the rear and remained in the firing line giving directions for the treatment of other wounded men

Lieutenant T F Ritchie, R.A.M.C, for valuable work in the action at Holspruit on April 1st.

Civil Surgeon R F Williams, R.A.M C, for gallantry in action at Moolmanspruit on April 20th

Serjeant E Haynes, R.A M C, is mentioned for gallantry under heavy fire at close range, on Jan 29th, at Sweethome, Orange River Colony

THE MEDICAL STAFF COLLEGE

It is understood that, pending the erection of permanent buildings, the War Office authorities have made temporary arrangements for renting some of the laboratories of the Royal Colleges on the Thames Embankment. There was, we believe, some talk of the new military hospital for the Guards near the Tate Gallery being utilised for the purpose of clinical instruction, but it is questionable whether the site as a substitute for Netley would prove sufficiently large, and in any case provision would have to be made for the study of tropical diseases We think it would be quite possible to institute some general arrangements whereby the medical schools and hospitals and post-graduate courses of instruction in London could be made available for army medical officers and candidates As regards tropical diseases there are usually a large number and variety of cases of this kind in the Royal Victoria Hospital at Netley, and, for the present at any rate, it might also be possible to arrange for the army medical candidates to spend a portion of their course of instruction there

A VISIT OF INDIAN TROOPS TO THE HOUSE OF COMMONS

Medical officers who have served in India and have been brought in contact with Indian troops must have noticed that they very commonly and naturally, as it were, comport themselves in a dignified, respectful, and fitting way when any occasion calls upon them to do so A little incident at the House of Commons the other day was a case in point A detachment of Bengal Lancers in their handsome uniform paid a visit to the House on July 21st and arrived there just before the time of its sitting As the Speaker's procession passed through the lobby of the House the soldiers stood at attention and saluted in military fashion the mace and Speaker as they passed The situation was both picturesque and effective as well as a spontaneous exhibition of respect and good manners such as are not always manifested by people in this country

A NEW FORM OF FIELD EQUIPMENT FOR GERMAN MILITARY SURGEONS

According to the *Deutsche Militärarzt Zeitschrift* for January last a new equipment for army medical officers has been devised and sanctioned It consists of a black leather satchel lined with canvas and fitted with pockets for the reception of instruments, medicines, and dressing material The outside case measures about 9 by 7 by 1 5 inches, and in shape resembles an enlarged card holder To keep it in position on a level with the lower border of the tunic there is a strap which is to be worn beneath that garment. Notwithstanding its small dimensions the satchel contains all the customary instruments, with the exceptions of a percussio hammer, a pleximeter, and a magnifying lens The pric fitted satchel, is said to be about 12*s*

THE CANADIAN RED CROSS SOCIETY

A tastefully printed report of the Canadian branch of t British National Society for Aid to the Sick and Wounded War has just been issued Captain Charles A. Hodgett A.M S, the honorary secretary, in a letter dated Toront April 30th, 1902, gives an epitome of the society's wor stating that after a careful review of letters and reports the possession of the society he has computed the value the contributions in kind received by the central council ar the several local branches, as well as those forwarded municipalities and private citizens to South Africa throug Red Cross channels, to be $23,552 75, while the total ca receipts of council and branches were $58,826 64, making t total cash value of the society's work $82,379 39

RECRUITING

Now that the war is over and the popular enthusiasm th it excited among the recruiting classes has ceased we sha be better enabled to judge as to what will be the annu average number of recruits joining the army under ordina circumstances We have always thought, and have oft said, that the army authorities would do better by makin their recruiting offices far more attractive looking and placing them in main streets and thoroughfares instead locating them in back streets and out-of the way sites

ROYAL VICTORIA HOSPITAL, NETLEY

Surgeon General G J H. Evatt, P M O, 2nd Army Corp has been appointed the president, and Surgeon General Townsend, C B, C M G, and Colonel M E R Rainsfor C B, members, of a board ordered to assemble at the Roy Victoria Hospital, Netley, to consider and to report as to wh steps should be taken to decentralise the custody of hospit equipment and stores and to consider the best method accounting for hospital diets at that institution

THE SEWAGE WORKS IN THE ALDERSHOT DISTRICT

Lieutenant-Colonel Alfred S Jones, V C, A M I C E has been appointed manager of all sewage works in t Aldershot district by the Secretary of State for War, whic may be taken as a proof that the authorities are well satisfie with the results of his past seven years' work on the restoration and management of the Camp Farm and its Sandhur branch

Correspondence.

"Audi alteram partem"

INSANITY AND THE DEATH PENALTY

To the Editors of THE LANCET

SIRS,—The perusal of your annotation in THE LANCET o July 19th, p 165, on Insanity and the Death Penalty brings to my mind that on various occasions in print, and very constantly for many years as a teacher of medicine, I have insiste on one point too often overlooked or thoughtlessly pervorte —viz, that "insanity," *per se* is not (as we medical me observe it in nature and fact) a definite state which oug either to absolve a man completely from moral responsibilit on the one hand, or on the other to be regarded as consisten with the extreme penalty of the law in a capital offence I regret that I am not at this moment in a physical conditio to permit of a more complete development of this argument but several circumstances have combined of late to lead t an expectation that even a brief communication on the subjec in your columns may at least do some good in quickening th apprehension both of medical and legal experts as regard some of the anomalies referred to in your excellent article on the Dorchester case The case of Musolino the brigand,[1] although we are not yet in possession of the full medico legal details, seems to be an object lesson as to how far the fanatics of the Lombroso school may be expected to go in the way of finding theoretical excuses for flagrant and deliberate, not to say ingrained and habitual, crime At the same time we are receiving from the United States[2], the inquiry, Is Jane Toppan responsible? which means that the law courts of Massachusetts have deliberately excused on the ground of insanity a woman who according to her own confession (which may, however, not be trustworthy), had poisoned over 30 patients under the very eyes of their medical attendants while she was acting as a nurse and reputed in all quarters to be one of the most careful atten tive and sympathising of nurses. In the Dorchester case (Simmons) it is, I think, fairly arguable that there may have been some more or less insane tendencies, or even (as stated) minor epilepsy but that a crime so deliberate, so remorseless and so dangerous to society at large as that of Simmons should not be punished (in a legal sense) at all is (and I agree in this with your correspondent Dr M. Greenwood[2]) a real failure of justice and a practical encouragement to evil doers. In like manner it seems impossible, in the light of average common sense, to maintain that Jane Toppan (whatever she may have been on her own confession sexual per vert or not) was in any just acceptation of the word irresponsible even if the list of her poisonings was to be cut down from 31 to one. To acquit her of 31 murders on this account would be just about as reasonable, from the medical point of view as would have been the holding of Musolino the brigand irresponsible by reason of Lombroso s stigmata, or his theory of the criminel né

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[1] THE LANCET, June 28th 1902 p 1841.

[2] See Boston Medical and Surgical Journal, July 3rd, p 27

In dealing with the case of Simmons Dr Greenwood writes ' The object of all punishment is to deter I agree but it is apt to be overlooked in these days of refinement and humanitarianism (and I am not to be held as saying any thing against these) that the object of *legal* punishment, as opposed to the vendetta, lynch law or any other less regular form of the *lex talionis* is to satisfy in some measure, the primary and irrepressible instinct of vengeance on the part of society at large. Civilised society, under the influence of Christianity has proclaimed aloud that this irrepressible instinct must be controlled and regulated by law Avenge not yourselves " in the Christain dispensation is the further and logical development of the principle that vengeance belongs to a higher power and that 'the powers that be are ordered by God.' The law accordingly undertakes on the part of society and on the part of that higher power to restrain that primary instinct by dealing equitably, and after full and deliberate inquiry with all causes of offence. But the law can never rightly discharge this great office, either by hanging persons who are manifestly so insane as to be really irresponsible or by refusing to condemn at all persons of the type of Simmons or Jane Toppan. The question of insanity, if raised at all should be treated legally as one of degree and if (as Sir Matthew Hale said long ago) it would be an intolerable outrage to subject to the death penalty a man notoriously and wildly insane it should, on the other hand, be at least possible to give a verdict—*guilty though insane*, with the result of qualifying but not of completely extinguishing the idea of punishment. But to enter now into the difficult question of how this is to be accomplished would carry me too far I will only add therefore, that on the *legal* theory of insanity as a state involving complete irresponsibility, not one of our asylums could be conducted on modern principles If the insane are to be held irresponsible, there is nothing for it but to revert to the old methods of restraint pure and simple but every enlightened man nowadays knows that it is not so.—I am Sirs yours faithfully

Edinburgh July 19th 1902. W T GAIRDNER.

THE CAUSE OF INEQUALITY OF PUPILS IN CASES OF THORACIC ANEURYSM

To the Editors of THE LANCET.

SIRS,—We much regret the apparent misuse of a quota tion from Sir W T Gairdner s article in Allbutt s System of Medicine concerning the inequality of pupils associated with thoracic aneurysm against which he protests The quotation was made from the recent writings of one of the highest authorities on the subject to show what seemed to be the current teaching on this point. On reading that portion of the article again in the light of Sir W T Gairdner s explanation we cannot but feel that there was some excuse for our receiving the impression that he held the view which we ascribed to him

We ought no doubt to have laid greater stress on the cautions which he enjoins to exclude those cases where the inequality is due to causes other than interference with the sympathetic. But we do not gather from the article even now that he supposed that there was any causal relationship between a thoracic aneurysm and anisocoria other than that brought about by paralysis of the sympathetic. We are much gratified to find that Sir W T Gairdner agrees in the main with the observations on which our criticism of the existing theories was based We can only express our deep regret that in our quotation from his work we misrepresented his views upon the subject and trust that he will accept this explanation and apology

We are Sirs yours faithfully

R. CECIL B WALL.
July 19th 1902. E. W A. WALKER.

OBSERVATIONS ON DIET

To the Editors of THE LANCET

SIRS,—Permit me through you to thank Dr Harry Campbell for the tone of his reply in your issue of July 12th to my letter of June 14th especially for the sweet reasonable ness of its general tenour I must also express my gratification for the cognomen procrustean " if it be taken in the pro Boer sense as advocating a good nutritious crust to the aged A sly dig! There is nothing in Dr. Campbell s letter to darken my brow with the angry flush nor mantle my cheek with the shameful blush ' Another!

In his letter taking the first paragraph where he speaks of the vital fires of the aged as smouldering and ' feebly flickering " in support of apparent spare diet generalisa tion may I draw attention to the following If an aged person receives an injury to his tissues do these 'smoulder and flicker"? that is, if surgically treated under antiseptic precautions. Do they act in any way differently, as a general rule, from the tissues of younger persons? Nature supplies the part injured by means of the reactionary reflexes and surgical inflammation (aseptic) with an excess of nutri ment and the tissues at once become young take on embryonic action and the injury heals up right away What is possible in a part I contend is possible to a certain extent in the whole. That is my contention in advocating good full, generous diet. Is not the above mainly a nervous process? And is not the loss of power in the nervous system of the aged the main factor to combat?

In the second paragraph of his letter Dr Campbell states that the healthiest old people are spare eaters." I contend that they are if healthy eating well, and eating for them selves a good full generous" diet as they eat all they want or crave for they certainly do not support the spare diet theory if they do not support the opposite contention.

In the third paragraph Dr Campbell cites certain clinical examples as putting me out of court. I would add to these cases of sarcoma of the upper jaw cancer of the stomach and various conditions of cerebro-spinal degeneration in their last and hopeless stages as equally crushing arguments against the good, full, generous diet." Does Dr Campbell pretend that they are unanswerable contentions for the spare diet" or only for diet *secundum artem* to suit case and condition? The first case of nose-bleeding which he cites might be also hepatic cirrhotic or hepatic diabetic as well as one of high pressure it might also to a certain extent be venous. Where would medical skill come in if an attempt were not at once made to correct matters? What were a nutritious dry diet, calomel hydragogue purgatives, iodide of potassium potassium nitrate, strophanthus, &c intended for? A full nutritious diet will be of most service after suit able measures than the reverse. His uræmic septua genarian I have met and successfully treated by good full generous diet after introducing him therapeuti cally to Broadbent Morison Bradbury and others. His octogenarian with fixed thorax is not hopeless for no doubt some modern surgical Philistine will perhaps some day proceed to resect his ossified costo-sternal cartilages and attempt to make false joints which if he succeeds, will deprive the orthodox physician person of another of his pet cases which he does not now benefit— spare or full diet. I surmise in the event of success a full diet would be more desired than a spare" one. Most decidedly there are cases which a full diet will not benefit, but, on the other hand, a spare diet will get them no further towards recovery

Nevertheless worded as was Dr Campbell s appeal in his article of which I complained he appeared to call upon us to give "spare diet" as a general rule. I contested that and am glad to have been of assistance to Dr Campbell in giving him an opportunity to make himself clear and thus to add lustre to his article

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[2] THE LANCET June 28th p. 1859

From actual observation of old persons I find that on spare diet their "driving apparatus"—the nervous system—begins to go, but on a good full generous diet signs of cerebral degeneration, softening, inability to swallow, &c , pass away, and with them cardiac irregularity, dyspnœa, &c., mend to a great extent, and with this liver, lung, and kidney disabilities are markedly alleviated I must also thank Dr Campbell for not adopting that well known method of controversy, which is either to imagine your opponent a fool who does not know what he is about, or to twist and to turn and to misconstrue his statements so that he appears to casual readers in the light of a fool , for this much thanks I am made to appear, according to Dr Thomas Dutton and Dr Eric Pritchard, as advocating the following laughably absurd conditions, that a male or female nonagenarian (quoted by Dr Dutton) should with my approval, habitually reel home at 2 A.M. under the load of a 27-course dinner with the usual vinous accompaniments, and so on

I think, Sirs, I can, even at the risk of being charged with arrogance, before finally retiring, enumerate the casualties of this guerilla contest. Dr Pritchard is metaphorically killed, slain whilst taking cover behind a post-prandial anthill which he mistook for something more substantial Dr Dutton has come in as a "tame Bojer" on terms of a "nutritious diet," and finally terms are signed with our "Botha of Diet," Dr Campbell, by my paying the 3 000,000 sterling in admitting that some cases are not good to "cram," yet I prefer from experience a "good full generous diet" in most cases

I am, Sirs, yours faithfully,

July 21st, 1902. F W FORBES ROSS, M D Edin

To the Editors of THE LANCET

SIRS,—In his article, "Observations on Diet," Section IV , appearing on p 1850 of your issue of June 28th, Dr Harry Campbell quotes a writer as follows "Man is carnivorous It is his misfortune, but it is so" , and continues "One would willingly think otherwise, for who can contemplate with equanimity the wholesale slaughter of animals, with all its gruesome accompaniments, in order that we mav feed on their flesh ? But facts have to be recognised." This statement requires considerable modification. Most men who are carnivorous are so from choice or influence of custom, not, as is implied, by the necessities of their organism, many of the most eminent of our scientific authorities (Owen, Ray, and others) who are best qualified to pronounce an opinion on this point have held that structural anatomical evidence proves conclusively that man is a "frugivorous" animal, and my own personal experience and observation of others have demonstrated to me that man can not only "live," but can attain to a high standard of vigorous and healthy life, on a diet which does not necessitate the "wholesale slaughter of animals, with all its gruesome accompaniments," which Dr Campbell (in common with all men of humane feelings) deplores And here, I may say, I cannot understand the mental attitude of one who is *really* desirous of abolishing or lessening the vast amount of suffering so caused and yet refrains from the first and obvious step of at once ceasing to be a participator in its infliction by abandoning flesh as food because of certain minor difficulties which may arise as to the disposal of bull calves and cockerels should he still find it necessary to partake of "animal products" It is indeed a case of "straining at a gnat whilst swallowing a camel" No beneficent reform would ever be inaugurated did men wait for the satisfactory solution of every minor question connected with it before taking the first radical step

My personal experience is as follows Some eight years ago (having just reached my fortieth year), after a perusal of Dr A. Haig's book, "Uric Acid as a Factor in the Causation of Disease," I reduced my consumption of flesh food to a minimum (an average of one pound per week) with the result that the periodic headaches, spells of mental depression and slight attacks of muscular rheumatism, from which I had suffered for some years, gradually ceased to trouble me Nearly three years ago I adopted an absolutely non-carnivorous diet for ethical reasons The results have been more than satisfactory , "uric acid" symptoms no longer trouble me , I have gradually experienced a sense of general wellbeing, health, and energy which recalls my boyhood's days The "sensation of fatigue" after long continued and arduous muscular or mental exertion is very much less than aforetime, and more speedily recovered from, and my resistance to disease is increased as demonstrated by the fact that whereas I used to suffer in winter from a series of "heavy colds in the head," for the past two years I have only had two such attacks which cleared up in three days instead of taking the usual three weeks or so I am acquainted with at least 20 abstainers from flesh foods within a radius of 12 miles (including two medical men, architects, lawyers, &c) whose experience has been substantially the same as my own and whose consciousness of the improvement in their physical wellbeing is such that they unanimously declare that they will never return to their former diet They simply smile at the suggestion that their non carnivorous diet produces "tendency to obesity" or "lowers their energy and resistance to disease," for experience has taught them that, in their cases at least, such theories are without foundation

The fact that the number of meals and quantity of food taken tends to increase among flesh eating communities is a significant commentary on the alleged superior sustaining qualities of flesh Such increase, in fact, is due to quite another cause—i e , the "extractives" of flesh (consisting mainly of the effete products of cell metabolism and belonging to the "uric acid group") are true stimulants, and following the "stimulant" period of their action comes the inevitable reaction with depression demanding fresh supplies of stimulant for its removal Among non flesh eaters the invariable tendency is to simpler fare, fewer dishes and fewer meals

The questions as to the action of excess of uric acid and its allies in the body in the causation of disease and to what extent such excess is due to flesh eating are, I am aware, still under discussion by many members of the profession But that both are productive of disease is the general opinion is shown by the almost universal consensus in the dietetic treatment of gouty and rheumatic affections—i e , the withholding or reduction of flesh foods during their incidence I believe that a very large percentage of diseased conditions is due to this excess and to the habits of gluttony fostered by the stimulating effects of a flesh diet.

The number of those who refuse to recognise the necessity of such a diet, and the resultant infliction on their subhuman fellows of the miseries of forced feeding, long transit by land and sea, and the all too-frequent barbarities of the slaughter house, is happily rapidly increasing, and it is becoming necessary for the medical attendant to be able to speak from a practical standpoint on the diet question , this position he can only attain by experience, for no one should presume to dogmatise respecting it till he has made trial of a non carnivorous diet (intelligently arranged as regards food contents) for at least six months I venture to prophesy that such an experience will result in nothing less than a complete transformation in the present opinions of the vast majority of the experimenters

I am, Sirs, yours faithfully,

ROBT H. PERKS, M.D Brux , F R C S Eng

Paignton July 7th, 1902.

THE MEDICAL SERVICE OF THE MERCANTILE MARINE

To the Editors of THE LANCET

SIRS,—As a quondam ship's surgeon permit me to give my experiences Financially, £10 a month was the maximum, £5 the minimum, this not including fees for severe cases calling for extra time and attention I certainly think that no medical man should go to sea for nothing, as many do If every man insisted on a wage for work it would be given, but this would necessitate the formation of a league, which, seeing that ship's surgeoncies are but temporary, would be difficult of formation Socially the life is delightful, infinite the variety of type and character If you happen on a ship where the skipper, mates, and engineers work well together—a happy family indeed—all's well with you and the passengers Stick to that ship But if you join where the deck and engine room are at feud, woe betide. A stroll with the skipper upsets the chief engineer and a smoke in the chief s cabin lights fires of indignation in the captain None but a diplomat can be happy for long on such a boat The souls of shellbacks are sensitive if their stomachs are tough Educationally, it is beyond price for a man just leaving hospital

On one line I was in sole medical charge of close on a thousand emigrants. I who had never vaccinated had to vaccinate by the hundred never having given an anæsthetic I chloroformed and performed minor operations at the same time not having seen fever rashes I had them to diagnose and it was a nice point, indeed, to differentiate vaccinia, varicella, variola, and varioloid. Then again, a breech presentation with uterine inertia in a gale of wind with a big beam sea, afforded considerable physical as well as mental exertion On ships going East skin eruptions on Chinese coolies are extraordinary and amazing and the vagaries of malaria are still more so to the inexperienced On one ship I sat officially at the head of a table with a bishop and his daughter on my right hand and a couple of American low comedians, fond of cognac in their coffee, on my left. This too was instructive. Another point of view educationally is of importance—viz. the art of playing poker At first your month s pay and more—much more—vanish but at the year s end, *experientia docet* as it does in most things.

A life at sea for a year or two is good for a man. On some ships there is little or no work on others a great deal too much, but he leads the life of a gentleman if he is one, lives well sees the world, is not bound by service rigidities, and his horizon is considerably broadened. The 'great green mother brings forth memories pleasant in after life. Abject is an asinine adjective (what the user thereof is must be left to logic) to apply to steamship doctors," unless of course, they suffer from sea sickness when it is æsthetically appropriate *Cœlum non animum, mutant qui trans mare currunt*

I am Sirs, yours faithfully
J E. S BARNETT F R.C S Eng
Kingston-on Thames July 14th, 1902

HORSE DUNG IN LONDON STREETS

To the Editors of THE LANCET

SIRS,—That the horse is a nuisance in the streets is beyond doubt, but how great a nuisance has not yet been shown. On several occasions I have noticed that the deposit of manure from London stables on fields in the open country has been followed by outbreaks of diphtheria in the scattered cottages near by Town medical men attribute summer sore-throats to the dryness of the wood pavements which are constantly fouled with horse droppings, and I would suggest to those occupied in bacterial research the advisability of an inquiry into the possibility of the propagation of diphtheria through infected discharges from an animal immune to the disease by inoculation

I am Sirs yours faithfully
H BEALE COLLINS.
Health Department Kingston-upon Thames, July 19th 1902.

To the Editors of THE LANCET

SIRS,—Your suggestion that some form of light scavenger, motor propelled" might be employed to remove speedily horse-dung from London streets, seems to me much more practically useful than that of Dr F E. Fremantle who advocates the total suppression of horses and the general introduction of motor cars The horse" says the latter is no longer a necessity to its owner he is a luxury and to the public he is a nuisance. It is obvious to any schoolboy that four fifths of London horses are not luxuries to their owners and as compared with the nuisance of motor cars, as at present constructed and run, horses are positive comforts. Where motor cars as in Paris and the Riviera, are much driven the public regard them as pests, which scare them smother them with dust and tax all their resources of nerve and muscle to avoid. They are withal very ugly (especially their occupants) noisy and unhealthy Till motor cars supplant horses something more radical and resourceful than the present system of merely watering the gutters wants doing in London streets. Might not the pathways sometimes be swept and cleansed in dry weather and might not successors be found for the smart little street boys whose disappearance with their dust-pans is so much missed? On returning to London from abroad one is always struck by the excellent paving of the London road and the way in which their hygienic merits are neutralised by the straw laden atmosphere due to the constant circulation of desiccated and neglected horse droppings Now that you have called attention to this defect it is to be hoped that something may shortly be done to remedy it.

I am Sirs yours faithfully
Ashley-gardens, S W July 21st 1902. D W SAMWAYS.

THE TREATMENT OF INTRA-PERITONEAL ABSCESS OF THE APPENDIX

To the Editors of THE LANCET

SIRS,—One important point raised by Mr F C Wallis s paper on the above subject in THE LANCET of July 19th, p. 145 touches the use of natural sponges in abdominal surgery Mr Wallis says marine sponges should not be used, and recommends Gamgee tissue both for the purpose of protecting the sound peritoneum and for cleansing the abscess cavity It is only the importance of small matters in practical surgery that makes me desire to record my conviction that for abdominal work well-chosen marine sponges *when properly prepared* are better from every point of view than any artificial sponge. They leave no fibres or fragments behind—a drawback that every substitute made of gauze and cotton wool is bound to have. Such fibres or fragments are foci for re infection in cases where pus is present. Marine sponges when moist with sterile salt solution absorb liquids more readily than absorbent wool and they are less harsh and less likely to injure the delicate endothelial covering of the peritoneum than are any swabs covered with gauze. The only real drawback to the use of marine sponges that I know is the trouble which they give in preparation—a process which the surgeon should be personally responsible for

I am Sirs yours faithfully,
Portland place W July 19th 1902. J JACKSON CLARKE.

DIPHTHERIA AND ITS TREATMENT AT COLCHESTER

To the Editors of THE LANCET

SIRS —It seems barely possible to imagine that the letter of Dr George Brown in THE LANCET of July 19th 1902, p. 182, is intended to be taken seriously and yet if it be intended as a satire on those who still refuse to believe that bacteriological examination and antitoxin are of any use in diphtheria the satire is too delicate for my perception. There is scarcely a statement in it which even borders on correctness. Remove the cause and the effect ceases. Yes, remove the diphtheria bacilli from the throat and of course there will be no subsequent paralysis provided they are removed *before they have got there* In no instance is it probably less correct to apply this maxim. It would be as reasonable to say remove the cannon ball and the house it has knocked down will re-erect itself "

Dr Brown s account of the morphology of the epithelium of the naso-pharynx is ridiculously at variance with facts and his knowledge of the functions and distribution of ciliated epithelium and of its physiology in general must be derived from an unpublished work of his own for certainly it is shared by no one else

I have always thought that the finding of a specific for a disease, a remedy which could be relied on to cure was the highest development of either medicine or surgery Dr Brown evidently prefers to have several strings to his bow It might have been thought that the discovery of a remedy which would cure every one of 375 cases of diphtheria treated with it on the first day had some claims to be considered an advance in medicine. Dr Brown has come to judgment and we who believe in and advocate the use of antitoxin and are foolish enough to think that there is good in it must hide our diminished heads.

If I transgress the courtesies of debate I am sorry but every letter like that of Dr Brown means the encouragement of others of the same way of thinking of whom the number is still lamentably large. The statements about tetanus, severe urticaria, and other serious maladies" are the kind of thing which one might expect to meet with in the columns of the *Anti vaccinator* but scarcely from a medical man of good standing discussing a scientific subject in a fitting spirit. Will Dr Brown be good enough to mention a few say half a dozen of the other serious maladies?" That tetanus has followed when tetanus bacilli were contained in the serum is unfortunately true, but it is no more fair to charge antitoxin with the result than it would be to attribute to sugar the death of a person who had accidentally taken sugar which was mixed with oxalic acid Jenner's great law "that the protective principle must be introduced into the system before the disease it is used for breaks out" is no law at all and it would be interesting to know whence Dr Brown obtained it Possibly from another of his own unpublished works In any case, the attempt to draw a parallel between scabies and diphtheria does not tend to inspire confidence in the deductions in general of the writer

I am, Sirs, yours faithfully

Old Kent-road, S E, July 23rd 1902 EDWARD C BOUSFIELD

To the Editors of THE LANCET

SIRS,—Dr G Brown's letter in THE LANCET of July 19th expresses the reliance to be placed on bacteriological diagnosis and treatment by antitoxin as premature, and for my part I believe he is right and I think that this view is shared by many practitioners in the borough What can be said of the following experience? Three of a family one after the other were attacked with sore-throat and exhibiting all the signs of diphtheria. The medical officer of health was notified who subsequently took swabs from two of the family Afterwards he declared the results were negative Within the past four months I took swabs from four cases, all showing clinical signs of diphtheria, and in each case the medical officer of health of Colchester, who took charge of the swabs, returned the report marked "No result"

With regard to treatment by antitoxin, I have examined three cases of children who were subjected to the remedy a few months previously At the time of examination I found two suffering from albuminuria and one from albuminuria and bronchitis, from which latter it died. It may be said that these diseases will exist no matter what is done Well, that is so, but it is peculiar that a remedy such as antitoxin, praised as infallible, should leave a grave sequel such as the above In the town of Colchester two medical men almost went mad over the treatment on public platforms and by long letters in the lay press condemned all but antitoxin, which latter was, in their opinion, specific It is grave to think that men of long experience in epidemic disease and who love their profession should not be permitted to have an opinion other than that manufactured for them Antitoxin may be good, but is it possible that other treatment might also be good?

I am, Sirs, yours faithfully,

Colchester July 23rd 1902. H. WHITBY

⁂ Dr Brown's attitude towards the antitoxin treatment of diphtheria having been commented upon in our columns we considered it right to allow him to state his views A similar desire to hear both sides induces us to publish Mr Whitby's letter We have already declared, in connexion with Dr Brown's position, that it is impossible for us or anyone to lay down that a certain therapeutical proceeding is the one and only proper course to be pursued in any disease But Dr Brown called the use of antitoxin in diphtheria "bowing the knee to medicinal Baal,' which was an unfortunate attitude for a medical officer of health to assume towards the treatment which happens to be accepted by practically the whole medical world as valuable —ED L.

PATENT FOODS

To the Editors of THE LANCET

SIRS,—In the lecture delivered by Dr Robert Hutchison, and reported in your issue of July 5th p 1, I note that with regard to Mellin's food, the lecturer is reported to have said "Mellin's may be used, but it is extremely poor in fat" A moment's reflection and doubtless Dr Hutchison would have added "Which is supplied by the milk or cream with which the food is directed to be made'

I am Sirs, yours faithfully,

WALTER SCOTT, M R C S Eng, L R C P Edin, &c.

Tulse-hill S W July 16th 1902.

CIDER AND GOUT

To the Editors of THE LANCET

SIRS —There is a letter on the above by Dr T Dobson in THE LANCET of July 19th, p 182, in connexion with which I may say that many years ago, whilst living in Somersetshire, one of our cider counties, I made some investigations on this subject, the results of which were published by Dr (now Sir) Alfred Baring Garrod in the second edition of his "Gout and Rheumatic Gout," p 592 (Walton and Maberly, London, 1863), and which may be summed up as follows *Sound* cider—i.e., cider of low specific gravity—completely fermented and containing neither acid nor sugar, is equivalent to a sound and *dry* wine and may be taken by the gouty with benefit, whereas, on the contrary, *sweet* cider, like imperfectly fermented beers, ales, and wines, is hostile to those disposed to gout on the principle that when *sugar* and *alcohol* meet in the stomach they become mischievous

This subject I referred to again more fully in an unsigned article I wrote for Dr Robert Druitt which he published in the *Medical Times and Gazette* of April 27th, 1867, under the heading "Cider for India."

I am, Sirs yours faithfully,

July 22nd 1902 ALFRED HAVILAND

MALARIA (?) IN THE LOWER ANIMALS

To the Editors of THE LANCET

SIRS,—When in London I always endeavour to spend an hour or so in that delightful and creditable national institution—the Natural History Museum Last week I had the privilege of visiting it and of seeing for the first time that most beautiful case containing the biology of the mosquito, the modelling of which is so inimitably done by a lady On the descriptive letterpress attached I read, "Malaria is a disease peculiar to man," and my object in writing to you is to ask, is this an established fact? Because, when up in an arid, shaly, treeless district of Afghanistan we had over 100 cases of virulent malaria which I recommended to be moved down to shade and grass for milch cows Our excellent commissariat officer, who, like General French, not only "never made difficulties," but would never *see* any, and who got me the cows from Heaven knows where, asked me to see his favourite down country pony which had regular rigors followed by profuse sweating I concluded, rightly or wrongly, that it had this severe malaria, and I proceeded to give large quantities of quinine in rum and frequent gruel, and although it resisted these at first, it soon whinnied when it heard my step and, unable to stand, held up its head, and sucked down its "bottle" and completely recovered Now was not this really malaria? It had all the symptoms of it and quinine undoubtedly cured it I may add that in that "sick camp" I had many interesting experiences as to the value of local herbs in endemic diseases

I am, Sirs, yours faithfully,

July 21st, 1902. W M. H.

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT)

The Plague Epidemic —The Monsoon.—Cholera and Plague Inoculations

THE plague epidemic has sunk to almost insignificant interest During the last fortnight the mortality has declined with rapidity, but we have apparently reached, if not passed, low water mark, because there has been a slight rise again almost everywhere For the week ending June 28th 1684 deaths were returned as due to plague, as compared with 1294 for the previous week and with 821 for the corresponding week last year The Bombay Presidency had 554 deaths, as against 279, the Punjab 1026, as against 721, Karachi 12, as against 19, Madras Presidency 32, as against 22, Bengal 57, as against 27, the United Provinces 33, as against 39, and Mysore 170, as against 139 This slight and general rise is coincident with the commencement of the rainy season but is not necessarily to be attributed to it. I may remark once more that plague outbreaks seem quite independent of season (rain, sunshine, cold, or heat), of altitude, or of climatic conditions generally

The monsoon, which it was at first thought would be at least an average one, has largely failed and the prospects are now most unfavourable, especially for Western India.

Inoculation for cholera, like that for plague, has lamentably fallen off, not from any decline in its value, but apparently from the indifference of authorities and because it is left optional to the labourers as to whether they will avail themselves of it. In the few instances in which it was practised last year the results were satisfactory The same with plague. While by personal influence in Gaya over 20 000 inoculations were performed the number done in Calcutta could almost be counted on the fingers The results in Gaya proved very satisfactory The mortality from plague is found to vary in the rural and urban areas. In Bengal during 1901 there were 90 762 cases recorded with 78,629 deaths which compared with the previous year shows a decline of case mortality from 95 7 to 86 6 but at the same time in Calcutta the rate of mortality was 91 5 against 86 1 in the interior There is no satisfactory explanation of this given In the Sanitary Commissioner's report the editor rightly argues in favour of inoculation as against disinfection, but the Lieutenant-Governor is unable to accept his arguments. There is very little evidence to show that disinfection as practised is of any value, while the results of inoculation are unmistakeable The principle of vaccination against small pox is to render the people immune to this disease and so it is with inoculations for plague, but the authorities can hardly be said to encourage it.

July 4th

FEES TO MEDICAL WITNESSES

(FROM A LEGAL CORRESPONDENT)

So much has been said and written with regard to the payment of medical practitioners for their services as witnesses that a concise statement of the existing law upon the subject may be found useful. Increase in population and the increased popularity of the medical profession have made serious inroads upon the time at the disposal of the practitioner but even this has not had the effect of inducing those who have the power to bring about the payment of a living wage' to the medical man who is compelled to spend his valuable time at a court of justice A bare statement of the law with regard to the duty of a witness who is subpœnaed to attend the hearing of a case at any court ought to be sufficient to show that adequate compensation should be given to any professional man who is called upon to fulfil such a duty Lawyers of course like other people, suffer from the law's delays but they take good care to obtain additional fees for the waste of time which is occasioned by attendance at court. Moreover when we bear in mind the importance of the issues which sometimes depend upon the opinion of a medical witness it is surprising that remuneration should be based upon the present parsimonious basis.

The following is a list of the places in which the services of medical men are sometimes required (1) Parliamentary Committees (2) the High Court of Justice (in all its various departments) (3) assizes, (4) courts of quarter sessions (5) police courts and (6) coroners inquests The following figures, which are for the most part taken from Glenn's ' Manual of the Law affecting Medical Men (1871)) give the *existing* scale of expenses which are allowed to medical men on taxation. In the House of Lords the taxing master is bound by the following scale —

—	Time.	Per diem (hotel expenses if from home)
	£ s d.	£ s d.
Apothecaries chemists and druggists	1 1 0	1 1 0
Physicians and surgeons ..	2 2 0	1 1 0

Higher charges are under special circumstances sometimes allowed Sundays do not count as time. For travelling expenses the sum necessarily expended is allowed Although the attendance of medical men is but rarely required at the House of Lords except in cases where money is no object, the scale of fees above set out is very much too low especially in view of the high fees usually allowed to persons having business in the Upper House. The proviso that Sundays do not count as time" is ungenerous in the extreme for a country practitioner might well make a claim in respect of his absence from his practice on Sunday

The following are the fees allowed on taxation in the various branches of the High Court of Justice —

In the King's Bench Division and Chancery Division

Per diem if resident in the town where the case is tried (i.e in one circuit town or assizes or London when the case is tried at the Royal Courts)	£1 1 0
Per diem, if resident at a distance from the place of trial inclusive of all except travelling expenses. [If the witness attends more than one cause, he is entitled to only a proportionate part in each case] ...	£2 2 0 to £3 0

In the Probate Court

Per diem, if resident within five miles of the General Post Office	£1 1 0
Per diem if resident beyond that distance (including board and lodging)	£3 3 0

In the Divorce Court.

Per diem if resident within five miles of the General Post Office	£1 1 0
Per diem if resident beyond that distance (including board and lodging)	£2 2 0 to £3 3 0

In the Admiralty Court.

Per diem whether required to come a distance not exceeding two miles or not (including board and lodging)	£1 1 0 to £3 3 0

In each of the above cases the amount reasonably and actually expended for travelling expenses is allowed provided that it does not exceed the sum of 1s per mile one way In the bankruptcy court, which forms part of the high court of justice, the following scale is used —

Per diem if resident in the town in which the court is held	£1 1 0
Per diem if resident at a distance from the court, including subsistence	£1 1 0 to £3 3 0

In this case travelling expenses are allowed at the rate of 7*d* per mile one way where there is no railway available, or travelling expenses actually incurred in the discretion of the taxing officer

The above figures were true in 1870 and, subject to certain unimportant modifications consequent upon the fusion of some of the divisions of the High Court to which they relate they are in force at the present time. In any case there has been no substantial alteration. They appear to have been drawn up for the convenience of professional men who can make a protracted visit to London by the simple expedient of altering a list of engagements, they are certainly not intended to compensate a medical practitioner who must be at the beck and call of his patients at all hours of the day and night

In the county courts, where medical men are sometimes subpœnaed to render assistance to one or other of the parties the following scale is used —

Medical men as ordinary witnesses (per diem)..	£0 15 0 to £1 1 0

Medical men as expert and scientific witnesses	If costs taxed on ordinary scale	If costs taxed on the higher scale
	£ s d £ s d	£ s d £ s d
For qualifying to give evidence ..	1 1 0 to 3 3 0	1 1 0 to 5 5 0
Attending court on trial (per diem)	1 1 0 to 2 2 0	1 1 0 to 3 3 0

All the above figures are intended to be used as a guide to the amounts which may be allowed by taxing masters when settling the bill of costs to be paid by the unsuccessful party to a suit. There is nothing to prevent a medical practitioner entering into an agreement under which he may claim greater remuneration, but it has been decided that if a medical witness is compelled to bring a suit to recover for his services as a witness he can only recover the amount allowed by the rules. Further the above figures may be used as a scale upon which an estimate may be drawn up if all payment is refused.

With regard to every claim for services rendered as a witness in a civil case it is sometimes said that a witness is entitled to refuse to give evidence unless his expenses are paid and, further that he is at liberty to claim conduct money when a subpœna is served upon him But conduct money" often amounts to a mere nominal payment and a witness who refuses to be sworn until his fee is paid has but poor consolation for his trouble in going to the court. In a recent case in the Leeds County Court before His Honour Judge Greenhow which has given rise to much comment, the medical officer of a public charity in Leeds refused to be sworn to give evidence for the plaintiff unless his fee of £1 1s was paid. In the result he was not compelled to give evidence, but he was, nevertheless, put to the trouble of attending the court and his conduct was made the subject of severe and, it is submitted, wholly unwarranted criticism on the part of the learned judge.

The consequences of disregarding a subpœna to attend to give evidence are severe both in the High Courtand in the county courts A witness who disobeys a subpœna issued out of the High Court after having had his expenses paid or tendered may be committed for contempt, although he cannot be proceeded against for making default unless it appears that a reasonable and sufficient sum of money to defray the expense of coming and going was tendered to him He is also liable under an old statute passed in the reign of Queen Elizabeth to an action at the hands of the party who suffers damage by reason of the evidence not having been forthcoming To the rule that conduct money must have been tendered before the court can make an order upon a motion to commit a witness for contempt, there used to be an exception in a case where the witness lived in the town where the court is held, but it is not certain that this exception would hold good at the present day

It is provided by the County Courts Act (Section III.) that any person summoned to attend as a witness, to whom at the same time payment or a tender of payment of his expenses shall have been made on the prescribed scale of allowances, who refuses or neglects to appear, or who shall refuse to be sworn or to give evidence, shall forfeit and pay such fine, not exceeding £10, as the judge shall direct

The foregoing statement of the law will have made it plain that the existing scale of fees is capable of rigid enforcement, and the treatment which one practitioner received at the hands of the county court judge is not likely to tempt others to stand on their strict legal rights.

Turning to the courts of criminal and *quasi*-criminal jurisdiction we find the position of the medical practitioner very little better Except in certain special cases an offer of expenses is not necessary in order to secure the attendance of a witness in a criminal trial. This is upon the ground that attendance at such a tribunal is a public duty It is, however, provided by the 45 Geo III, cap 92, section III., that where a witness is called upon to give evidence in another part of the kingdom and is served with a subpœna for the purpose a sufficient sum to defray his expenses must be tendered at the time. In pursuance of this principle the Home Secretary (by virtue of the 14 and 15 Vict, cap 55) has ordered that medical men shall be remunerated in criminal cases in assizes, &c., upon the following scale "To prosecutors and witnesses being members of the profession of medicine attending to give professional evidence for their trouble, expenses, and loss of time, for each day they shall necessarily attend the court to give professional evidence a sum not to exceed £1 1s For each night, if detained all night, 2s, and if they shall attend from a distance, for mileage, per mile each way, 3d"

Under the Indictable Offences Act, 1848, power is given to justices to require any person to appear to give evidence, if it shall appear to the justices that the evidence of the witness is material. If he refuses to appear without a just excuse, then, after proof of the service of the summons, the justice may issue a warrant in order to bring him before the court. It seems that in such a case a tender of expenses is not absolutely necessary but in 1893 Lord Brampton (then Sir Henry Hawkins) expressed the opinion that solicitors have no right to bring a person a long way without providing travelling expenses, and it is enacted by the Summary Jurisdiction Act, 1848, that *upon proof*, but only upon proof, of expenses having been tendered the justices may order a defaulting witness to be brought up on a warrant.

If a medical witness is practically at the mercy of the litigants in a civil case he is at the mercy of the Crown when summoned to a criminal court. It may be said that it is part of the duty imposed by statute upon a medical man that he shall give his services to promote the ends of justice, but it is difficult to understand why services so rendered should not be adequately compensated. All who have attended assizes and quarter sessions know how medical men are kept in attendance for days until cases in which hey have been bound over to appear come on for hearing

Even in the coroner's court, where the presence of one or nore medical witnesses is practically essential, the scale of es allowed is absurdly low It is provided by the Coroners ct, 1887, that a medical practitioner may claim "(*a*) for attending to give ev [illegible] any inque mortem-examination has been made by one guinea, and (*b*) for making a post-m of the body of the deceased, wi analysis of the contents of [illegible] for attending to give evidenc [illegible] rule is subject to the proviso [illegible] the body of a person who had [illegible] hospital or "other medical [illegible] (in officer whose duty it may have [illegible] to atten is not to be entitled to any fee. The scope may be gathered from the case of Horner *v* 524), in which it was decided in 1898 that a c comes within the meaning of the phrase " institution" as used in the section, with the honorary surgeon of such a hospital can obtain the coroner

It is apprehended that after reading the for ment of the existing law with regard to the rem medical witnesses an impartial critic would b the conclusion that members of the medical pro grossly underpaid for the important services whi compelled to render to the public.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Liverpool Convalescent Institution.

AT the annual meeting of the Liverpool Conv Institution at Woolton, the secretary drew the atten the subscribers to the satisfactory progress made in the of the institution as evidenced by the increase in the n of patients during the last year, the total amount 2672—the highest number attained The financial po of the institution might be considered to be satisfac The gross receipts from all sources showed the slight fa off of £68, but this was more than counterbalanced by decrease in payments for special purposes, maintena and extension, which were heavy during the previous th years. There was a credit-balance at the bank of £1 The subscription list again showed an augmented tot a very healthy feature, and indicative of increasing pop larity and appreciation. The annual subscription list ha increased from £679 in 1891 to £1001 in 1901. Mr J W Hughes had enabled the committee to raise the number o free beds to 14 by a generous donation of £21 a year The subscribers made a liberal use of the nomination and recommendation forms which were supplied to them, the former admitting patients free of charge and the latter at the reduced rate of 5s per week. The amount received from patients for extension of time—£1667—testified strongly to their appreciation of the benefits resulting from the change of air and scene. The Lord Mayor of Liverpool alluded to the advantages and usefulness of such an institution where patients who were convalescent might go to be restored to health and strength

Proposed County Sanatorium for Cheshire

Deputations from the various town councils, boards of guardians, district councils, and sanitary authorities over the whole of Cheshire met the health committee of the Cheshire County Council at the North Western hotel at Crewe last week to discuss the necessity of providing a sanatorium or sanatoriums for the treatment of patients suffering from tuberculosis resident in the county Mr D B Hewitt of Northwich, who presided, dealt with the proposal at length and said that the total number of deaths caused by that disease in Cheshire during the four years amounted in 1897 to 638, in 1898 to 683, in 1899 to 646, and in 1900 to 598. It was proposed and seconded

> That a sanatorium or sanatoria should be established in the county for the treatment of consumption

Mr W Hodgson, L R C P Irel., county councillor, said that this question had been before the county for a considerable time, and it was absolutely necessary that something should be done But if they did not adopt compulsory notification they could not have a sanatorium. The motion, amended so as not to commit the authorities absolutely to the votes of representatives, was then carried.

The Special Appeal on behalf of the Stanley Hospital.

The serious condition of the finances of the Stanley pital was alluded to in THE LANCET of the appeal by the committee to the citizens of Liverpool for funds to enable them to keep the hospital open has resulted in promises of subscriptions of £1805 to date The charity is in debt to the amount of £5000

Hospital for Women, Shaw-street

The honorary treasurer of the Hospital for Women gratefully acknowledges a donation of £500 from Sir William Tate, Bart. to the general funds of the hospital. This generous gift has proved most opportune and will enable the committee to have both the interior and the exterior of the buildings painted and put into thorough repair a much needed improvement which could not be done earlier owing to lack of funds.

The Liverpool Royal Infirmary

Dr Richard Caton the senior physician to the Royal Infirmary will shortly retire through lapse of time. Dr Caton was appointed honorary physician in 1886 having previously been honorary physician to the Northern Hospital.

West Derby Board of Guardians and Sane Epileptics

At the last meeting of the West Derby board of guardians Mr I. Holmes, L.R.C.P. & S. Edin. (vice-chairman of the board) reported that he had attended on behalf of the board, the conference at Manchester of the representatives of the Lancashire unions convened for the purpose of considering the best means of providing accommodation for sane epileptics. The Manchester and Chorlton unions did not take any part in the conference. It was decided to form a colony and to erect buildings, but the difficulty arose as to ways and means and how they were to carry out such a scheme. A small sub-committee was appointed to inquire into these matters and to see what each union in the county was prepared to do. He had come to the conclusion that it was time that the West Derby Union withdrew from the scheme, which would practically mean with the cost of land and buildings, an expenditure of £80 000 and each union belonging to the combination would be expected to pay *pro rata*. It was stated that outside Manchester and Chorlton there were about 350 sane epileptics in Lancashire. It was proposed that the Government should buy the land and erect the buildings, but a Local Government Board inspector expressed the opinion that such an undertaking would not take place in the life-time of the present generation. In the West Derby Union they had accommodation at Elm House for at least 80 epileptics, and although many were insane they were not all unmanageable and they did not interfere with the sane patients. This accommodation, which was practically sufficient for a quarter of the sane epileptics in Lancashire, would meet their requirements for many years to come, and he would urge them not to take part in the scheme although he was quite in sympathy with its objects. The board agreed with Mr Holmes's views and resolved to withdraw from any further action in the matter

Cancer in Cheshire

Mr Francis Vacher the medical officer of health of Cheshire, in his recently published annual report draws attention to the large number of deaths occurring annually in Cheshire as the result of cancer In 1901 there were 538 deaths caused by this disease, as against 439 in the previous year Any contribution to the better understanding of so terrible a disease, he says, should be welcomed, and most medical officers of health could contribute some facts and observations. There are many points as regards cancer which require elucidation — Is cancer a parasitic disease? Is it infective? Does it haunt houses and places? Is it communicated by domestic animals? Is it associated with the ingestion of any food, animal or vegetable? Is the disease increasing?

July 22nd.

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

The Prevention of Tuberculosis.

WHEN the South Wales and Monmouthshire branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was formed in October 1901, the executive committee was empowered to promote the establishment upon a partially self supporting basis of open air sanatoriums for patients suffering from tuberculosis and at a meeting of the committee held at Cardiff on July 11th a report dealing with the subject was adopted It is suggested by the committee that in the first instance a sanatorium to accommodate 20 patients shall be erected for Glamorganshire and Monmouthshire. The initial cost is estimated at £5000 and the cost of maintenance at £80 per patient, or £1600 annually It is proposed that the £5000 shall be obtained by voluntary contributions but that the annual sum of £1600 shall be provided by the two county councils the county boroughs of Cardiff, Swansea, and Newport, and the 53 urban and rural sanitary authorities in the two counties. The committee instanced the action of the Westmorland county council which contributes £110 yearly towards the maintenance of the county sanatorium where there is accommodation for 22 patients although the population of the county is only 64 000 and the rateable value only £436 000. The chairman of the Monmouthshire county council moved the adoption of the committee's report, which was not, however allowed to pass unchallenged. Dr J O Bowie of Cardiff contended that the sanitary authorities could spend the ratepayers money to better purposes by improving the conditions under which so many persons were compelled to live and he expressed some doubt as to the ultimate good which accrued from treatment in a sanatorium In connexion with the notification of phthisis it is of interest to quote the experience of the medical officer of health to the Llandaff and Dinas Powis rural district (Dr R. Prichard). In August, 1901, the district council on the recommendation of Dr Prichard, invited the medical practitioners in the district to notify cases of consumption occurring in their practices and offered a fee of half a-crown for each certificate. Up to the end of the year only one certificate was received and that was after the death of the patient During the whole year there were 25 deaths from phthisis so that the absence of certificates cannot have been due to the absence of cases to certify

Carmarthen Asylum.

The joint counties asylum at Carmarthen serves a population of 283,000 persons living in Carmarthenshire, Cardiganshire and Pembrokeshire. It was established in 1865 and has accommodation for 576 patients The medical superintendent (Dr Edwin Goodall) in his annual report comments upon the prevalence of tuberculous disease in the asylum 40 per cent. of the total deaths being attributed to this cause notwithstanding the fact that the open-air treatment has been followed in suitable cases and with encouraging results. Dr W H. Symons of Bath has *shown*[1] that Cardiganshire has the highest death rate from tuberculous diseases of any county in England and Wales, averaging in the decennium 1891–1900 2 4 per 1000 compared with 1 4 for the whole of England and 1 7 for Wales. Dr Goodall advises the erection of a separate block for private patients, and there ought not to be any difficulty in giving effect to this proposal for during the past seven years there has been credited to the building fund of the asylum a sum of £7367 which represents the profit made upon private patients and upon patients received from other counties The average weekly cost per patient is under 10s

Pontypool Hospital

Pontypool is a town with a population of about 6000 persons and is the centre of a large and increasing colliery district. Although it is only about 10 miles from Newport the want of a properly equipped hospital has long been felt and definite steps have now been taken to erect a building with accommodation for 19 patients at a cost of £6300 Two of the beds will be set apart for persons suffering from hernia in fulfilment of an agreement made with the trustees of the late Mr Richard Coslett who died in the year 1895 and in addition to other charitable bequest left £1000 and an annuity of £100 for the establishment and endowment of a hospital at Pontypool for the treatment of poor persons suffering from hernia. As it was found impracticable to carry out fully the intentions of Mr Coslett in this direction Mr Justice Joyce on July 18th gave permission for the sums named to be applied to the erection and support of the general hospital about to be established The colliers in the district have been for many months past subscribing a penny a week each towards the hospital fund and the employers are adding 25 per cent. to the workmen's contributions.

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[1] Public Health, vol xiv., p. 357

Small-pox.

During the week ending July 19th eight fresh cases of small-pox were notified in Swansea and eight deaths occurred in the small pox-hospital during the same period No cases were reported during the last three days of the week. Of the 140 patients who have been attacked since the beginning of the outbreak not one had been recently revaccinated The Swansea board of guardians is taking very comprehensive steps to ensure the revaccination of as many of the inhabitants of the town as possible and every assistance is being rendered by the local medical practitioners On July 15th a deputation from the Swansea Medical Society conferred with the board, when it was arranged that the town should be divided into 20 districts and that a house to-house visitation should be made for the purpose of offering and performing revacinnation. A fee of 2*s* 6*d* will be paid for each successful revaccination, the lymph being provided by the board of guardians, and the person vaccinated will be expected to present himself for subsequent examination at the surgery of the medical practitioner vaccinating Where the operation takes place at a surgery the same fee will be paid but the board will not supply the lymph Some members of the board of guardians appeared to think that a smaller fee might be accepted, but the president of the medical society (Mr W F Brook) pointed out that house-to-house vaccination entailed a great deal of hard work, for it meant picking up the laggards, many of whom would require a considerable amount of persuasion before they would submit to the operation and frequently more than one visit would be necessary The police have distributed 20,000 cards drawing the attention of householders to the necessity of revaccination and explaining the facilities offered. The sanitary committee of the corporation acquiesced in a suggestion of the medical officer of health (Mr Ebenezer Davies) that the circulation of all books from the free library should be absolutely stopped from all houses unless there was a declaration from the head of the house to the effect that all members of the family over 10 years of age were re vaccinated The corporation, however, would not consent to this proposal being carried out. On July 17th Dr Wilfred W E Fletcher visited Swansea on behalf of the Local Government Board.

Swansea General and Eye Hospital

The annual report of the Swansea Hospital, unlike that of many similar institutions, contains a balance sheet showing an expenditure which has been more than met by income. The total amount of the latter was £6151, and more than one third of this sum was received from periodical collections among workpeople. The expenditure for the year was £5457, the weekly cost per patient averaging £1 2*s* 2*d* The hospital contains 130 beds and during the year ending May 31st 1175 in patients were treated, or 23 more than in the previous 12 months Owing to the prevalence of small pox in the town patients were not admitted from infected districts, the number of out-patients was therefore only 5457, or 654 less than in the year 1900–01

Cardiff Health Report

Dr Edward Walford has just issued his annual report for the year 1901 and like his reports of previous years, it is full of interesting matter The birth rate for the year was 31 4 per 1000, the average rate for the previous 10 years was 35 7 The death rate was 16 per 1000 compared with an average rate for the previous 10 years of 18 5 per 1000, and the rate of infantile mortality was equal to 148 per 1000 births, or 13 below the average rate of the preceding decade. The death rates in different parts of the borough varied from 11 per 1000 in Riverside ward to 17 3 in the central ward When commenting upon the prevalence of scarlet fever in the town Dr Walford expresses the opinion that although hospital isolation may never entirely remove scarlet fever from amongst us it will, if systematically enforced, have the effect of lessening the extent of an epidemic and of extending the interval between epidemic periods, thus reducing the sickness rate and the fatality of the disease by postponing the infection until a later age. Some important investigations have een made during the past two years with a view to ascer ain to what extent overcrowding of dwellings existed in e borough. There were examined 5547 houses and in less an 1 per cent. was there an average of more than two cupants per room. There is evidently, therefore, very le overcrowding in Cardiff

uly 21st.

IRELAND

(FROM OUR OWN CORRESPON

Public Health of Dublin

THE Council of the Dublin Sanitary A July 17th at the offices of the association, and had under consideration the spread epidemic of measles in the city and su following motion was passed unanimously —

> That the council of the Dublin Sanitary Associat cern the following facts relative to the spread of th in Dublin at present. According to the weekly repor General for the week ended July 12th no fewer thar disease were notified in the city and 24 cases in Pemt are available for Rathmines The admissions to ho patients were only 45 during the week and at the close 163 cases in all were under hospital treatment The opinion that a special staff of district nurses shou during the stress of the epidemic to visit the children whom the necessary hospital care is not available.

The managing committee of Cork-street Fever on July 10th when the registrar reported tha recently been a great demand on the hospital be the epidemic of measles, happily of a mild type. not been any new case of small pox in Dublin an tution at Finglas in which patients suffering disease were lodged is soon to be reopened for th of convalescent cases of scarlet fever

Royal Hospital for Incurables, Donnybrook, Du

Owing to the generosity of Mr William Fry, the of the above institution, an entertainment was give poor patients there on July 17th. During its prog following telegram was forwarded to His Maje King —

> His Majesty the King Royal Yacht Cowes
> 206 patients in the Royal Hospital for Incurables assemble entertainment given by the chairman in honour of the Cor tender their most respectful and loyal congratulations to His M the King and desire to express their heartfelt thanks to Almigh for His Majesty's continued progress towards recovery from his serious illness
> WILLIAM FRY, Chairm
> Royal Hospital for Incurables, Dublin, 17th July, 1902.

The following reply was received —

> William Fry, Royal Hospital for Incurables, Dublin
> Am commanded to express His Majesty's thanks to the patien the Royal Hospital for Incurables for their kind telegram.
> KNOLLY

Richmond District Lunatic Asylum, Dublin.

The monthly meeting of the committee of management the Richmond District Asylum was held on July 18th the Board room, North Brunswick-street, when the resigna tion of Dr D F Rambaut was received. Dr Rambau filled the office of resident medical officer and pathologist to the institution for some years and is now about to leave Dublin Mr Conolly Norman, the resident medical superin tendent, spoke in very complimentary terms of the services of Dr Rambaut, and the following motion, proposed by the chairman, was passed unanimously —

> That we desire to place on record our complete satisfaction with the manner in which Dr Rambaut has discharged his duties whilst in the service of the institution, and, though we regret he is now leaving Dublin we congratulate him upon his recent appointment to the charge of Shrewsbury Asylum

The Small-pox Outbreak in Belfast

At a meeting of the Belfast board of guardians held on July 15th it was reported that no new cases of small pox had occurred since the last admission which took place three weeks before, so it may be said that the epidemic has been overcome. The number of cases—all convalescent—remaining in the union hospital is 12. Too much praise cannot be given to Dr A G Robb, who had charge of the cases, and all the officials at the union workhouse for the great success which the efforts made by them have attained in the stamping out of this epidemic, especially as the patients were placed in a building adjacent to which there are over 5000 inhabitants in the workhouse.

North of Ireland Branch of the British Medical Association.

The annual meeting of the North of Ireland branch of the British Medical Association was held in the Belfast Museum on July 17th, the President, Dr J S Darling (Lurgan), being in the chair The minutes having been read and passed the annual report and financial statement were passed. From these it would members elected the membership of the North of Ireland branch is now 307 making the branch the largest medical association in Ireland, and there is a balance in hand of over £20 The following were elected office bearers for the ensuing year —President Professor T Sinclair Vice-Presidents Dr W D Donnan (Holywood) and Dr A. B Mitchell (Belfast). Council Country—Dr J C. Martin (Portrush) Mr G L St. George (Lisburn), Dr J Stuart (Ballymena) Dr D Gausson (Dunmurry) Dr Darling (Lurgan) Dr J O Hall (Monaghan), Dr S. Agnew (Lurgan) and Mr R. Gray (Armagh), City of Belfast—Sir W Whitla, Dr A Dempsey Dr C. E. Shaw Professor J A. Lindsay Dr John Campbell Dr H L. McKisack Professor J W Byers, and Dr T S. Kirk. Representative of the branch on the Parliamentary Bills Committee Dr Dempsey Representatives of the branch on the Central Council of the British Medical Association Professor Byers and Dr W Calwell Treasurer Dr G Gray (Newcastle). Secretary Dr Calwell.—Dr Shaw showed a case of Paralysis of Convergence.—Dr V G L. Fielden read a short paper on Anaesthesia by Gas and Oxygen in General Surgery which was criticised by Dr Mitchell Professor J L Smith and Professor Byers.—Mr H. N Barnett read notes on Some Unusual Cases of Small pox.—Dr Dempsey read notes of two cases in which the uterine appendages were removed for Inoperable Cancer —Mr Kirk read notes of Obscure Abdominal Symptoms following Ruptured Kidney and he showed three Calculi removed from the urethra and a Vermiform Appendix removed on the day of the meeting —Professor Byers gave an account with clinical details of an abdominal section for an unusual Tumour of the Ovary—a soft spindle celled sarcoma. He also showed a Fibro-myoma of the Broad Ligament weighing 26 pounds, which apparently is the third largest tumour of this nature published as having been successfully removed Microscopic sections of both tumours, prepared by Dr R J Johnstone, were exhibited —Dr Calwell showed (1) Convenient Forms for the Subcutaneous Administration of Sterile Gelatin and of Sterile Glucose Solution (2) a specimen of Malignant Disease of the Stomach and (3) Skiagrams of Pulmonary Tuberculosis. He also read notes of a case of Intermittent Glycosuria the presence of sugar being induced by bouts of alcoholism.

Presentation to Dr Daniel Murphy

On July 19th the senior students of the Cork North Charitable Infirmary assembled in the board room for the purpose of making a presentation to the late house surgeon Dr Daniel Murphy as a token of the high esteem in which he was held during the two years that he was connected with them The presentation took the form of a midwifery bag with fittings complete. On the outside of the bag was an engraved plate bearing the inscription, Presented to Daniel Murphy M B by the senior students of the North Charitable Infirmary July 12th 1902." The students having assembled Mr D D Donovan, senior physician was on the proposition of Mr C Baylor seconded by Mr E. Walsh unanimously voted to the chair Mr Donovan having thanked the students for the honour which they had done him in asking him to make this presentation said that it was a pleasure to be asked to preside on the occasion —Dr Murphy replying said that he looked back with pleasure on the happy time he had spent in the North Infirmary and that he would always prize the gift which the senior students had so thoughtfully presented to him —The proceedings terminated with a vote of thanks to Mr Donovan proposed by Dr W F O Connor (house surgeon) and seconded by Mr Baylor The students were afterwards entertained by Dr Murphy

July 22nd

PARIS

(FROM OUR OWN CORRESPONDENT)

New Suggestions for Meals in Hospitals

M CHAUFFARD recently laid before the Hospital Medical Society certain suggestions concerning the meals served to patients in the hospital Up to now *déjeuner* has been at 11 o clock and dinner at 5 o clock. M Chauffard would not interfere with the former meal but wishes to put the dinner later He also suggests that instead of all the patients eating in bed those who are able to be up should dine in a refectory separate from the wards. Those who have to be in bed should be provided with a little table to be placed on the bed. Meals too should be served hot and not be allowed to get cold as they are at present M Chauffard complains in addition about the soup meat (*bouilli*) and the soup (*bouillon*) Soup should only be made he considers from those portions of meat which are of no use for anything else. Desiccated vegetables served as a *purée* should be largely used and as many kinds of fresh vegetables as possible should be given care being taken to see that they are of good quality Another reform which he is anxious to see carried out is to give every patient a bottle full of fresh water At present, if a patient wishes to get water to mix with his wine he has to get up and fetch it for himself from the tap

The Medical Students Union.

Five hundred medical students have just founded an association in defence of their interests, both moral and material The association will not deal with any political questions. The first meeting was held on July 7th in the large theatre of the School of Medicine and the promoters of the movement read out the provisional regulations. The objects of the association were defined as follows to find out and to put into practice the most useful methods for the moral development of the profession to transmit to the proper authorities the decisions arrived at by medical students in their general meetings so long as these decisions have to do with scholastic or professional matters to facilitate by every possible means professional instruction among the members and to bring about the strongest possible bonds of union between medical men professors, and medical students. These suggestions were unanimously approved Other matters discussed were the admission of representatives of students in every Faculty to the University Council and admission without fee to practical studies. Another question which was much discussed was whether foreign students should be admitted to the association. At present the headquarters of the new association are in some buildings in the Boulevard St. Michel which the students of the School of Pharmacy have kindly placed at the disposal of their medical brethren.

The Lille Faculté Libre of Medicine

An important judgment has just been given at Lille The law states that *facultés libres* of medicine cannot be founded unless they have at their disposal 120 beds in a hospital either founded by themselves or else placed at their disposal by the Assistance Publique In 1875 the Catholic faculties of Lille made a convention with the Lille hospitals by which the latter in consideration of the sum of 140 000 francs handed over to the *Faculté Libre* of Medicine two blocks containing 200 beds, a theatre and a post-mortem room. All these buildings were in the St Eugénie Hospital which was then in course of building and they were handed over for an unlimited time. The Prefect approved the transaction but his approval was not endorsed by the Minister concerned The State Council however declared that as the scheme had been entered upon the Minister had no power to annul the decision of the Prefect. Last year a majority of the members of the Hospital Committee came to the conclusion that they would demand the annulment of the agreement Accordingly the Mayor of Lille, as President of the committee haled the governing body of the Catholic faculties before the civil court Judgment has now been given and the Hospital Committee is non suited

The Self sacrifice of Dr Garnault

On Tuesday June 17th a Paris physician Dr Garnault inoculated himself with bovine tuberculosis with a view to test the correctness of Professor Koch s statement that bovine tuberculosis is not communicable to human beings. The experiment was undertaken in the abattoirs at Villette in the presence of three colleagues of Dr Garnault On the previous evening Dr Garnault had blistered the anterior surface of his left forearm On the Tuesday morning the epidermis was cut away from the blister and the raw surface was slightly scratched A tuberculous gland was taken with aseptic precautions from a tuberculous cow and having been reduced to pulp in a mortar was applied to the raw surface by means of a pad and bandage. It was allowed to remain in contact for the space of two hours The result of this experiment was that recently some small red papules appeared at the site of inoculation which are taken to be cutaneous tuberculides No infection of glands has appeared and Dr Garnault who is anxious that such infection should be manifested, determined not to await its development from the first inoculation but has proceeded to carry out another experiment. On July 15th he, in the laboratory of Dr Barlerin, placed in the subcutaneous cellular tissue of his forearm a portion of a tuberculous nodule taken from the liver of a tuberculous cow which had that morning been killed in the abattoir Microscopic examination of a portion of this nodule showed masses of the bacillus tuberculosis The wound in the skin was sutured aseptically and Dr Garnault hopes in a little time to be in a position to state whether Koch is right or wrong in affirming that bovine tuberculosis is non transmissible to human beings

July 22nd

NEW YORK

(FROM OUR OWN CORRESPONDENT)

The Automobile in the United States

THE automobile has gained for itself a very bad name in America among the community at large. In New York the craze for automobiling has become an intolerable nuisance and also a source of grave public danger Not a week passes but the papers contain an account of some fatality due to the automobile and generally sad to relate, owing to the carelessness of the *chauffeur* or to the fact of the machine being driven at a very high rate of speed The people of the United States are much given to boasting of the freedom of the country, but when this freedom takes the form of trampling upon the rights of other citizens it is hard to say where the advantage of it comes in Freedom too often is allowed to degenerate into licence here, and in no country have private rights to be preserved by such incessant struggle as in the United States The owners and drivers of automobiles have too long been allowed flagrantly to disregard the rules of the road, for although a few traversers of the law are arrested occasionally, the punishment meted out to them seldom or never is in proportion to their offence The limit of speed should be rigidly fixed and offenders should be punished heavily for contravening this regulation Again, such portentous evil smelling machines as some of the large racing automobiles should not be allowed on city streets. Gaudy, noisy, and malodorous, they are a terror alike to pedestrian and horse and have greatly helped to render the already crowded and bustling streets of New York an abomination to the nervous citizen Many automobilists have exhibited so cynical an indifference and so brutal a disregard for the rights and feelings of the remainder of the population, that the only resource is to make them conscious of their error by severe punishment , otherwise it is seriously to be feared that members of the public will take the law into their own hands and that regrettable scenes of violence will ensue

Radio therapy in Cancer and Skin Diseases

Dr Charles Warrenne Allen, professor of dermatology in the New York Post-Graduate Medical School, read recently before the New York County Medical Association a paper on the above subject, in which he reported 28 cases where the use of the x rays had been attended with more or less success Referring to the question of focus tube dermatitis and burns, Dr Allen said that he did not designate such injuries as x ray burns because he was not thoroughly convinced that it was the x ray *per se* which produced the effect. He believed that the popular dread of those so called burns and the importance attached to them in radio therapy by physicians have been over estimated Dr Allen's conclusions were as follows That the method is one of decided value. But that it is not without its disadvantages and the injudicious or careless use of it may lead to its being brought into disrepute. It is not a method likely to supersede, or to do away with, all previous methods, but it has its decided place of utility The method appears to be of utility in recurrent cancers. If it proves as valuable as present indications promise there is no reason why it should not be applied to primary cancer He advises the medical man not to pave the way to disappointment by promising himself or his patient too much from this new method There is, in the opinion of Dr Allen, no contra-indication to the employment of other forms of treatment coincidently The most favourable time to treat cancer, by the ray or otherwise, is early At this stage the majority of cancers can probably be cured When cancer has passed beyond a certain stage it does not differ from tuberculosis in its probable fatal result

Magnesium Dioxide

A discovery which is said to be of some therapeutic importance has been made recently by Dr Frederick Elias of Berlin He has succeeded in obtaining pure magnesium dioxide, MgO_2, which is capable of liberating a large amount of diffusible oxygen, it is said, throughout the system. Magnesium dioxide occurs as an impalpable white powder, tasteless, odourless, non astringent, non irritant, non toxic, and is insoluble in water According to analysis it is free from barium, strontium, or calcium compounds It contains no sodium dioxide or caustic potash and therefore it possesses no caustic properties It is further said to exude large quantities of diffusible, readily assimilable oxygen The valuable therapeutic qualities which it is asserted this preparation possesses are that it exerts very beneficial remedial and curative effects in the treatment of those diseases arising from deficient oxidation and characterised by alteration of the blood corpuscles or by a qualitative deficiency of the blood itself

July 13th

Obituary.

EDOARDO PORRO

A VALUED correspondent in Italy writes —"Sectio Caesarea salubrior instituta," such is the "title-deed to fame," such the service to humanity recorded on the all too early grave of this consummate obstetrician and gynæcologist Born at Padua, of Milanese parents, on Sept. 17th, 1842, Edoardo Porro began his professional studies at the university of his native town and after graduating with great distinction became assistant to more than one of his teachers in the departments of medicine and surgery In 1866 the war between Italy and Austria for the possession of Venetia called him to the Trentino to serve under Garibaldi , and again in the following year the cry of his chief, "O Roma, o morte" (Rome or death), brought him, a prompt and ardent volunteer, to the battle fields of Monterotondo and Mentana, where the issue, disastrous for the time to the revolutionary cause, yet led, by "historical necessity," to the culmination of Italian unity with Rome for the capital.

From this brief but glorious episode he again threw himself into professional work and in the December of 1868 we find him assistant physician at the Scuola di Ostetricia of the provincial hospital of Santa Caterina under Professor Pietro Lazzati, in the August of 1870 assistant-in chief in the same school, and in the March of 1871 successor to Lazzati as director—a post which he held till the November of 1872, when he was appointed consultant obstetrician to the Opera Pia of Santa Corona. Here he remained till 1875, so perfecting himself in the department which had now become his specialty that when the chair of obstetrics fell vacant in the University of Pavia he was at once chosen to fill it, thence, on Nov 1st, 1882, rising to the post of his ambition, that of director and consultant-in-chief of the Scuola Ostetrica of Milan His clinical activity was prodigious, his pen barely keeping time with the results of his acute exhaustive observation and swift generalising power Already, to the May number of 1871 of the *Annali Universali di Medicina*, we find him contributing a striking paper entitled, "Sopra un Caso Singularissimo di Patologia Embriologica," quickly followed by others entitled, "Sopra un Caso di Obliterazione Congenita dell' Esofago" and "Risultati Apparenti e Risultati Veri del Parto Prematuro Artificiale"—the latter paper attracting attention and discussion throughout the whole gynæcological world In February, 1872, he dedicated to his colleagues his masterly narration of "Un Caso Clinico dell' Aborto provocata per Grave Ristrezza Pelvica da Osteomalacia," initiating a regular campaign, professional and lay, in vindication of the rights of science against dogmatic prejudice Operations, described in contributions to the journals, continued to succeed others with almost breathless rapidity till on May 21st, 1876 he startled the world with his amply and impressively illustrated memoir, "Della Amputazione Utero-Ovario, come Complemento del Taglio Cesareo," describing the operation, as original as it was daring with which his name will be perennially associated. This memoir translated into the principal contemporary languages, led to the practice of the operation by leading obstetricians of the day a practice so successful that it has undoubtedly wrought the salvation of thousands of human lives. In Italy alone, Mangiagalli, Truzzi Bertazzoli to mention only a few followed on the lines of the master with almost unvarying success and a quarter of a century afterwards as recorded in THE LANCET[1] at the time, the gynæcologists of all countries combined in celebrating the first jubilee of the operation presenting its author with an illuminated address and coining in his honour a medal bearing the inscription with which this obituary notice begins

Porro's later years were less prolific in literary though quite as rich in clinical activity—one cause of this being the multiplication of the offices which he held offices civic and municipal among others to which the respect and confidence with which his citizens honoured him inevitably led up He wrought indefatigably for the rehabilitation of the Istituti Ospitalieri' of Milan while for the Ospedale Maggiore he drew up a complete plan of reforms with a view to enhance the efficiency of that venerable and renowned institution. Frequently summoned as an expert before the legal tribunals he upheld the just claims and the dignity of science while extorting from the forensic side the amplest acknowledgments of his judicial fairness and chivalrous urbanity In sympathy with the freest handling of religious themes his attitude towards traditional Christianity on the one hand and aggressive Naturalism on the other was that of Mr A. J Balfour's 'Foundations of Belief"—an attitude which kept him on the friendliest terms with Mystic and Agnostic, with Catholic, with Protestant, and with Free thinker alike His will just made public, is a characteristic attestation of his convictions religious political and social, and it is quite in keeping with the simplicity of his life that we read his expressed wish that his funerali should be *modestissimi senza fiori, senza partecipazioni personali.*

He was" says a contributor to the *Secolo* of Milan 'a victim to duty In performing an operation on an unfortunate woman infected with the male Celtico he wounded his hand. From that day he never succeeded in expelling from his system the fatal poison which manifested itself in diverse viscera, eventually setting up a nephritis, followed by crises of the most alarming kind His strength declined steadily uræmic poisoning became only too apparent, whilst the proximate cause of death on the 16th inst. was an attack of pulmonary œdema which every effort failed to overcome Telegrams of sympathy and condolence have already reached the family from leading gynæcologists many of them pupils all the world over and the sorrow of the Milanese public is giving his funeral a touchingly impressive character which even his testamentary dispositions have been powerless to countervail

HENRY MARTYN JORDAN F R.C S. ENG L.R.C P LOND

MR. H. M JORDAN died at his father's residence, The Knoll Newport, Mon on July 14th from pneumonia which he contracted while on a visit.

Mr Jordan received his medical education at Guy's Hospital taking the qualifications of L R.C P Lond and M R.C.S Eng in 1889 and being admitted to the F R.C.S Eng in 1892. After holding several resident appointments at Guy's Hospital he was appointed lecturer on anatomy and surgery at H.H. the Nizam's Medical School Hyderabad Deccan On his return to England in 1896 Mr Jordan practised in Weymouth-street, London and at the time of his death he was surgeon to the Westminster General Dispensary Mr Jordan formerly took a great interest in football and had represented Wales in several international matches in 1884 and 1889 The deceased who was only 37 years of age was unmarried.

DEATHS OF EMINENT FOREIGN MEDICAL MEN —The deaths of the following eminent foreign medical men are announced —Dr Wilhelm Kiesselbach extraordinary professor of otology in the University of Erlangen.—Professor Gerhardt of Berlin whose name will be remembered in connexion with the ca e of the Emperor Frederick.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON —In July the following candidates passed in the subjects indicated —

Surgery —J J Anning Leeds; F M Boelet (Section I) Charing Cross Hospital; B. C Curtis, Charing Cross Hospital and Aberdeen H. G Daft (Sections I and II), Sheffield and University College Hospital; W T Harris (Section I) St Thomas's Hospital; H Johnson (Section I) and F J F Jones (Sections I and II) Guy's Hospital; C Millauro (Sections I and II) Westminster Hospital; T G Miles (Sections I and II) Guy's Hospital; E. H Noney (Section I) Calcutta G Roper Cambridge; T Scatchard (Section II), Leeds; J E. Skey (Sections I and II) Westminster Hospital; H H Sloane (Section II) St Bartholomew's Hospital; J A. W Webster (Section II) St. Mary's Hospital; F C. Whitmore (Sections I. and II) Bristol; and H C. S Woodward Cambridge and St Thomas's Hospital

Medicine —A. N Collier (Sections I and II) Manchester; H G Daft (Sections I and II) Sheffield and University College Hospital; D R. T Griffiths Guy's Hospital S F Hickman (Section II) Royal Free Hospital; G W C Hollist (Sections I and II) Guy's Hospital; P S Hopkins (Section II) London Hospital; A. Mooney (Section II) Royal Free Hospital; C H. Osmond (Section I) Glasgow; and T Scatchard (Sections I and II) Leeds

Forensic Medicine —H. J Aldous, King's College Hospital A. N Collier Manchester H G Daft, Sheffield and University College Hospital; J W Elliott St Mary's Hospital; D R T Griffiths and G W C Hollist Guy's Hospital; E. A. Houchin Middlesex Hospital; C H Osmond Glasgow; H H Sloane St. Bartholomew's Hospital and H C S Woodward Cambridge and St Thomas's Hospital

Midwifery —E. W C Bradfield St Mary's Hospital; H G Daft, Sheffield and University College Hospital; L. L Dills, St George's Hospital; D M Evans Guy's and Westminster Hospitals; J Ewing Leeds; W P Jones Sheffield; D J Lewis London Hospital; A Mooney Royal Free Hospital; H G Sewell London Hospital; S J Weinberg Manchester; and H C S Woodward, Cambridge and St. Thomas's Hospital

The diploma of the society was granted to the following candidates entitling them to practise medicine surgery and midwifery:—B. C Curtis, H. G Daft S F Hickman G W C Hollist E A. Houchin T G Miles, C Millauro G Roper T Scatchard J E Skey H. H Sloane, and H. C S Woodward

THE ROYAL DENTAL HOSPITAL OF LONDON CONVERSAZIONE.—A very successful social evening was spent in the Royal Institute Galleries Prince's Hall Piccadilly on Friday July 18th, 1902, by the staff, students and friends of the Royal Dental Hospital of London on the occasion of the prize distribution Sir Arthur W Rücker D Sc. LL.D F R.S. principal of the University of London, presented the prizes to the successful students. The dean in offering a hearty welcome to Sir Arthur Rücker gave a short sketch of the progress of the hospital and school, and it was decided to send a message of loyalty to the King and an expression of thankfulness for His Majesty's restoration to health and of gratitude for the honour which he had recently conferred upon the institution by desiring it to be called a Royal hospital. An excellent programme of music and other entertainments was provided.

HOSPITAL SATURDAY IN DEVONPORT —July 19th was observed in Devonport and Stonehouse as Hospital Saturday The factory employés of the Keyham and Devonport dockyards have a separate organisation with a hospital committee of their own and they annually contribute about £180 to the Royal Albert Hospital but the Hospital Saturday Fund proper averages less than £240 and as £160 of this sum are contributed equally by the firm and men of Sir John Jackson (Limited) the total sum raised by all the remaining working men of Devonport and Stonehouse is only £80 This is a ridiculously small sum and it is to be hoped that the amount raised this year will be largely in excess of the previous years.

THE HOSPITAL FOR EPILEPSY AND PARALYSIS, REGENT'S PARK.—Presiding at the annual meeting of the Hospital for Epilepsy and Paralysis, held for the first time at the new building in Maida Vale the President the Earl of Hardwicke referred to the fact that had it not been for a large and unexpected bequest that building must have stopped short at the ground floor as the committee had wisely determined at one time that it must do. To equip the first section of the new hospital £2500 would be required and for this sum the President made an earnest appeal with the view of enabling the committee to utilise the fine building now requiring only to be fitted and furnished. The adoption of the annual report was seconded by Canon Duckworth and the re-election of the retiring members of committee was moved by Sir Owen Tudor Burne.

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[1] THE LANCET June 1st, 1901, p. 1 69

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Midwives Bill

THE amendments made in the Midwives Bill by the House of Lords were taken into consideration by the House of Commons on Monday July 21st, and were one and all accepted The Bill therefore awaits the royal assent before becoming law

HOUSE OF COMMONS

WEDNESDAY, JULY 16TH

Notification of Infectious Disease in Ireland

Mr FIELD asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would consider the advisability of introducing a Bill this session to assimilate the law regarding the Infectious Disease (Notification) Act 1869, and the Infectious Disease (Prevention) Act 1890, in Ireland and Great Britain so as to make notification compulsory by urban or rural sanitary authorities in Ireland —Mr WYNDHAM replied A Bill has been drafted on the lines suggested by the question I am prepared to bring it in but could not undertake to find time for any but the briefest discussion

THURSDAY, JULY 17TH

Poor-law Medical Officers and Operations

Dr FARQUHARSON asked the President of the Local Government Board whether he would explain why, under regulations of the Local Government Board, no provision whatever had been made for the administration of anæsthetics when operations had to be performed by Poor law medical officers on sick paupers at a distance from a hospital or workhouse infirmary, and why no alteration had been made in the scale of fees allowed for special operations performed by Poor-law medical officers since the year 1847, many important operations, which had now become general not having been added to the original list.—Mr LONG replied The first matter referred to in the question has been dealt with by the Local Government Board by means of a circular letter which they issued to boards of guardians in November 1894 In that letter the Board recommended that under ordinary circumstances a case in which a serious operation was required should not be treated in a workhouse or at the patient s home but should be sent to a public hospital They stated however, that in any case when the latter course was not practicable or when the operation was not of a serious character they were prepared if an anæsthetic was required, to consider an application from the guardians for sanction to the payment to the medical officer of a reasonable sum in respect of any assistance which it was necessary for him to obtain in connexion with the administration of the anæsthetic or of other cost incurred in connexion with its use It has been the invariable practice of the Board to give their sanction to reasonable payments proposed to be made by boards of guardians to medical officers in circumstances of the kind referred to I am not aware that difficulties have been experienced in connexion with the scale of fees to Poor law medical officers for operations but if representations are made to me showing that alterations are required I shall be willing to give the subject careful consideration At the same time I would repeat that under ordinary circumstances cases requiring serious operations should not be treated in a workhouse or at the patient s home but should be sent to a public hospital

THE MEDICAL SERVICE OF THE ARMY

In Committee of Supply on the vote of £1,025 000 for the medical establishments of the army

Colonel WELBY urged the War Office to see that the medical service of the army was maintained in proper strength and efficiency

Mr H. C RICHARDS called attention to the practice of requiring several signatures before medical stores could be obtained in time of war for those who needed them, and advocated the introduction into the system of a little practical common sense

Mr BRODRICK said that in this connexion immense progress and immense amelioration had taken place within the last few years The House of Commons had done good service in calling attention to the weakness of this part of the administration of the army and he would remind the House that it had allowed him to make a great addition to the medical establishments He could only say that he believed the system now set on foot which had involved his asking Parliament for a large number of extra medical officers with a considerable increase of pay and provision for classes and study leave and other things would bring the Army Medical Service into line with the best civilian practitioners of the day

Major JAMESON insisted that the condition of things in the Army Medical Service was still far from satisfactory and recommended the department to offer employment to the civilian doctors who had come to the assistance of the army during the war

Colonel WELBY asked for an answer to this definite question—whether in the future it would be possible for the War Office by a stroke of the pen to transfer a medical officer from one army corps to another

Sir JOHN BATTY TUKE said that he could not but think that certain of the hon Members who had spoken were not aware of the important steps taken by the Secretary for War to reorganise the Army Medical Service. They had gone back in the past and there was a great temptation for one who had followed the history of that service from the Crimean war down to the present time to do the same But he was content to refrain from doing so as far as possible as he believed the scheme now at work was a whole hearted attempt to reform the service and to do justice to the army medical officers He begged to congratulate the right hon gentleman on the adoption of a new administrative principle All previous Ministers for War had proceeded on the assumption that they could work the machine independently of the great medical schools and the feeling of the medical profession at large As a consequence all previous attempts to reform the service had failed mainly, though not entirely from the non recognition of the principle Not entirely for failures had also been due to maladministration of former warrants and retrocessions on the part of the War Office in carrying out their provisions That the right hon gentleman had become convinced of the necessity of recognising this principle was shown by the fact that of the 11 members of the committee appointed by him in 1901 to consider the reorganisation of the medical service seven were civilians all men who were connected with important medical schools, and by the further fact that on the advice of that committee an Advisory Board had been established four of the members of which were civilians He begged to congratulate the Minister for War on the establishment of this principle, notwithstanding that he could not agree with him entirely on the manner in which he had applied it. The first objection was that it would be impossible for these four gentlemen to perform all the duties which were laid upon them The board was to meet at fortnightly intervals to report on all matters connected with medicine surgery and sanitation as they affected the military services to advise on the provision and equipment of hospitals to submit a scheme for the expansion of the service to meet the needs of war, to report on plans for hospitals barracks and camps to arrange for the annual inspection of each of the military hospitals such inspection to be usually made without notice; to supervise the examinations of candidates and to consider the promotion of officers How was it possible for men in active practice to perform such multifarious duties for a mere pittance of £200 year? It was impossible and it would be found in practice that these four gentlemen could only have referred to them special points for their advice and consideration This would be a most important function for them to perform but that they could carry out all that was imposed on them by the report was impossible Further he wished that the hon gentleman had carried out the special recommendation of Sir William Thomson who did such excellent work in South Africa He as a member of the committee in a minority report recommended that the Advisory Board should be composed of representatives of the medical schools in the several divisions of the kingdom. The Secretary for War had accepted this principle as regards Ireland and England but had evaded it so far as Scotland was concerned It was true that he had appointed a gentleman in London who held a Scottish degree but had no other connexion he had lived all his life in London, could in no way represent the feeling in Scottish schools or adequately represent the genius of the country and had not had any connexion with military matters It consisted with his knowledge that the Secretary for War took a great deal of trouble to secure a practitioner resident in Ireland and that he never once entered into communication with anyone connected with Scotland or in any way consulted the feelings of the schools of that country He might ride off on the statement that of the military members of the Advisory Board two or three were Scottish graduates Such an argument was futile as these gentlemen had lived their lives in the service and could not be *en rapport* with professional feeling in the North The Secretary for War might as well argue that because the Prime Minister and the leader of the Opposition were both Scots the electoral representation of Scotland was on an equable footing with that of Ireland It should be remembered that about one-third of the medical recruits came from the North which afforded the highest class of candidates He was not arguing this from a mere provincial point of view It was impolitic to ignore and flout these great schools When they came to consider that any scheme for the expansion of the service must depend on the assistance provided by universities, schools and hospitals it was evidently a wise policy to keep in close touch with teaching institutions on which must depend to a great extent any scheme for an Imperial Medical Reserve. The establishment of an Imperial Medical Reserve must be a chief object to be kept in view by the Secretary of State It was impossible to keep up a standing medical force during times of peace sufficient for the sudden emergencies of war This was one of the lessons we had learnt from the late war The Army Medical Service must be made capable of rapid expansion and this could only be effected by appealing to civilians. This was not the time to propound a scheme for the establishment of such a body but it might be said with certainty that the War Office would have to come to the teaching institutions of the country and demand their assistance in formulating a scheme by which a system of units could be established ready to act under any emergency Under these circumstances it would have been more politic for the Secretary for War to do everything in his power to maintain the *entente cordiale* with important centres of medical education What they did in haste during the late war must be provided for at leisure As to the new Royal Warrant he would have liked to have spoken at more length but he saw other medical members present who might desire to speak He believed it would work well The pay was fair the system of examination for promotion was sound It would do much to prevent slackness and would give an opportunity for the better men to show what they were made of In every service there were two curses—seniority and private influence. If the system of examination were made to exercise its due influence if it were taken along with each man s service record it would serve a most important function in neutralising those curses But it must also be remembered that the thorough working of the new warrant would depend on the maintenance of the Royal Army Medical Corps at a proper level The arrangements for leave and study leave could not be worked unless the service were numerically sufficient. The warrant might easily break down in many of its most important provisions if the service were starved But in the hope that no retrocessions would occur, as they had occurred as regards previous warrants he begged to congratulate the Secretary for War upon the earnest effort he was making to produce a really efficient service

Dr FARQUHARSON said that while in former days those in charge of the affairs of the army had tried to legislate for the medical service without reference to the class from which the members of that service must be drawn he thought he saw in the regulation now issued by the Secretary of State a sincere desire to take into his confidence the great medical schools and teaching bodies in order to get terms which might be acceptable to them and to those whom they taught He frankly acknowledged that in the new warrant there were important and valuable alterations In fact, the new warrant would make things much more acceptable to the medical profession generally and he believed that it would end in this—that a large number of students would come to the service In his opinion the terms now offered were, on the average very favourable They were very different from those offered 20 years ago when he entered the service As to the late war his opinion was that in no former war had the general results of medical and surgical treatment been so successful, and he thought the Army Medical Department was entitled to great credit for those results. He congratulated the Secretary of State on making the Director-General of the Army Medical Department a member of the new Army Board He was not quite so sure about the new Advisory Board. He was not quite so enthusiastic as the last speaker about the inclusion of the civilian element He thought that the old plan was a good one of having a director general with three or four subordinates each taking up a particular department of work, and all combining to discuss questions from the purely medical point of view He hoped however that the new arrangement might be found to work well Though he did not wish to appear in a critical mood, he was bound to say that he thought the remuneration was rather small On behalf of the medical profession he thanked the right hon gentleman for his admirable warrant which he believed would bring peace and contentment to the Army Medical Department and which he sincerely hoped would establish better relations with the great medical schools and cause a steady flow of their very best candidates to the service. He would like the right hon gentleman to explain the exact situation of the new hospital which was going to be started in London for army medical officers and what relation it would bear to the hospital at Netley

Mr BRODRICK said that he was unable to answer the hon member specifically because the new arrangements in London had not yet been absolutely completed, though he was pressing forward the matter as fast as he could He was glad to hear what the hon. member had said because he had received the report of a speech delivered some time ago by him in Scotland in which he denounced the scheme for the reorganisation of the Army Medical Service as a total failure in all respects. He thought that the scheme had in the main greatly commended itself to the medical profession Of course there would be criticisms and these he would be glad to have but the immense change which had been made by introducing civilian members to the Advisory Board was a change which he believed to be of the greatest benefit to the army His hon friend (Sir John Batty Tuke) read out the long list of subjects with which the Board had to deal He admitted that it was a long list, but he thought that the business-like character of the work done its thoroughness and efficiency and the time which these medical gentlemen themselves in large practice were giving to the public service were things which the army and the public had not sufficiently recognised Nothing that they could give them would be enough to compensate them for the time and patience which they had expended in the service and he thought that they had the greatest reason to be grateful to them He did not think that the Board could have worked more admirably He knew that it was about to undertake the inspection of the hospitals on the lines laid down As to the constitution of the Board he confessed that his hon friend had forestalled his line of argument It was quite true that in selecting a Scottish graduate he was not able to contemplate asking the leading man of the Scottish profession to attend in London, but he rather set himself to get a man of ability and experience in London who could give regular attendance to the work of the board But in reality Scotland had nothing to complain of for nearly one-half of the Advisory Board were Scottish graduates He assured his hon friends that there was every desire to act as thoroughly as they could not merely with the London medical schools but with the provincial schools and the Scottish and Irish and colonial schools. The change had had one remarkable effect already: up to last year they had not been able to fill their vacancies or to obtain a sufficient number of candidates of adequate standing In the last few days the result of the general improvement and the increase of confidence on the part of the medical profession had been such that for the 33 vacancies there were between 70 and 80 candidates He was quite certain that nothing would be wanting on his part to increase this confidence He attached the greatest importance to the arrangements which they were making for study leave and for the training of officers during intervals of their service. They had adopted for the medical service what was practically the short service system. If a man joined the medical service and after three or four years experience did not like it, then he could return to civilian life He believed that the other proposals such as trying to attach a medical officer to a unit at the beginning of his service and thus giving him a sort of home and providing against those too frequent moves which had had an irritating effect would all contribute to the popularity and efficiency of the service. It was impossible yet to see the results of the reform but he felt great confidence in the future. They had had a most favourable start. He was well aware that they had errors to make good—errors of knowledge and experience—but in these as in other respects they had taken to heart the lessons of the war and he was very sanguine that those who followed him would see that whatever else had been done for the army during his administration at all events a long step forward in this important service had been taken

Mr RICHARDS asked whether the right hon gentleman intended to continue the system under which several signatures were required before a dying man could get the medical comforts he needed. He said that a salary of £100 a year was altogether inadequate for the civilian members of the Advisory Board

Mr BRODRICK said that the best proof he could perhaps offer that the very best men in the medical profession had given their services to this most important work was that among the number were Sir Frederick Treves and Mr Fripp He could make no statement off hand as to what was required in the way of signatures He should never dream of keeping things from people who required them but he would remind his hon. friend that in time of war stores must be carefully husbanded

Colonel WELBY moved a reduction in the vote of £100 in order to elicit from the Secretary of State an answer to his question.

Mr BRODRICK said that he was perfectly ready to answer the question The whole Royal Army Medical Corps with the exception of a very few officers, had been engaged in South Africa and at the present moment they had to rely to a large extent on civilians for the different stations at home Therefore the new system had not yet got into working and until they could bring medical officers home in large numbers, which he hoped would be soon it could not be put in force

Colonel WELBY said that what he wanted to know was whether by a mere stroke of the pen an army doctor could be moved from one army corps to another

Mr BRODRICK said that they had got a new Director-General who had established a variety of changes, and his scheme had not yet been put in operation, and therefore he could not at present answer the question

Major JAMESON asked whether the right hon gentleman would take steps to have the old forms for requisitions altered

Mr BRODRICK replied that he was perfectly willing to undertake that fuller attention would be given to the simplification of these forms

The motion for the reduction of the vote was withdrawn and the vote itself was agreed to.

FRIDAY JULY 18TH

London Water Question

The House devoted practically the whole of its sitting to the consideration in Committee of the London Water Bill An attempt was made to raise the question of the ruling of Lord Balfour of Burleigh in the Joint Committee but the Chairman decided that it was not competent for the House of Commons to criticise the action of a member of the House of Lords. The first clause of the Bill was still under discussion when the adjournment took place

BOOKS ETC. RECEIVED

ALCAN FÉLIX, 103, Boulevard Saint Germain Paris
Physiologie. Travaux du Laboratoire de M Charles Richet Professeur à la Faculté de Médecine de Paris Tome cinquième Muscles et Nerfs, Thérapeutique de l'Épilepsie Zomothérapie Réflexes Psychiques Price 12 francs

AMERICAN PEDIATRIC SOCIETY (Recorder and editor Walter Lester Carr M D) 68, West Fifty first-street, New York.
Transactions of the American Pediatric Society Thirteenth Session held at Niagara Falls, N Y May 27th 28th and 29th 1901. Vol. xiii Price not stated.

ASH AND CO LIMITED 42, Southwark street, S.E.
Guy's Hospital Nursing Guide Handbook of Past and Present Nurses League, and Register of Nurses 1902. Price 1s 6d.

BATH CORPORATION Baths Committee of the Bath
Medical Guide to the Hot Mineral Baths of Bath, with Extracts from the Report of the Special Commission of THE LANCET Price not stated

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Die Therapeutischen Leistungen des Jahres 1901 Ein Jahrbuch für Praktische Aerzte. Bearbeitet und herausgegeben von Med und Chir Dr Arnold Pollatschek, Brunnenarzt in Karlsbad XIII Jahrgang Price 6s or M 6.
Die Laune Eine Aerztlich-Psychologische Studie. Von Dr Ernst Jentsch. (Heft XV der "Grenzfragen des Nerven und Seelenlebens" herausgegeben von Dr L. Loewenfeld in München und Dr H. Kurella in Breslau) Price 1s 6d. or M. 1.20
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BELL, ERNEST York-street Covent garden W C
Essays in Medical Sociology By Elizabeth Blackwell M D Volumes I and II Price not stated

COBLENTZ OSCAR Berlin W., 35.
Kurzes Lehrbuch der Krankheiten der Oberen Luftwege Von Prof Dr Holger Mygind in Kopenhagen. Price not stated.

FISCHER, GUSTAV Jena.
Archiv für Protistenkunde Herausgegeben von Dr Fritz Schaudinn in Rovigno. Erster Band Erstes Heft Preis pro Band 24 marks.
Ehrlich's Seitenkettentheorie und ihre Anwendung auf die künstlichen Immunisierungsprozesse. Zusammenfassende Darstellung Von Professor Dr Ludwig Aschoff Göttingen Abdruck aus der Zeitschrift für Allgemeine Physiologie I Band III Heft 1902. Preis M 4.50.
Zeitschrift für Allgemeine Physiologie Herausgegeben von Dr Max Verworn Professor der Physiologie und Direktor des Physiologischen Instituts an der Universität Göttingen Erster Band Erstes Heft Preis pro Band M 24
Von der Nervenzelle und der Zelle im Allgemeinen Von Paul Kronthal Price M 16

GLAISHER, HENRY J 57 Wigmore-street Cavendish-square W
Small pox How it is Spread and how it may be Prevented Drawn from the Facts of the Warrington Small pox Epidemic of 1892 93. By James Wallace M A. M.D Aberd. Price 2s 6d net

HARRISON AND SONS 45 St Martin's lane W C.
International Catalogue of Scientific Literature First Annual Issue M Botany Vol I Part I 1902 (May) (MS completed January 1902.) Published for the International Council by the Royal Society of London Price 21s
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THE following additional subscriptions have been received by Dr Paramore who will be most glad to receive as many more as possible during the next few days so as to make the fund a thorough success Postal orders and cheques should be made payable to the Law Fund and crossed London and County Bank, *Holborn and sent to* Dr Paramore, 2 Gordon square, W C with as little delay as possible —

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To the Editors of THE LANCET

SIRS —In several provincial papers advertisements have appeared for a medical man for the above vacancy applicants to seek information from a firm of advertising contractors St Bride's-street E C There is evidently considerable difficulty in getting an Australian or local man Intending applicants should read the rules and conditions very carefully Rules 20 and 23 (as samples) are worth repeating Candidates may know what kind of gentlemanly treatment they will receive and what ks they run in taking an appointment of this kind

Rule 20 Should the medical officer through illness be unable to orm his duties he shall obtain the services of a qualified practitioner Should he decline or neglect the committee shall *punish him* by suspension and he shall have no claim upon the institution save only to date of appointment being cancelled

N B —Is the practitioner expected to send to this country for a *locum tenent?*

Rule 23 is no less interesting The medical officer shall treat every member or his family who may apply for advice with civility He shall not detain them any time so as to give them cause to complain bearing in mind that every individual is paying his share and has a right to *immediate attendance*

I am Sirs, yours faithfully

July 23rd 1902. M.B B S

*** If all the rules of this institution are such as our correspondent quotes we should certainly advise all practitioners to refrain from applying for the post —ED L

CRYPTORCHISM

To the Editors of THE LANCET

SIRS —A man aged 28 years consulted me about a pain extending from a point about an inch in front of the scrotum up to the right loin coming on directly after intercourse with his wife They had been married about two months and his wife was aged 30 years She thought there might be something *wrong* with her but on examination I found all normal but not so with the husband The left side of the scrotum contained what I thought might be a wasted testicle but only like a little thickened skin and the right side was quite empty and no testicle could be made out in the canal I presume therefore that the organ is still in the abdomen and that the vas deferens is absent or impervious I cannot find a record of such a case as regards the pain and I could only express a hope that an outlet might be gradually forced My hope however is only slight and the question is what is best to be done in such a case I fear pain &c., may lead to mental trouble If through the medium of THE LANCET I can get any information I shall be very thankful

I am Sirs yours faithfully

July 22nd 1902. ENQUIRER

THE DUTIES OF A MEDICAL MAN

To the Editors of THE LANCET

SIRS —A married woman has contracted syphilis I have not seen her husband for some months and am not aware that he is under treatment for any complaint. The patient ought to be warned of her contagious condition If I tell her she will probably (and possibly with justice) accuse her husband as being the cause If I tell the husband privately and not the patient he may accuse her of infidelity, either justly or possibly with the object of shielding himself Kindly advise me what I should do I am, Sirs yours faithfully,

July 21st 1902. BETA

*** Our correspondent's duty is in the first place to prevent the spread of disease Clearly the husband ought to be warned of the risks that he runs in continuing marital relations if he is not already infected The wife had better be told that in her condition sexual connexion is not permissible for medical reasons, and the husband must be informed of the true state of the case —ED L

"HAS YOUR HAIR BEEN COMING OFF?'

WE take the following paragraph from the *St James's Gazette* of July 21st :—

> At Bow street police-court to-day an elderly woman applied to Mr Marsham for advice She said that some time ago her 'young man lodger" stole one of her buck rabbits and placed it in his own hutch in which he kept a doe Mr Marsham Well, what was the result? The Applicant Nine little rabbits your worship (Laughter) Mr Marsham That is very satisfactory The Applicant Yes but he only wants to give me one as my share Mr Marsham That is not a bad offer I suppose your rabbit has not suffered at all? The Applicant Yes, it has It's taken all the hair off its back The magistrate directed an officer to interview the lodger with a view to effecting an amicable arrangement between the parties

The falling of the hair is a common symptom in an equally common disease, and the question with which we have headed this note is very frequently asked in out-patient rooms As however, the lower animals are probably immune from the disease in question we have every hope that the "nine little rabbits" will not develop snuffles'

THE "Y" FUND

SURGEON GENERAL H S MUIR begs thankfully to acknowledge additional donations towards the above Fund from Mrs R Hackett Major Carew, D S O (7th Hussars), Major F Wyville Thomson, I M S., Captain W Rothney Battye, I M S Mr Ormiston (Hong Kong) Colonel and Mrs W McWatters R.A.M C, Lieutenant-Colonel and Mrs P J McQuaid, R.A.M.C Lieutenant-Colonel and Mrs Haywood R.A M C, and the following officers of the Royal Army Medical Corps Lieutenant Colonels G A. Hughes D S O P J Dempsey, and H. Charlesworth, C M.G Majors M J Whitty S F Clark H H Brown, and J J C Watson C I E, Captains W F Ward and H G F Stallard and Lieutenant F P Lander The fund now amounts to £448. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly ' handing on to *confrères*) Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy* a copy of the letter will be forwarded on application to Surgeon General Muir 26 Kensington gardens-terrace Hyde Park, London W

RAMIE" UNDERCLOTHING

THIS material is described as consisting of the fibres of a species of plant of the Boehmeria genus It forms at the same time a firm, crisp and elastic thread for the substance of a garment for the skin The fabric is extremely porous while protective It is remarkable in showing no stains due to perspiration even when worn during the hot weather The material does not set up any irritating action upon the skin and is comfortable and cool to wear It does not obstruct perspiration but encourages its distribution and at the same time it conserves the normal warmth of the body Under the microscope the nature of the fibre was made clear, We received specimens of this material from Messrs Hall, Nilsen, and Co of 47, Mosley street Manchester

◆

Dr Battersby Jobson —We think that Buxton or possibly Cheltenham might answer our correspondent's requirements

During the week marked copies of the following newspapers have been received —*Manchester Guardian Birmingham Post, Blackburn Telegraph Manchester Dispatch Star, Manchester Evening Mail, Echo Bedford Mercury, Plymouth Mercury Dundee Advertiser Cambria Leader Cardiff Echo Newport Weekly Argus Bradford Observer Glasgow Herald, Bedford Times Lincoln Echo Margate Gazette Cardiff Mail Durban Irish Times Anglian Daily Times, Hong Kong Weekly Press Revista Medica de S Paulo, South Wales Daily News Birkenhead News, &c*

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 24th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall	Solar Radia in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
July 18	30·04	N.W.	...	120	72	57	56	62	Cloudy
" 19	30·05	N.		119	72	53	53	57	Overcast
" 20	29·82	N.E.	0·04	75	62	55	54	56	Raining
" 21	29·88	N.	0·01	79	69	51	51	53	Overcast
" 22	29·83	W.N.W.	0·02	72	63	52	51	55	Cloudy
" 23	29·87	N.W.	0·09	96	69	54	55	57	Raining
" 24	29·85	S.W.	0·07	100	67	56	55	60	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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Presidential Address

ON

MANCHESTER'S EARLY INFLUENCE ON THE *ADVANCEMENT OF MEDICINE AND* MEDICAL EDUCATION

Delivered at the Seventieth Annual Meeting of the British Medical Association

By WALTER WHITEHEAD, F.R.C.S., F.R.S. EDIN.,

PRESIDENT OF THE ASSOCIATION; CONSULTING SURGEON TO THE ROYAL INFIRMARY, MANCHESTER.

[MR. WALTER WHITEHEAD commenced his address by bidding the Association welcome to Manchester He then referred to the fact that when the Association last visited Manchester 25 years ago the medical school had just amalgamated with the Owens College and this day July 29th' said Mr Whitehead "is the fifty sixth anniversary of the death of John Owens. Mr. Whitehead then referred to those now gone from us who had taken an active part in the former Manchester meeting Esau Wilkinson, the President Lund and Bradley two eminent surgeons Leech the pharmacologist, Sir William Roberts the first Professor of Medicine in the Owens College, and Thorburn the gynæcologist. After a reference to the arrangement of the work of the meeting Mr Whitehead reminded his audience that Manchester began to increase in size and in wealth in about the middle of the eighteenth century and that it was at about that date that many of the great Manchester institutions came into being With reference to the Royal Infirmary he continued —]

Charles White and the Royal Infirmary

Of the institutions for the benefit of the people which came into being at this epoch let me speak first of the Royal Infirmary on account, not only of its intrinsic importance—it was at once a general hospital an isolation hospital for infectious diseases and a hospital for lunatics—but also because it played indirectly a great part in the intellectual activity of this city Moreover it is probably the oldest of our public institutions for it had its first beginning just a century and a half ago when Charles White with the financial assistance of Joseph Bancroft, a man conspicuous for his public and private charities" hired and fitted up a small house in Garden street, off Shude-hill now a wilderness of warehouses. It would seem that it only required the stimulus supplied by Charles White's enthusiasm to convince the leading inhabitants of the then small but growing town of the need of a hospital, for within a couple of months of this modest beginning a conference was held and a committee appointed to collect money Their first step was to purchase from Sir Oswald Mosley the lord of the manor the Daub Hole Field"[1] a site of a little over an acre and it is on this field and some adjoining land acquired subsequently that the infirmary still stands. A west wing forming the first part of the infirmary buildings was taken into use in 1755 and provided beds for 40 patients

Ten years later a wing was added for the reception of patients suffering from mental diseases. At that time only three such institutions existed in the country the hospitals of Bethlem and St. Luke in London and the institution at Newcastle-on Tyne. The patients in the lunacy block of the infirmary were placed under the supervision of the physicians to the infirmary and this arrangement continued until 1847 when partly to provide more beds for the infirmary proper and partly because the building was found to be out of date, the mental cases were removed to the Manchester Royal Lunatic Hospital at Cheadle, now under the able direction of Mr G W Mould, the lecturer on mental diseases in the Owens College. In 1796 another addition was made to the infirmary by the erection of a separate building in the infirmary grounds to receive patients suffering from infectious fevers this also was officered by the physicians to the infirmary, but as I shall have to refer to it again it will suffice to say that the arrangement continued until 1870 when a special hospital was erected at Monsall For a time the city authorities defrayed the cost of patients for whom they were responsible, but eventually purchased the hospital which now provides in detatched blocks, accommodation for 400 patients who are under the charge of the medical officer of health and his colleagues As a consequence of these and other changes the accommodation provided by the infirmary proper was steadily increased until it now contains beds for 292 patients while its capacity is indirectly increased by the convalescent home at Cheadle which accommodates 136 convalescents and by further provision for the reception of such patients in institutions at Southport and Buxton.

The name of Charles White appears first on the list of surgeons to the infirmary He was the son of Thomas White who was appointed a surgeon extraordinary what we should now call a consulting surgeon, at the same time. Charles White was born in 1728 and spent his boyhood in Manchester in the earliest period of that remarkable outburst of intellectual activity in which he was himself to bear no mean part. He studied medicine in London where he was the friend and fellow student of John Hunter and after his return to his native city he quickly won great distinction as a surgeon and an obstetrician. He was one of the earliest of conservative surgeons for he removed the head of the humerus for caries in 1768, was the first to excise the shoulder joint, and proposed excision of the hip in 1769 He was famous also as a lithotomist and his use of dry sponge to arrest hæmorrhage foreshadowed the sponge-grafting suggested not many years ago by Professor Hamilton. As an obstetrician he did much to place the obstetric art on a sound basis, and along with his son and the two Halls (Edward, his colleague at the infirmary and Richard) he founded the Manchester Lying in Charity now St. Mary's Hospital. In 1773 he published a treatise on the management of pregnant and lying in women which went through many editions and was translated into German, he also wrote a most excellent treatise, likewise translated into German on phlegmasia alba dolens. He formed no doubt under the influence of the example of his friend John Hunter an anatomical museum which, when offered to the infirmary in 1806, contained some 300 specimens. The museum eventually became the property of the Lying in Hospital but was unfortunately for the most part destroyed in a fire which occurred in 1847 His interests extended beyond purely professional subjects for he was one of the founders of the Manchester Literary and Philosophical Society and one of its first vice presidents. He was a friend of *De Quincey who in his autobiography gives a personal* sketch of the great surgeon of the north. White seemed to have had some inkling of the theory of evolution, for in 1799 *he contributed* an essay on the Regular Gradation in Man and in Different Animals and Vegetables and from the former to the latter In his later days he was much interested in forestry and wrote a book on the subject. He was a great tree planter at his country house near Sale and died there at the age of 85 years

From its earliest days the infirmary which was honoured with the title of Royal in 1830 has rendered great services to Manchester and the surrounding district and to the progress of medical and surgical science. At first as I have said it had beds for 40 patients In 1811 the number of beds had increased to 71 and as 932 patients were admitted in that year each bed was used on the average by 13 patients In 1848 the number of beds had increased to 182 and the number of patients admitted to 1713, so that there was an average of nine patients to each bed in the course of the year In 1901 the number of beds was 292 and the number of patients admitted was 4446, an average of over 15 patients to each bed. Thus during the last half century the number of patients benefited has increased much more rapidly than the number of beds This fact may I think be accepted as striking evidence of the advance of medicine and surgery and of the increased efficiency of treatment and administration within the infirmary itself. This conclusion is confirmed by the examination of some statistics which

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[1] Dr F Renaud believes that the field was so called because from it was obtained the clay for the wattle and daub of which most Manchester houses of the sixteenth and seventeenth centuries were constructed In an oblong excavation made by the removal of the clay water collected and from this infirmary pond, as it came to be called the thrifty inhabitants drew their water-supply at the time of the foundation of the infirmary and for long afterwards. It was indeed, not finally emptied until 1840 when the Waterworks Company pumped it dry at the request of the Commissioners of Police for the public benefit

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Charles White and the Royal Infirmary

Of the institutions for the benefit of the people which came into being at this epoch let me speak first of the Royal Infirmary on account, not only of its intrinsic importance—it was at once a general hospital an isolation hospital for infectious diseases and a hospital for lunatics—but also because it played, indirectly a great part in the intellectual activity of this city Moreover it is probably the oldest of our public institutions for it had its first beginning just a century and a half ago when Charles White with the financial assistance of Joseph Bancroft, a man conspicuous for his public and private charities, hired and fitted up a small house in Garden street, off Shude-hill now a wilderness of warehouses. It would seem that it only required the stimulus supplied by Charles White s enthusiasm to convince the leading inhabitants of the then small but growing town of the need of a hospital, for within a couple of months of this modest beginning a conference was held and a committee appointed to collect money Their first step was to purchase from Sir Oswald Mosley the lord of the manor the Daub Hole Field [1] a site of a little over an acre and it is on this field and some adjoining land acquired subsequently that the infirmary still stands. A west wing forming the first part of the infirmary buildings was taken into use in 1755 and provided beds for 40 patients.

Ten years later a wing was added for the reception of patients suffering from mental diseases. At that time only three such institutions existed in the country the hospitals of Bethlem and St. Luke in London and the institution at Newcastle-on Tyne. The patients in the lunacy block of the infirmary were placed under the supervision of the physicians to the infirmary and this arrangement continued until 1847 when partly to provide more beds for the infirmary proper and partly because the building was found to be out of date, the mental cases were removed to the Manchester Royal Lunatic Hospital at Cheadle, now under the able direction of Mr G W Mould, the lecturer on mental diseases in the Owens College. In 1796 another addition was made to the infirmary by the erection of a separate building in the infirmary grounds to receive patients suffering from infectious fevers this also was officered by the physicians to the infirmary but as I shall have to refer to it again it will suffice to say that the arrangement continued until 1870 when a special hospital was erected at Monsall For a time the city authorities defrayed the cost of patients for whom they were responsible, but eventually purchased the hospital which now provides in detatched blocks, accommodation for 400 patients who are under the charge of the medical officer of health and his colleagues. As a consequence of these and other changes the accommodation provided by the infirmary proper was steadily increased until it now contains beds for 292 patients, while its capacity is indirectly increased by the convalescent home at Cheadle which accommodates 136 convalescents and by further provision for the reception of such patients in institutions at Southport and Buxton.

The name of Charles White appears first on the list of surgeons to the infirmary He was the son of Thomas White who was appointed a surgeon extraordinary what we should now call a consulting surgeon, at the same time. Charles White was born in 1728 and spent his boyhood in Manchester in the earliest period of that remarkable outburst of intellectual activity in which he was himself to bear no mean part. He studied medicine in London where he was the friend and fellow student of John Hunter and after his return to his native city he quickly won great distinction as a surgeon and an obstetrician He was one of the earliest of conservative surgeons, for he removed the head of the humerus for caries in 1768, was the first to excise the shoulder joint, and proposed excision of the hip in 1769 He was famous also as a lithotomist and his use of dry sponge to arrest hæmorrhage foreshadowed the sponge-grafting suggested not many years ago by Professor Hamilton. As an obstetrician he did much to place the obstetric art on a sound basis, and along with his son and the two Halls (Edward, his colleague at the infirmary and Richard) he founded the Manchester Lying in Charity now St. Mary's Hospital. In 1773 he published a treatise on the management of pregnant and lying in women which went through many editions and was translated into German, he also wrote a most excellent treatise likewise translated into German on phlegmasia alba dolens. He formed no doubt under the influence of the example of his friend John Hunter an anatomical museum which when offered to the infirmary in 1806, contained some 300 specimens. The museum eventually became the property of the Lying in Hospital but was unfortunately for the most part destroyed in a fire which occurred in 1847 His interests extended beyond purely professional subjects for he was one of the founders of the Manchester Literary and Philosophical Society and one of its first vice-presidents. He was a friend of De Quincey who in his autobiography gives a personal sketch of the great surgeon of the north. White seemed to have had some inkling of the theory of evolution for in 1799 he contributed an essay on the Regular Gradation in Man and in Different Animals and Vegetables, and from the former to the latter In his later days he was much interested in forestry and wrote a book on the subject. He was a great tree planter at his country house near Sale and died there at the age of 85 years.

From its earliest days the infirmary which was honoured with the title of Royal in 1830 has rendered great services to Manchester and the surrounding district and to the progress of medical and surgical science. At first, as I have said it had beds for 40 patients In 1811 the number of beds had increased to 71 and as 932 patients were admitted in that year each bed was used on the average by 13 patients. In 1848 the number of beds had increased to 192 and the number of patients admitted to 1713, so that there was an average of nine patients to each bed in the course of the year In 1901 the number of beds was 292 and the number of patients admitted was 4446, an average of over 15 patients to each bed. Thus during the last half century the number of patients benefited has increased much more rapidly than the number of beds This fact may I think be accepted as striking evidence of the advance of medicine and surgery and of the increased efficiency of treatment and administration within the infirmary itself This conclusion is confirmed by the examination of some statistics which have been taken from the records of the infirmary at a considerable cost in time and trouble by my friend, Mr W L Saunder, who has grown grey in his devoted service to the interests of the infirmary, and Mr Charles Roberts, the present resident surgical officer Mr Saunder finds that for the year ending June 24th, 1879 (the earliest for which such data are now available), the average period of occupation of a surgical bed—that is to say, the average period each surgical patient was under treatment—was 24 57 days In 1901 the average period for which each surgical patient was under treatment had sunk to 18 1 days

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[1] Dr F Renaud believes that the field was so called because from it was obtained the clay for the wattle and daub of which most Manchester houses of the sixteenth and seventeenth centuries were constructed In an oblong excavation made by the removal of the clay water collected and from this infirmary pond as it came to be called the thrifty inhabitants drew their water-supply at the time of the foundation of the infirmary and for long afterwards It was indeed not finally emptied until 1840 when the Waterworks Company pumped it dry at the request of the Commissioners of Police for the public benefit

I regret that I have no comparable figures for the medical wards, but that there has been a marked improvement all round as compared with half a century ago is shown by the fact that a rough calculation discloses that whereas in 1848 the average period for which each patient admitted to the infirmary, taking medical and surgical together, was under treatment was 41 days, the average period in 1901 was not quite 24 days The other statistics have reference to the results of operations Dr Renaud tells us that in 1839-40 the number of operations performed was 143 with 36 deaths—that is to say, one operation in four was followed by death In 1878 the number of recorded operations was 337 but it must be remembered that the number of beds had been increased Now Mr Charles Roberts finds that in 1901 the number of operations had increased to 2652.[2] I suspect that some of my medical friends are saying that these figures afford an awful example of the "lust for operation" as to which we have heard recently But that this is not so and that my surgical colleagues on the active staff were fully justified in what they did is shown by the results, for of the 2652 patients operated on 2544 recovered and only 108 died—that is, only about one operation in 24, or 4 07 per cent, was followed by death Moreover, an examination of the list of all deaths after operation in 1901, which has been prepared for me by the resident surgical officer, shows that in a large proportion probably more than half, they were desperate cases, in which the accident was so severe, or the disease so serious or extensive, that operation could afford only the slenderest hope of recovery [3]

Mr Crossley's Gift to the Manchester and Salford Hospital for Consumption

If I may be allowed to include Salford and Ancoats as parts of greater Manchester then I must add a few words as to the two other general hospitals—the Salford Royal Hospital and the Ancoats Hospital. The first had its origin in 1827 and the corner-stone of a portion of the present building was laid in 1830, though it was not until 1845 that 10 beds were provided for in patients It was gradually enlarged until it contained 62 beds in 1882, in which year my old friend, the late Mr John Pendlebury, bequeathed a sum of money which enabled the governors to increase the number of beds to 127 The Ancoats Hospital grew out of a dispensary for out and home patients founded in 1828 in the interests of the working classes then becoming concentrated in the district and with the view of relieving the pressure upon the infirmary A large part in this movement was taken by the late Sir James Kay Shuttleworth who had settled in Manchester as a physician in 1827 and early turned his attention to public health questions, though he found time to publish in 1834 a treatise on the physiology, pathology, and treatment of asphyxia which won for him the Fothergillian medal of the Royal Humane Society The Ardwick and Ancoats Dispensary grew into a general hospital, the first stone of which was laid in 1871 A new pavilion, the gift of Mr James Jardine, raising the number of beds to 114, was opened in 1888 by the then Prince of Wales, now King Edward VII, whose rapid recovery from a serious illness under the skilful treatment of my friend Sir Frederick Treves may justly be reckoned among the triumphs of modern surgery

I have already referred incidentally to some of the other hospitals in Manchester, and I should have liked to introduce here some account of the foundation and growth of St. Mary's Hospital, the Eye Hospital, the Children's Hospital, and other institutions which are doing good work, but time warns me to hurry on I cannot, however, leave this part of the subject without some reference to the munificent gift of my friend, Mr W J Crossley, to the Manchester and Salford Hospital for Consumption and Diseases of the Throat. The hospital was founded mainly through the exertions of the late Dr J Shepherd Fletcher, at one time lecturer on anatomy and secretary of the Medical School in Chatham street, and of Dr Alexander Hodgkinson, lecturer on diseases of the larynx in Owens College. The admirable investigations of our able medical officer of health, Dr J Niven, have shown that in Manchester, as in other cities, the prevention of this "white plague" presents us with a problem calling for strenuous efforts Thanks to the epoch making discovery of Koch, we now know that consumption is a preventable disease, subsequent investigations of this master of experimental pathology and of many other skilful workers, among whom I would mention as one of the most original and successful Dr Sheridan Delépine, Procter professor of pathology in this college, have placed us in possession of facts which show us the nature of the methods by which the scourge may be diminished and perchance in time extinguished Chief among these is the prevention of the infection of healthy persons The open air treatment of consumption takes the sufferer in the early stage of his illness, places him under conditions of life which have been proved to favour his cure, and thus gratifies the generous pity which impels us to help the sufferer and enables us at the same time to fulfil the duty which we owe to the community to prevent others from contracting the disease In order to place this system of treatment within reach of the poorer citizens of Manchester and Salford Mr Crossley is building, on a site comprising 66 acres at Birch Hill, in Delamere Forest, 420 feet above sea level, a sanatorium where 80 sufferers from consumption will find every means for their recovery which experience can devise or generosity provide. The erection and equipment of the sanatorium will cost the donor some £70,000 The best way in which the people of Manchester can show their gratitude to him is to respond freely to the appeal which the Lord Mayor has made for subscriptions to a fund for the endowment of the institution which Mr Crossley's public spirited munificence has provided

Manchester Medical Schools

In Manchester, as in other communities full of active life, the development of the medical school was not along one smooth continuous path The work of many men, sometimes along paths apparently divergent, was necessary, but, as in every process of organic evolution, there were times of rapid accretion with succeeding periods of absorption, leaving an organism fit for steady and sturdy growth Amidst all the struggles and rivalries, which extended over nearly half a century, there was evolved a school of which Manchester may well be proud and the true value of which to the community will rise as the union between the college on the one hand and the infirmary on the other becomes more intimate. So far as medical education is concerned these two institutions must be regarded as one, with common interests and joint duties towards the community in and for which they work, for of the science and art of medicine it may truly be said that it is nothing if not practical and that in all his active work the practitioner of the art must be guided by a kind of sublimated common sense.

We owe, I believe, the first beginnings of a medical school in Manchester to Charles White, the founder of the infirmary, for in 1786, assisted by his son, he began a course of lectures on anatomy and physiology, while Thomas Henry gave a course of lectures on chemistry concurrently Henry, who had become a visiting apothecary to the infirmary in 1778, was one of the founders of the chemical industry in this district The son of an Antrim man who had settled as a schoolmaster at Wrexham, he first practised as an apothecary at Knutsford After a few years he removed to Manchester, where he continued his medical practice, but he had already become deeply interested in practical chemistry and in 1771 communicated to the Royal College of Physicians of London an improved method of making magnesia alba Acting on the advice of his friends he began the manufacture of this substance, whence he got the name of "Magnesia Henry," and this business was most successful. He was one of the founders of the short-lived College of Arts and Science and lectured there not only on theoretical chemistry but also on such technical subjects as bleaching dyeing and calico-printing He was an authority especially on dyeing and also wrote on ferments and on the value of lime and marl as manures He was a friend of Priestley and translated the physical and chemical essays of Lavoisier with whom and with other foreign investigators he had been brought into correspondence by his experiments on fixed air (he observed that carbonic acid gas, so far from being injurious, was actually beneficial to plants) He wrote a memoir of Haller whose career is sketched in the very recent work entitled "Some of the Apostles of Physiology" in which my friend Professor Stirling has given an account of the lives and labours of those who have contributed to the advancement of the healing art as well as to the prevention of disease Henry was one of the founders and the first secretary of the Literary and Philosophical Society Later he became its President and held that office at the time of his death in 1816. His son who was physician to the infirmary was a friend of Davy and Wolaston and a chemist of considerable eminence. He was the author of the earliest text-book of experimental chemistry and more than a century ago lectured on the application of chemistry to arts and manufactures. When coal gas was introduced as an illuminant he was among the first to study its constitution to lay down rules for analysis, and to indicate the means by which it might be purified. I may here digress to observe that Mr John Leigh the first medical officer of health of Manchester before his appointment to that office in 1868 had given much attention to the subject of the analysis of illuminating gas, and as early as 1842 communicated to the British Association which met that year in Manchester an account of the mode of preparation of nitro-benzole a discovery turned to good account by those who more fortunately shortly afterwards founded the aniline dye industry

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[2] Of these 1774 were performed by the honorary staff and 878 by the resident staff The latter number includes cases from the out patient department and the accident room

[3] The operations followed by death may be roughly classified as follows for cancer 20 for sarcoma 6 trephining, 10 (for fracture of the skull, 7 for complications of otitis media 3) tracheotomy 10 laparotomy 19 (for gastric ulcer 6 for intestinal obstruction or stricture 6 for ruptured spleen 1 for perforated appendix 1 gastrotomy for œsophageal stricture 1 cholecystotomy 1 peritonitis 1) herniotomy for strangulation or obstruction 8 for radical cure of hernia 4 drainage of appendicular abscess, 2 for urethral stricture 3 for compound fracture of long bones, 4, miscellaneous, 22

I do not know whether the lectures given at the infirmary by the Whites and Henry were largely attended. I suspect not, for regular pupils were admitted to the practice of the infirmary for the first time in 1793. Lectures indeed do not seem to have been given systematically though in 1796 Mr Benjamin Gibson commenced a course, illustrated by demonstrations of the specimens collected by Charles White then preserved in a museum at the corner of King street and Cross-street, the site of the present Reference Library Gibson gave special attention to diseases of the eye and wrote on the Formation of an Artificial Pupil on the Extraction of Soft Cataracts and on the Use of the Couching Needle in Infants of a Few Months Old [4] an operation in which he appears to have been very expert. It makes us realise the benefits which anæsthetics have conferred on mankind to be told [5] that when Mr Gibson operated upon the eyes of young children they were really put into a sac that had an eyelet with a cord through it which was fastened round the child's neck and by this means the youngsters were much more easily controlled by the assistants.'

John Jordan's School of Anatomy

Dr Ferriar Dr Roget, Mr Ainsworth, and Mr Ransome the father of Dr Arthur Ransome, whose early work in Manchester in connexion with the prevention of tuberculosis is happily continued with increasing effect to the present day also took part in the courses given at the infirmary but we must, I think assign to Mr Jordan the honour of being the real father of the Manchester Medical School He was born in 1787 and commenced the systematic teaching of practical anatomy in Manchester He was assisted by Dr Hull physician to the Lying in Hospital and a botanist of distinction, and by Mr Brigham. It was the day of small things and Jordan and his colleagues began their school with four students. The course was practical from the first. As this was in the days before the Anatomy Act the acquisition of subjects for dissection must sometimes have been a difficulty But whatever his difficulties Jordan overcame them and in 1817 his certificates of instruction in anatomy were recognised by the Society of Apothecaries of London Jordan was an enthusiastic anatomist and it is related of him that a medical friend who called upon him once when he was ill espied a set of bones under the bed which Jordan said he found it convenient to keep at hand that he might distract himself by their study Where Jordan's pupils first dissected I am not certain, but the earliest references I have traced place the school in Back Queen street, off Deansgate nor am I aware whether courses in other subjects of a medical education were given there.

Thomas Turner and the Royal Manchester School of Medicine and Surgery

Manchester however was not to wait long for a complete medical school, its foundation was due to the energy of Mr Thomas Turner a remarkable man who during his life of 82 years accomplished a great work for medical education He was born at Truro in Cornwall in 1793, was apprenticed in Bristol was a pupil of Sir Astley Cooper at the old borough hospitals of Guy's and St Thomas's and came to Manchester in 1817 as house surgeon to the infirmary He afterwards settled in private practice in Manchester and in 1822 gave a course of lectures on human anatomy physiology and pathology before the Manchester Literary and Philosophical Society Encouraged by the interest shown in these lectures he put forth two years later a scheme for a school of medicine and surgery It was started in a house in Pine-street and John Dalton one of the most illustrious names in the intellectual history of Manchester gave the lectures on pharmaceutical chemistry The enterprise was immediately successful and in the following year the staff was thoroughly organised, lectures on medicine being given by Dr afterwards Sir James Bardsley on surgery by Mr Ransome on midwifery by Mr Kinder Wood and on botany by Mr Thomson. Dalton continued the lectures on pharmaceutical chemistry while Turner took anatomy physiology and pathology Clinical experience could be gained in the infirmary with its dependent lunatic asylum and fever hospital at the Lying in Charity the Eye Hospital and the Lock Hospital Turner was justly proud of the ample opportunities for dissection which he was able to offer to his pupils and boasted that in this respect the Manchester school was superior to those of London and Edinburgh. The school was recognised in 1825 as a fully equipped medical school by the Royal College of Surgeons of Edinburgh and I am therefore able to claim for it the honour of being the oldest, as it is still I believe, the largest, of the great provincial medical schools of England. It was recognised in 1827 by the medical departments of the army and navy The Council of the Royal College of Surgeons of England which was then controlled by surgeons connected with certain metropolitan hospitals, proved more obdurate. In 1828 however a slight concession was made as a consequence of the report of a committee of the House of Commons on the teaching of anatomy before which Turner gave evidence The certificate of instruction in anatomy of the Pine-street School was then recognised. As a result of an inquiry held by another committee of the House of Commons in 1834 on Medical Education the exclusive policy of the Council of the Royal College of Surgeons of England with respect to the reception of certificates of instruction required from candidates for its examinations was at last abandoned, and the Pine-street School was placed on the same footing in respect to the clinical teaching of its students as the great schools in London Dublin Edinburgh Glasgow and Aberdeen. The relations between the Manchester Memorial School and the Royal College of Surgeons of England have long been of a cordial kind Mr Turner and Mr Lund were long members of its Council My friend Mr Hardie has only just retired from that office, and the Conjoint Board of the Royal Colleges of Physicians of London and Surgeons of England has recently arranged that in future the first professional examination shall be held simultaneously in London and at the Owens College, as the centre most convenient for students of the medical schools in the northern counties of England.

The Manchester Medical School possessed as early as 1834 a chemical laboratory a dissecting room, a library and museums of anatomy pathology and materia medica The keystone to the structure of medical education which Turner and his friends were building up had been placed in 1833 when regular courses of clinical lectures were commenced at the infirmary The first course was given by Dr Carbutt who lectured once a week from the beginning of June to the end of December and it has been preserved in a volume which in its form did great credit to the taste of the Manchester printers of that date [6] The substance shows Carbutt to have been a shrewd, well read, and thoughtful physician and a man of an independent turn of mind. The motto on his title page is the Horatian line—

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[4] THE LANCET vol. xi., 1826-7 p 215.

[5] Ibid., p. 247

[6] Clinical Lectures in the Manchester Royal Infirmary by Edward Carbutt, M D Manchester 1834

> 'Nullius addictus jurare in verba magistri."

He shows himself a strong partisan of the theory that very many diseases—from chorea to diabetes—are due to what is now called autotoxæmia and to be cured by forms of depleting treatment, which to us in the present day seem to be "methods of barbarism" Nevertheless, his patients appear to have recovered in fair proportion and with reasonable speed, and I have no doubt that the students learned much of practical value from his teaching, for he very wisely made no selection of cases but spoke on each one as it came under observation, so that he had many opportunities of dealing with the more common diseases

Other Medical Schools in Manchester

The Pine street School was not the only one established in Manchester about this time. I have already mentioned the School of Anatomy started by Mr Jordan, this was expanded in 1827 into a School of Medicine in Mount-street, by the institution of courses of lectures on chemistry by Mr Davies, on medicine and materia medica by Dr Freckleton, on surgery by Mr Fawdington and Mr Boutflower, and on midwifery by Mr Radford, while Mr Jordan, who lectured on anatomy, was assisted by Mr Blundstone and Dr Pritchard Hulme, who gave demonstrations in that subject. In 1834 Mr Jordan retired and most of the lecturers joined a new school founded in that year in Marsden street It only lasted six years, for it was closed in 1840, and its library was presented to the Royal Manchester School of Medicine in Pine street. This school remained without a rival until 1850, when some of the lecturers at the Marsden street School joined with Mr Southam, Mr Dumville, and Dr Watts in founding a school in Chatham street Mr George Southam was the moving spirit, he was the secretary of the school and lectured on surgery He was surgeon to the Royal Infirmary and possessed an abundance of sound common sense and surgical acumen. He was an active member of this Association and was President of the Council from 1871 to 1873 When the medical department of Owens College came into existence in 1872 he was appointed the first lecturer on surgery and in the following year professor He died in 1876, but his son, who is now senior surgeon to the infirmary, worthily follows in his father's footsteps The school in Chatham street was only continued for eight years, when it was absorbed by the Royal Manchester School, which had steadily been growing in importance and had already entered into the negotiations which led eventually to its transformation into the medical faculty of the Owens College The success of the school founded by Thomas Turner had indeed been signal, and Jordan paid a generous tribute to the importance of the achievement, all the more striking when it is remembered that it was altered by a rival. 'The establishment of provincial medical schools," he wrote, "was of national importance and was one of the movements of the age Indeed, there has not been so great a movement since the College of Surgeons was established." Turner, who founded the school in 1824, became surgeon to the Royal Infirmary in 1830, lived to see the amalgamation with the Owens College and give the inaugural address at the first session of the medical faculty He died in 1873 and his connexion with the College is commemorated by the Turner scholarship in medicine and surgery Jordan died in the same year at the age of 87 years.

Early Schemes for a University College in Manchester

It may fairly be claimed for the medical school, which during the latter years of its independent existence bore the honourable title of the Royal Manchester School of Medicine and Surgery, that it had a large share in bringing about the foundation of a university college in Manchester, for in 1836 Mr Thomas Turner and his colleagues put forth a plan for a college, with faculties of arts and medicine, to be connected with the University of London, which had then recently undergone one of its periodical reorganisations In the same year an alternative plan for a university for Manchester, first proposed in 1789, was revived by a paper read by Mr Harry Longueville Jones before the Manchester Statistical Society This paper was printed as a pamphlet at his own expense by Mr James Heywood, F R S, who declared in an address to the Manchester Athenæum that a university college was not only wanted but actually called for in Manchester For various reasons, into which I need not now inquire, neither scheme was at that time successful, yet these discussions of the educational needs of Manchester, though they ended apparently only in the disappointment of the hopes of the public spirited men who took part in them, were yet destined at no distant date to bear fruit The idea of founding a college for Manchester free from the restrictions then imposed by the Test Acts at Oxford and Cambridge grew in the mind of John Owens, and, fostered by the enthusiasm of George Faulkner, his partner in business, led to the foundation of the Owens College and eventually to the creation of the Victoria University

The Owens College

The schemes of Turner and his friends and rivals, which eventually became embodied through the benefaction of John Owens, were not indeed the earliest for the establishment of a college for higher education in Manchester. More than two and a half centuries ago Manchester, in 1641, presented a petition to the Long Parliament asking for a charter for an independent university, but the opposition of York, which urged that it had better claims to be the seat of a northern university, brought the scheme to naught. A College of Arts and Sciences was founded in 1783 and in 1786 came the Manchester Academy which, after a career marked by many vicissitudes, now finds a home in Oxford as Manchester College. Its short life in Manchester was perhaps memorable chiefly because it was the means of bringing to our city John Dalton who, in 1793, left his native Kendal to become its professor of mathematics and natural philosophy In Manchester he ever after resided, resisting some tempting offers to establish himself elsewhere Of the epoch-making work which he did there, especially his researches into the laws which govern the physics of gases this is not the time or the place to enter, but I may recall to you that his essay on colour blindness, a defect from which both he and his brother suffered, was communicated to the Literary and Philosophical Society of Manchester in 1794 It was the first detailed description of that curious condition which still bears his name, though the term Daltonism is more often met with in foreign than in British publications—one more example of how true it is that in Great Britain, as in Judæa, a prophet is not without honour save in his own country

Dalton, as I have already said, was one of the first lecturers at the School of Medicine in Pine street, and in truth his wide interest in all scientific inquiries and speculations brought him often into contact with questions having a bearing on medicine As an example may be mentioned his researches in meteorology They also were communicated to the Literary and Philosophical Society and were among the earliest in which accurate methods of investigation were brought to bear on that perplexing science Again, one of his earliest studies, while yet he lived in the Lake District, which he ever loved, was botany, and he used to form collections of dried plants, from the sale of which he gained money to help his own education in other directions. It is said, indeed, that he first became aware of the defect in his appreciation of colours by discovering that he was unable to distinguish flowers by their colours as others could He was a member of the Society of Friends and a man of simple life and somewhat austere character It is related of him that when, late in life, he was persuaded to be presented at Court, he only consented to don a doctor's gown because he could not perceive its brilliant hue. His many sided scientific interests are commemorated in the Owens College by scholarships or prizes in mathematics, chemistry, and natural history, and the Society of Friends has given his name to the hall of residence, open to all denominations, which they established in 1876 for the benefit of students of the Owens College. His most illustrious pupil was James Prescott Joule who carried out in Manchester all those remarkable researches on the conservation of energy and on the mechanical equivalent of heat which belong to the very groundwork of modern science and have profoundly affected our conceptions of the order of the universe He never as far as I can ascertain held any office in the Owens College, yet it might have been expected that so illustrious a man of science would have been commemorated in the science faculty of the College of the city in which he lived and worked, but I know of no scholarship or prize bearing his name. The total amount of John Owens's benefaction was under a hundred thousand pounds, a small sum for the achievement of so great an object as the founder had in view The success which has attended the foundation has been due in large measure to the wise conception which the founder had formed of what a university college should be. He conceived of it rather as a body of men, teachers and taught than as a building of bricks and mortar and directed that the endowment should be devoted to the provision of an adequate teaching staff. In a hired house, then, to which a chemical laboratory under the direction of Edward Frankland had been added the Owens College opened its doors in March, 1851. At first its success by no means fulfilled the expectations of its friends, but the conception was right and slowly for a time but with ever increasing rapidity during the last 40 years, it has drawn to itself not only many students in all faculties, not only munificent gifts and bequests from Manchester men but also other organisations working in Manchester in the interests of higher education. Thus in 1872 the fine collections formed by the Manchester Natural History Society and the Manchester Geological Society were transferred to the College and formed the nucleus of the Manchester Museum now displayed in the buildings which form the northern part of the main front of the College. The museum has from the first been conducted on broad lines and contains valuable collections illustrating the sciences of zoology and botany ethnology and anthropology mineralogy and geology In 1872, also when the Royal Manchester School of Medicine was incorporated with the Owens College, the Manchester Medical Society brought to it its library of 13,000 volumes, which has since grown to 32,000 volumes

There physic fills the space, and far around
Pile above pile her learned works abound;
Glorious their aim——"

The collection, I believe, deserves all that the poet wrote in praise of a medical library and little of what he said in criticism of medical books although we may to-day perhaps still find a parallel here and there to the practitioner thus described a century ago —

One to the gout contracts all human pain
He views it raging in the frantic brain
Finds it in fevers all his efforts mar
And sees it lurking in the cold catarrh."

What the library owes in respect to the value and number of its volumes, to the indefatigable exertions of Mr Thomas Windsor has never been fully appreciated save by a few of his most intimate friends who know that in the zenith of his career as a most successful oculist he abandoned altogether his practice and devoted his life to the collection and study of rare medical and scientific books The general collection of books belonging to the College numbers over 70 000 volumes and is contained in the fine Christie Library building on the south side of the quadrangle presented by Mr Richard Copley Christie for 15 years a professor in the College The foundation of John Owens, broad in its conception though small in its beginnings has grown with the growth of Manchester and with the increased love of knowledge and learning until it is now one of the greatest educational institutions in the country It has erected a fine pile of buildings containing halls and lecture rooms, libraries and laboratories, where instruction may be obtained in every department of knowledge and, more than that, where opportunities are afforded to those who show aptitude for original inquiry to search out fresh secrets from Nature and to apply the new knowledge thus gained for the benefit and elevation of mankind. For 30 years the medical students of Manchester have had the advantages of receiving in its lecture rooms but still more in its laboratories the training in those ancillary sciences which they must study before they can enter with profit upon their special technical education and also in those fundamental departments of the body of medical knowledge so happily termed in the Scottish universities the institutes of medicine. Within its walls, by the kindness of the College council rooms have been provided for all the 17 sections while the general meetings are held in this beautiful Whitworth Hall which commemorates the name of one of the most munificent benefactors of the College. The medical faculty has steadily grown in number and importance since it first formed part of the Owens College In 1872-73, when the amalgamation took place the medical students constituted 28 45 of all those studying within the College. In 1883-84 the proportion rose (excluding the women's department) to 40 8 per cent. and in the last two years to over 42 per cent.[7]

It was, I think the added strength brought to Owens College by the great medical department acquired by this amalgamation which emboldened the Senate to seek university powers In 1875 a draft scheme for the enlargement of the College into a university was published by Professor Greenwood, Sir Henry Roscoe, Professor A. W Ward, and Professor J E. Morgan. Mr Joseph Thompson, in his history of the Owens College, has declared that it is to the zeal and untiring devotion of these four gentlemen that Manchester owes its university others cordially supported the movement, but they through five weary years, placed their case before the public, removed prejudices advanced good arguments, and lived down opposition' Professor Morgan argued the case from the medical side, he showed that of the 14 000 practitioners in England in 1874 only 28 per cent. were graduates of medicine, and that of this 28 per cent. 20 per cent. had obtained their degrees in Scotland He pointed out that while there were 11 medical schools in London and eight in the provinces, only four universities—Oxford, Cambridge, Durham and London—had the right of conferring degrees in medicine and adduced weighty reasons in favour of founding a new university in the North of England. He pointed out that such a university should be situated in a populous town connected with a large hospital with a suitable medical school possessing well-appointed laboratories and an efficient staff of professors and lecturers, and that finally it must give guarantees that teaching rather than the sale of degrees would be its great object, these conditions, he urged, Owens College and Manchester could supply In 1877 a deputation which had the support of the late Sir Henry Acland regius professor of medicine in the University of Oxford, asked the then President of the Privy Council, the Duke of Richmond and Gordon, to confer on Owens College the rank of a university with the title of the University of Manchester The proposal was at first opposed by the authorities of the Yorkshire College Leeds but eventually the differences were adjusted and on June 30th 1879 it was announced that the Crown had been advised to grant a charter to a northern university to be called the Victoria University Owing however to opposition from medical authorities and teachers in other places the charter eventually granted on April 20th, 1880, creating the Victoria University and constituting the Owens College a college therein contained a clause which held back the right to confer degrees in medicine Two years later the Royal Commission on the Working of the Medical Acts recommended that the power to grant its own medical degrees should be given to the Victoria University without delay and in 1883 a supplementary charter removed the restrictions. It was thus due entirely to the efforts of the Senate, Council, and Court of Owens College that a northern university with its seat in Manchester was created. For several years Owens College was the sole constituent college of the University so that here again Manchester has been the pioneer of provincial medical education. It was the first to found a complete medical school and it was the first great commercial city in England to secure, in spite of much opposition and discouragement, the establishment of a great university in its midst. What the future has in store it would be rash to conjecture but it would seem that the plan of a federal university has served its turn and that higher education in Manchester has reached

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[7] These figures have been calculated from the table given at page 22 of the handsome quarto volume issued in 1900 under the editorship of Mr P J Hartog B.Sc assistant lecturer and demonstrator in chemistry entitled The Owens College Manchester (founded 1851): a Brief History of the College and Description of its Various Departments" (Manchester J E. Cornish) The following extracted from this table and with the percentages added may perhaps be read with interest; the figures for 1900-01 have been added from the last report of the College.

Number of Students at the Owens College

Session	Arts Science and Law Departments.		Medical Department.	Total.	Percentage of medical to total	Percentage of medical to total excluding women department.
	Men.	Women.				
1872-73	337	—	134	471	28·45	28·45
1883-84	400	60*	276	736	37·50	40·80
1892-93	607	93	345	915	36·50	40·50
1899-1900	507	125	370	1002	36·80	42·10
1900-1	556	181	415	1152	36·02	42·74

* First year of Women's Department.

a stage when a local university has become not only a necessity but a legitimate claim The change would afford an opportunity for bringing into active coöperation the Owens College and the Royal Infirmary on the one hand and the School of Art, the College of Music, and the Municipal School of Technology, in which you, my Lord Mayor, have taken so much interest, on the other

Thomas Percival

I must now turn back for a moment to speak of a Manchester physician of the eighteenth century who did a great work in his day and generation. The name of Thomas Percival, who was for a short time, soon after its foundation, physician to the infirmary, is probably little known to the present generation, but he was a man who exercised a wide influence in his day and his name deserves to be held in grateful remembrance and reverence for the services which he rendered not only to the profession which he adorned but also to the city of his adoption. Percival "was a Warrington worthy" and a physician remarkable not only for his scientific attainments and benevolent character but also for the breadth of view and width of culture which made him a pioneer in many movements, the effects of which were felt not only in the Manchester district but throughout the whole country The Manchester Literary and Philosophical Society grew out of weekly meetings for conversation held at his house, and his chief co workers in its formal establishment in 1781 were the Rev Dr Barnes, subsequently Professor of Divinity in the Manchester Academy, and Thomas Henry to whom I have already referred. Dr Percival was its first President, an office which he shared with Mr James Massey, one of the founders of the Royal Infirmary, during the lifetime of the latter, and occupied afterwards alone He took an active share in its work, both literary and philosophic, and in several of his scientific papers insisted on the importance of the application of the experimental method to medical inquiries

Dr Percival also took a leading part in a movement which foreshadowed the establishment of technical schools, for he was one of the founders of the College of Arts and Sciences, at which courses of lectures were given on (1) Mathematics and Natural Philosophy (2) Fine Arts, (3) Chemistry with reference to arts and manufactures, and (4) the "Origin, History, and Progress of Arts Manufactures, and Commerce, the commercial laws and regulations of different countries, commutative justice, and other branches of Commercial Ethics" The scheme was not then successful. It came too soon and the country had to wait until towards the end of the nineteenth century for technical schools and until the twentieth for schools and faculties of commerce and economics Percival rendered a very important service to the medical profession and indirectly to the public by his book on "Medical Ethics" The public—if I may judge from remarks which one sometimes hears in conversation and from paragraphs now and then published in the newspapers —look upon medical etiquette as a very mysterious code of rules designed for the benefit of the medical profession and a source of inconvenience to the public Nothing can be further from the truth Hippocrates, the father of medicine, in his Aphorisms, laid down rules for the guidance of the physician in his conduct to his patients, and the relations of practitioners of medicine, surgery, and midwifery to their clients are so intimate, the issues so momentous, involving often all that a man or woman holds most dear—health and life and honour—that it was the duty of the profession to consider very carefully the conduct to be pursued under various circumstances, which in the sundry and manifold changes and chances of this mortal life repeat themselves with a uniformity which would be surprising did we not remember the essential identity of human fate and human emotion in all ages Percival's book on "Medical Ethics"[8] had its origin in a set of rules for the guidance of the staff of the infirmary, and in their preparation he had the assistance of Dr Ferriar and Mr Simmons To these rules Percival afterwards added a series of chapters defining the course which should be pursued by practitioners in private practice towards each other and towards their patients All are designed to ensure that the welfare the sentiments and even the prejudices of the patient should be considered and that no misunderstanding between his medical attendants should prevent them from doing all that medical art permitted for his benefit or from conveying to him or to his friends their considered opinion on his state. Percival had to devote a large space to the conduct which a surgeon should observe when summoned to give his attendance at a duel, but with this exception the book may be read with advantage at the present day and might, indeed, be reprinted with a few additions and omissions as a guide for the present generation His labours to increase the welfare of the people made him a pioneer of sanitary reform and one of the earliest advocates of factory legislation As early as 1775 he communicated to the Royal Society (of which he had been elected a Fellow even before he had taken his degree) a scheme for establishing accurate "bills of mortality," contending that proper registers of population and mortality could alone afford convincing evidence of the effect on health of different occupations and modes of life. He illustrated his subject by comparative statistics showing the influence of overcrowded towns and unventilated workrooms on health. Twenty years later he was a moving spirit in forming the Manchester Board of Health, which sought to prevent disease by inculcating cleanliness, by providing a fever hospital called the "House of Recovery" in connexion with the Royal Infirmary, and by purifying the houses from which the sick had been removed The memorandum which he presented to this board affords striking evidence of his knowledge, foresight, and breadth of view He advocated improved housing of the working classes, the establishment of public baths, the isolation, proper treatment, and nursing of persons suffering from infectious diseases and the cleansing of their clothes and homes, the inspection of mills and factories to ascertain the state of health of the workpeople and their hours of labour, the regulation of noxious trades, systematic cleansing of the streets, and the superintendence of markets where food was sold Angus Smith said truly many years afterwards that "Manchester was then the great centre of sanitary knowledge and Percival the true apostle."

John Ferriar

In his endeavours to improve the sanitary state of the working classes Percival had an able and eloquent helper in Dr John Ferriar Ferriar,[9] like so many others who have won distinction in after life, "was a son of the manse," studied in Edinburgh, where he graduated M D in 1781, and settled in Manchester in 1785 He was a man of considerable literary attainments and learning His "Illustrations of Sterne"[10] traced out—too minutely as some of his admirers thought—the debt which that wayward genius owed to the old French novelists and to Burton's "Anatomy of Melancholy" He wrote an essay on the dramatic works of Massinger,[11] which gained him much reputation, he was himself a poet, among his productions being a didactic poem entitled the "Puppet Show," and a tragedy Soon after joining the Literary and Philosophical Society in 1786 he read to it a paper on Modern Demonology, afterwards expanded into "An Essay towards a Theory of Apparitions,"[12] a slim volume which I would commend to the attention of the Psychical Research Society, for in it he established, to his own satisfaction at least, that a ghost should be regarded "as a symptom of bodily distemper and of little more consequence than the headach (*sic*) and shivering attending a common catarrh" He published also a series of "Medical Histories and Reflections"[13] which show him to have been a careful and accurate student of disease, the best example of his method being perhaps his "Essay on the Medical Properties of the Digitalis Purpurea or Foxglove," in which he shows far more caution and good judgment than the advocates of a new drug usually display It is, however, on his enlightened views as to public health matters that I would rest his claims to remembrance at the present day, and in endeavouring to form a proper estimate of the independence and originality needed to form such opinions at the end of the eighteenth century we must remember that cotton factories and the aggregation of large numbers of workers and their families in towns were then new things and that the infectious doctrine of fevers was far from then holding the assured position which the researches of Pasteur were to give to it in the succeeding century. Ferriar was elected in 1789 a physician to the infirmary to visit home patients, and in the winter of that and the succeeding year an epidemic fever prevailed much in Manchester and Salford. It is not quite clear from his description what this fever was, probably it was typhus, but among the questions which interested Ferriar with regard to it was that of the nature of the conditions prevailing among the poorer classes which he considered should be held responsible for its occurrence. These were the overcrowding especially at night of dirty unventilated "mean lodging houses," often built in blind alleys, the use of cellars for dwellings, the imperfect ventilation of the cotton mills and carelessness in the sale and distribution of old clothes which had been used by the sick. As preventive measures he advocated the ventilation of rooms, the prevention of overcrowding, the licensing and inspection of lodging houses, and the establishment of fever wards to "receive patients from infected houses or from close cellars, or pent-up rooms, where the want of air and the proper attendance leaves little chance of escape to the sufferer."

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[8] The edition I have used is that published in Manchester in 1803, but the work was republished as late as 1849

[9] The spelling of the name does not appear at that time to have been settled In the dedication of his essay on Digitalis to Major-General Ferrier he spells the name of this gentleman with an "e," while his own appears on the title-page with an 'a'

[10] Illustrations of Sterne with other Essays and Verses Manchester, 1798 second edition Warrington, 1812.

[11] Reprinted by Gifford in his edition of Massinger's works 1805

[12] London 1813

[13] The first volume was published in 1792 the second in 1795 and the third in 1798 A second edition, with additions and omissions was published in London and Warrington in 1810, and a fourth volume in 1813 The whole was also reprinted in Philadelphia in 1816

[Mr. Whitehead here referred to Manchester sanitation, paying a well-deserved tribute to the Manchester and Salford Sanitary Association, and after mentioning the Thirlmere water supply continued as follows:—]

Conclusion.

From a very early date in the history of the British Medical Association the medical profession in and around Manchester has taken a deep interest in its welfare and development. At the first anniversary meeting in 1832 Dr. Charles Henry of Manchester, a grandson of Thomas Henry surnamed "Magnesia," was one of the committee instructed to report on the chemistry of animal fluids as illustrative of pathology; Mr. Thomas Turner was a member of a committee on anatomy, while Dr., afterwards Sir, James Bardsley was appointed corresponding secretary for France.

The British Medical Association was founded in 1831 and in 1835 the fourth anniversary meeting was held in Manchester under the presidency of Dr. Edward Holme, F.R.S., who had long held the office of physician to the Royal Infirmary. This meeting, the first held in Manchester, was memorable in the history of the Association as that at which the system of Branch organisation took origin by the amalgamation with the parent association of the Eastern Provincial Medical and Surgical Association which became the East Anglian Branch. Later in the same year other branches were formed at Wells, Bath, and Southampton and in the following year the Lancashire and Cheshire Branch came into existence at Newton le Willows. Manchester thus saw the first great extension of the local organisation of the British Medical Association and this year it sees another great step towards the perfecting of that organisation. Burke called representation "the cure for all evils in the colonies." May it have a similar influence in our Association. The serious business of securing the right kind of representation will be the only difficulty you will have to contend with. I trust that the results will be to make the Association stronger, larger, and more influential than ever. The Association held its annual meeting again in Manchester in 1854 when Mr. William Wilson, surgeon to the Royal Infirmary and well known for his important contributions to obstetrics and gynæcology, presided. The membership had grown to over 2000 and an important proposal making a further stage in the development of the Association was made. This was that the title should be changed from the Provincial Medical and Surgical Association, which it had hitherto borne, to that of the British Medical and Surgical Association. This change of name betokened an extension of the Association's work to embrace all British practitioners of medicine. Finally, after a good deal of discussion, the familiar title of the British Medical Association was chosen and formally adopted in 1856. Under that name it has grown and flourished and it will, I hope and believe, continue to flourish, serving as a connecting link between the members of our scattered profession—scattered in their student days in many schools, obtaining their diplomas and degrees from many universities and corporations, and ultimately practising in every district of the United Kingdom and every region of a united empire.

It now only remains for me to thank you for the attention with which you have been good enough to listen to me. Much of what I have said was, perhaps, known to many residents in the district. My object has been to act the part of a chamberlain who in the old royal courts was the introducer of ambassadors, for you, gentlemen, who have honoured us by visiting Manchester, coming as you do, from foreign countries, from the many distant parts of the British empire, and from every district of the United Kingdom are the ambassadors of the profession of medicine. May your labours during the next few days help to draw closer the bonds which unite the various departments of our art, which in every clime has but one aim—the prevention or the alleviation of human suffering.

In conclusion, let me quote to you the words which, though written three centuries ago, yet express so aptly the sentiments which should animate a congress such as this. The noble words of the great Lord Bacon in his preface to the "Elements of the Common Laws of England," might, I think, be taken as the motto of our Association. "I hold every man," he says, "a debtor to his profession; from the which as men, of course, do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends, to be a help and ornament thereunto. This is performed in some degree, by the honest and liberal practice of a profession, when men shall carry a respect not to descend into any course that is corrupt and unworthy thereof, and preserve themselves free from the abuses wherewith the same profession is noted to be infected; but much more is this performed if a man be able to visit and strengthen the roots and foundation of the science itself, thereby not only gracing it in reputation and dignity, but also amplifying it in profession and substance."

Address in Medicine

THE STUDY OF THE NATURAL HISTORY OF DISEASE THE BASIS OF ALL ADVANCE IN ITS TREATMENT

Delivered at the Annual Meeting of the British Medical Association at Manchester, July-August, 1902,

BY SIR THOMAS BARLOW, BART., K.C.V.O., M.D., F.R.C.P. LOND.,

PHYSICIAN TO HIS MAJESTY'S HOUSEHOLD; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

GENTLEMEN,—Twenty-five years ago the British Medical Association met in this city and the Address in Medicine was given by one who fitly represented the Manchester School and whose name is illustrious amongst the leaders of our profession in the Victorian epoch. William Roberts had many remarkable gifts, but the combination in his mental equipment of infinite painstaking in homely detail and of philosophical insight and foresight gave alike to his public utterances and to his conversation a suggestiveness and charm which can never be forgotten. The address which he gave within these walls was a notable example of this. It was a masterly discourse on the acute specific diseases in their relation to contagium vivum which subsequent research has left intact and which in many ways was prophetic as to future developments. *Nihil quod tetigit non ornavit.* The recollection of his discourse gives humbling reflections to one who has to take up the parable where Roberts left it. In the address which you have asked me to give it would be impossible even to enumerate all the advances which medicine has made during the quarter of a century which has elapsed since we last met in this hospitable city.

EMPIRICISM AND SCIENCE IN THERAPEUTICS.

We live in worrying times and we have often to possess our souls in patience. There are those who still maintain that medicine has no claim to the title of an exact science, and yet some of the most estimable of our fellow citizens do all that lies in their power to hinder the employment of one of the methods which contribute towards making medicine an exact science. On the other hand, in view of the striking development of some of the modern applications of the physical forces, there are not wanting those who sneer at us as bigots and obscurantists when we hesitate to write a blank cheque for the reckless employment of those modern applications in diseases of which our knowledge is very limited.

But let us reflect how strange and varied has been the progress of practical medicine, by which I mean all that body of knowledge concerned with the cure and the prevention of disease The history of the earliest efforts in the relief of pain is wrapped in mystery Perhaps they were not unlike the sports or spontaneous variations which are claimed by the Darwinian hypothesis as the first steps in the development of species, those variations which were useful to the organism being perpetuated by a survival of the fittest But at all events—and let us frankly admit it—the basis of our practice is empiricism, and the basis of all our practical life is empiricism But there is good empiricism and bad. The good empiricism continually strives to follow Nature's lead and shed that which is foolish and useless while preserving that which is essential And good empiricism, by carefully recording cases, noting the results of changes made first by chance and then by design, may at length assimilate to a truly inductive process, even though there are many unknown quantities But as Nature herself seems sometimes to fail, and leaves behind vestiges and survivals in our bodily conformation which may give rise to trouble, so we also in our treatment sometimes preserve methods of long past utility which may now and again be harmful. How much we owe to the good sceptics—or, in other words, the independent observers—of whom Sydenham was one, and of whom, in our generation, there was no finer example than Sir William Gull These are the men who have taught us to look disease straight in the face with our own eyes and to realise what is its natural cycle, and ask ourselves within what limits we can reasonably hope to modify it. And as a warning against becoming self centred and self opinionated let us never forget Bacon's wise aphorism "For as they were men of the best composition in the State of Rome which either, being Consuls, inclined to the people, or being Tribunes, inclined to the Senate, so, in the matter we now handle, they be the best physicians which, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning" It is in the period of half knowledge that the practice of medicine has often cut a sorry figure For theoretical lines of treatment, based on incomplete physiological and chemical data, have often produced melancholy failures. But the outcome of the new experimental pathology of the last quarter of a century, controlled by clinical observation, applied and tested by clinical experience, has justified us in claiming that at length our work has ceased to be fairly described as groping in the dark and that in some definite instances medicine has justified for itself the designation of an exact science

In drawing attention to some recent notable advances in the healing art I will ask your consideration and support for this thesis the advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease I do not say that good treatment owes its origin entirely to pathology—far from that, it has often ante-dated pathology—but in proportion as pathology has become complete it has rationalised good treatment and refined it, separating, so to speak, the ephemeral from the permanent, the accidental from the essential, as well as the harmful from the beneficent. Moreover, in these last days in not a few instances the true pathology has laid down new therapeutic lines which have been justified by experience.

BACTERIOLOGY AND TREATMENT OF DIPHTHERIA

Let me choose as my first illustration one of that group of acute specific diseases to which in his discourse Sir William Roberts gave his chief attention I will ask you, as practical men, whether there is any disease within your knowledge in which bacteriological investigation has made so profound a change in our attitude as to the malady and its treatment as it has in diphtheria? Recall, I pray you, the chaotic and bewildering state of doctrine on this disease only a dozen years ago There were the endless, and not altogether academic, disputes as to the difference between croup and diphtheria, as to whether there was a true membranous croup which was different from laryngeal diphtheria, and as to the diagnostic differential signs of diphtheria which appeared to elude the most careful anatomical definition Malignant diphtheria of the throat was easy to diagnose, but as to the nomenclature of mild cases simulating follicular tonsillitis and of the throat exudations complicating scarlet fever an experienced man was the last person to dogmatise It was only at length by studying cases in epidemic groups and especially by noting the paralytic sequelæ that we learned how widely we had to cast our net in order to include examples in which there had been no visible membrane at all though there might in some of them have been exudation in the post-nasal region and, for a time, thin irritating discharge from the nostrils And how exceedingly diverse were our opinions as to its etiology We were never prepared to deny that exposure to cold was a cause and after cold came drains Drain-poisoning, serious as it is in lowering vital resistance and preparing a suitable soil, has been often made to bear more than its fair share in the immediate causation of specific disease, and diphtheria was a notable case in point. Sir William Jenner, whose enlightened doubts were nearly as valuable as his absolute statements, would never admit that the direct relationship of diphtheria and drain emanations was proved. But the confident assurance of many people on this doubtful point was often exceedingly mischievous, for though it led to sanitary investigations and helped sometimes to bring about sanitary improvements it also led to the quiet ignoring of other possible sources of the disease. There was a time, not many years ago, when cases of membranous croup were treated in children's hospitals in ordinary wards, and there were those who stoutly maintained that these cases were not contagious The further study of epidemics led to the conclusive proof that in some cases the disease was disseminated by milk. Then came the observation that epidemics were often followed by sporadic cases, or preceded for a time by mild and ambiguous sore throats Country villages and isolated homes gave their quota as well as crowded streets. By degrees, even in apparently sporadic cases we came to attribute more and more importance to insidious personal contagion, and to see that the disease was maintained and transmitted by the moving to and fro of slight cases, especially in schools and places where children were closely aggregated Increase of the disease seemed to correspond with the period when compulsory school attendance was enforced, and there grew up a strong presumption in favour of the tenacity of infective material associated with bedding and clothing

And if there were wide differences of opinion as to the signs and causation of the disease, how varied were the different lines of treatment! One recalls the routine administration of antimonials and emetics in laryngeal cases which held sway so long, probably on account of the confusion in diagnosis The cases that were benefited were those of simple laryngeal and tracheal catarrh with spasm, but the true membranous cases were almost certainly made worse It was but slowly that the consensus of opinion grew in favour of quinine and iron and other tonic methods The local applications were multiform, and who does not remember the pitiful struggles of many a tender child at the swabbings which were fruitlessly and repeatedly applied? Many of the stronger local applications were actually mischievous The continuous steam kettle and the tent and the irritating and headache producing antiseptic inhalations come back to us and make us realise how often we lowered the constitutional vigour of the patient while we vainly attacked the local disease. The fear of cold air in the treatment of laryngeal affections was also maintained in respect to faucial diphtheria and a room temperature over 70° F day and night, moist like a tropical hot-house, was so constant that it required some hardihood to break through these cast-iron conventions When the bacillus of diphtheria had been isolated by Klebs and the inoculation of it in animals had been demonstrated by Löffler to produce diphtheritic lesions the first step had been taken in unravelling the skein. Let us consider how these discoveries, followed by those of Klein, Roux, Sidney Martin, and others, illustrated and explained the puzzling clinical facts First, the polymorphism of the bacillus is very suggestive The long and short varieties, it has been shown, may occur as pure cultures or side by side, or in successive cultures apparently one form may be replaced by the other Though these varieties cannot as yet be correlated to different types of membrane, yet their discovery prepares us for considerable variation in gross naked eye characters Secondly, the variation in virulence of the bacilli going down to an actual vanishing point with little morphological alteration has its transcript in clinical experience. When in an ordinary case of faucial diphtheria the nose becomes affected and a thin ichorous discharge appears at the nostrils the gravity of the case is always increased On the other hand there are cases of children attacked with thin fibrinous exudation obstructing the nostrils in which the Klebs Loffler bacillus has been identified and yet there is little constitutional disturbance and apparently very slight infectivity There is a form of chronic diphtheritic ophthalmia with thick exudation which presents many similar features. Thirdly the detection of the diphtheria bacillus in the secretions of the throat in cases at first clinically indistinguishable from follicular tonsillitis gives the clue to the puzzling cases which the study of epidemic groups had brought home to us—namely that paralytic sequelæ can occur when most careful observation has failed to identify any antecedent visible membrane. The persistence, sometimes for months, of the bacillus in the fauces of those who have passed through an attack of diphtheria when all membrane has long since disappeared gives us the clue to the occasional prolonged infectiousness *of those who have had this disease, and seems to enforce* the need of special arrangements for diphtheria convalescents. It is the experience of those interested in day school epidemics that a slight nasal discharge associated with imperfect resolution of the lymphatic glands are the clinical danger signals to be looked for and which suggest the bacteriological investigation for continued sources of dissemination.

The detection of the diphtheria bacillus without exudation in the fauces of medical men and nurses attending cases of this disease is one of those valuable and suggestive facts which emphasise the importance of keeping the mouth and throat clean and of maintaining the vital resistance of the attendants by good food regular sleep, and plenty of fresh air In the old days how often the risks of the diphtheria nurse contracting the disease have been increased by the close, stuffy sick room the long uninterrupted hours of attendance, and the inadequate meals Moreover the tenacity of the bacillus and the fact that cultures can be made from membrane that has been in contact with a textile fabric even after some months, accentuates the importance of destroying as much as possible in the way of contaminated clothes and of not being content with perfunctory disinfection But we are further indebted to the bacteriologists for solving some of our clinical difficulties by demonstrating that not all false membranes are diphtherial. The streptococci, for example, seem capable of giving rise to pseudomembranous deposit The exudation occasionally present in early scarlatinal throats, which are extremely red and swollen is not generally true diphtheria, and this harmonises with what is found clinically that the exudation seldom spreads, and that paralysis does not supervene. On the other hand the secondary membranous exudations which sometimes supervene in measles and in the late stage of typhoid fever appear often to be due to true diphtheria bacilli. But further investigation seems to be required as to the virulence of and the dissemination from the secondary cases. Thus far as to the bacilli. But the skein becomes still further unravelled by the discoveries of Roux Yersin and Sidney Martin on the toxin of diphtheria. The first two observers separated the toxin from the bacilli and produced by inoculation many of the symptoms of the disease but *misses* the formation of false membrane

Whether as Sidney Martin maintains, the bacilli at the local site of the disease elaborate a ferment-like body which, subsequently affecting the tissues, digests them and the products of this digestion constitute the toxins or whether as others hold the bacilli themselves elaborate the toxins, is not material The solid gain to knowledge is that for the most part the mischief is elaborated locally at the site of the diphtheritic membrane and not to any great extent by multiplication of the bacilli themselves in the blood and other tissues. And this leads us to see the justification of the researches of Behring and his fellow workers which eventuated in the practical application of the methods of immunisation and the preparation of an antitoxin. It is beyond my purpose and outside my province to go into the complicated questions of the preparation and standardisation of diphtheria antitoxin But surely it is right in this meeting of practitioners who have to deal with disease to insist on the revolution which this treatment has made. The statistics are striking enough, for they show a reduction of mortality between one-third and one-half But statistics are not the only test upon which a medical man bases his practice. The manifest alteration after the use of antitoxin, even in a most unfavourable and ultimately fatal case, is convincing enough to an informed person that we have here a fundamental remedy of enormous potency When, within 48 hours, we see a young subject with malignant diphtheria accompanied by secondary infections which are on the verge of setting up septicæmia so far relieved after the use of the remedy that the glands are reduced in size, the cellular tumefaction of the neck is lessened, the membranous exudation is arrested and begins to separate at the edges the tongue is more moist, and the general state ameliorated, we know that something has been done to control the disease processes with which no previous treatment with which we were acquainted was in the least degree comparable. Furthermore, in cases in which tracheotomy has to be performed not only are the mortality statistics improved but we see for ourselves that the membrane formation ceases to spread and the tube which has formidable disadvantages of its own can be withdrawn much sooner and the risks of ulceration and *stenosis can be thereby lessened. Moreover those of us who* were doubtful about the expediency of intubation in this disease on account of the difficulty of providing for the evacuation of the membrane below the tube are now only too glad to admit of its applicability because of the gradual melting away of the membrane.

Since the introduction of the antitoxin the urgency of local applications to the fauces has become lessened to a marked extent. We are told that antitoxin only neutralises the toxin but does not destroy the bacilli themselves A weak mercurial solution which attacks the bacilli, though it coagulates the albumin, and an alkaline solution which favours the solution of the membrane, seem to be all that are needed. By too much zeal in local applications we interfere with the protective action of the phagocytes and the old corrosive applications are entirely ruled out. With continued experience the limitations of antitoxin are becoming more and more clearly understood. A careful man seeks the assistance of the bacteriologist in every doubtful case but does not wait for his report for he knows that the certainty of success depends on the remedy being introduced early say within the first three days, and that the risks of its employment are insignificant. The existence of secondary infections makes him far more anxious and he feels compelled to warn the friends on that account, but it does not prevent his applying the diphtheria antitoxin even in very grave cases Experience does not seem to support the concurrent use of anti streptococcic serum. As to the rashes the pyrexia, and the joint pains which appear up to the second week after the injection, they seldom give rise to anxiety when we are prepared for them and recognise their nature nor do they require special treatment We know now that they really depend on the serum *per se* and not on the special antitoxin. As might be expected there are occasionally inflammatory incidents from imperfect aseptic precautions in the injections and such incidents ought not to occur but let us remember that there are also like risks which occasionally arise with hypodermic injection of morphine and other remedies and those we accept.

Some of the earlier objections as to the effects of antitoxin seem to have been made by those who were inadequately familiar with the symptoms of diphtheria itself Everybody knows that albuminuria is common in diphtheria and that suppression of urine is not rare and there is no reason to believe that antitoxin has any effect at all in producing them. May I here in speaking of suppression of urine by way of parenthesis refer to a practical point in nursing—namely the extreme difficulty in inducing nurses to give abundant plain water to patients suffering from diphtheria and other febrile illnesses generally and also to the importance of aiding renal secretion and quenching thirst when there is distressing vomiting by giving weak saline rectal injection ? As to the incidence of diphtherial paralysis in cases treated by antitoxin it seems reasonable to suppose that many of those who develop paralysis after antitoxin would otherwise have died before there was any chance for the paralysis to become manifest. Goodall has shown, however that there are no more fatal cases of paralysis in those treated by antitoxin than in those not so treated. It seems probable from Martin's researches that the diphtheria toxin begins to affect the nervous system very much earlier than would be supposed from the obvious clinical manifestations and possibly when once initiated, the neuritic changes go on in spite of antitoxin, just as in some other forms of peripheral neuritis they persist and go through their own evolution after the removal of the cause.' Of the prophylactic value of the diphtheria antitoxin for those in a family or institution where there is a case of diphtheria we can only say that there seems now a large body of experience in support of its efficacy, although the period of immunity conferred does not exceed three weeks.

TETANUS

While the diphtheria antitoxin treatment is in every way the most satisfactory of all the serum methods, the other members of this group of therapeutic measures are full of suggestion, and it is worth while briefly to consider a few of them. Thus, with regard to the tetanus antitoxin, although the experiments on immunisation of animals have not furnished us with a successful method of dealing with the severe and acute cases of human tetanus, yet some benefit has been gained in the chronic forms It is interesting to observe that the tenacity of the combination between the toxin and the nervous tissues which was shadowed forth in diphtheria is in tetanus the dominant factor It would appear to be the tissues of the central nervous system for which the toxin has a special affinity, and the later investigations point to the necessity of subdural injections into the cerebral substance itself, as well as into the cellular tissue, and to the employment of far larger doses of the antitoxin than the first immunisation experiments suggested.

OTHER EXAMPLES OF SPECIFIC REMEDIES

In the other examples of this kind of treatment we have to depend on very incomplete data. For example, in rabies we are still ignorant as to the micro-organism which, we are none the less convinced, is the cause of the disease But the knowledge that the poison is lodged in the cerebro-spinal tissues has led, in the hands of Pasteur and his pupils, to the most fruitful results The working hypothesis that in the dried spinal cord of an animal that has died from rabies the micro organisms are destroyed, but that the immunising substances remain active, seems to have been justified by experiments based upon it and by its applications There surely can be no doubt of the prophylactic value of Pasteur's methods so far as those who have been bitten by rabid animals are concerned, although no beneficial effects follow their employment in the developed disease But when a complete analysis of the life history of the organism has been attained we may fairly look for still greater results in the therapeutics of this disease Is it unreasonable to suggest the same thing with respect to the great triumph of English protective medicine—namely, vaccination? One of the best results of the recent Royal Commission was that it gave the *coup de grâce* to the easy optimism of those of us who considered that there was finality in what had been already accomplished and that nothing more was needed than to continue on the old lines But the most recent methods of preparation with the carefully regulated glycerination and the getting rid of so much of the secondary infection, for which we are indebted to Copeman, mark an enormous advance in the practical application of vaccination Who can doubt that there are still further triumphs in store for us when the organism has been discovered and its natural history has been completely worked out? Of plague, cholera, and typhoid fever I will not speak for the inoculation methods are still *sub judice* With respect to the employment of anti streptococcic serum we are met by the most various testimony Some cases of erysipelas and puerperal fever and some of those most desperate cases of acute septic mischief, following on infections from necropsies, have been strikingly benefited by the use of injections of this serum Some cases of infective endocarditis appear to have improved, but a great many others have shown no response whatever It would appear that although streptococcus is the organism common to many forms of septicæmia and although morphologically no differences can be established according to the lesion from which it is derived, yet that there must be many different strains, and that the serum of an animal that has been immunised from one strain will not necessarily prove beneficial to an animal subject of another strain. Meanwhile it would seem that in any case of formidable septicæmia, when there is substantial reason to doubt whether the patient can cope with it successfully, we are not justified in withholding the use of anti streptococcic serum, which should be recently prepared This is pre eminently one of the subjects in which we may look for notable advances from fuller knowledge of the natural history of these organisms

THE TREATMENT OF TUBERCULOSIS IN THE LIGHT OF MODERN DISCOVERIES

Koch's great discovery of the tubercle bacillus in 1882 has been so far reaching and comprehensive that the simplification which it has brought about in our knowledge and in the mode of grouping of a great body of facts seems almost incredible. The most important outcome was that it confirmed the doctrine that tubercle should be placed amongst the chronic infections and so helped us to realise, in some sense, the kind of enemy with which we had to deal. With respect to the tuberculin treatment of tuberculosis it cannot be denied that the results obtained have been on the whole unsatisfactory and tentative And when we consider that under the most favourable circumstances both forms of tuberculin can only claim to set up fresh activity in the neighbourhood of pre existing tuberculous lesions, with which fresh activity the reaction temperature is associated, it is clear that the result must be, to say the least, problematical With localised subacute and indolent lesions such as we get in lupus we might fairly expect that such increased activity might sometimes be followed by improvement and that has unquestionably been observed also in some cases of tuberculosis of joints But with respect to visceral lesions there is always some risk of dissemination following this renewal of activity and of the setting up new inflammatory action and necrosis instead of fibrosis in the lesions themselves

The importance of the tuberculin injection as a test for the tuberculous lesions in cattle seems to be very great indeed, but the justifiability of the employment of this test in the human subject for the determination of a doubtful lesion is, I think, open to question although it has been extensively employed without proof of harmful effect The most important pathological fact bearing on the therapeutics of tubercle is the enormous frequency of unsuspected tubercle as proved by investigation after death of persons dying from other causes than tubercle Thus, necropsies on people dying from surgical injury and every form of acute and chronic disease show in a great many cases one or more old tuberculous lesions And the younger the subject the more frequently are tuberculous lesions found Thus, from the careful synopses published by several skilled pathologists, it would appear that about one third of the children under two years of age who die from all causes in the children's hospitals show tuberculous lesions The first reflection that forces itself upon us is the enormous frequency of unsuspected tuberculous illnesses that occur in the population around us, the second and equally important reflection is that there exists a tendency in the human subject to spontaneous limitation and arrest, and the third reflection is that there is an extreme frequency of local limited tuberculous deposit as compared with the generalised disease. How, then, if tubercle has gained admission are we to aid Nature in this spontaneous tendency to limitation and arrest?

Let us by no means deny the possible utility of fresh attempts at serum therapeutics nor the tentative use of disinfectants introduced into the blood stream, such as the formaldehyde plan of Dr R, Maguire These methods may prove beneficial in the concomitant and secondary infections even if they do not control the tuberculous process pure and simple. Also we are grateful for all that the surgeons have done in respect to glands and joints and abdominal tuberculosis and for the recent applications of Roentgen rays and Finsen's method to cutaneous tuberculous lesions Bu surely the teaching of pathology is that the fortifying o the general resistance of the individual is the most important indication of all Real, true advance always tends t simplification, and the great fundamental therapeuti remedies are the employment of fresh air and sunshine, o good food, and of regulated exercises This, surely, is th inwardness of what has been called the sanatorium treatment Let us gratefully recognise what Brehmer and Dettweile and Trudean and Walther have taught us, but in th meeting of the British Medical Association it is fitting tha we should remember that 60 years ago an Englishman— village general practitioner, George Bodington of Sutto Coldfield—taught, both by precept and by the results o actual experience, what were the proper methods of treatin phthisis The measures upon which he relied were that th patient should live most of the day in the cool open air, tha his rooms should be thoroughly ventilated and in temper ture not vary greatly from that of the outer air; that dail driving or riding and as soon as possible walking should be enjoined, that a generous diet should be given, and that all this should be carried out under the assiduous daily and even hourly supervision of a practitioner living under the same roof or close by Bodington's criticisms of the orthodox antiphlogistic doctrines of his time were as sensible as they were trenchant, but it may be questioned whether in his rebound from them he did not attribute undue value to sedatives and stimulants as adjuncts to his treatment But the main lines which he laid down are admirable.

Let us now consider in detail what we have learned from recent sanatorium experience in our own time. First, we have learned the value of hyperaeration and of establishing tolerance to cold and to exposure to variations of temperature. The value of hyperaeration is not summed up in its affording more effective oxygenation to the lungs, parts of which are *hors de combat* though that counts for a great deal. The access of free air is also a natural and wholesome stimulus to the nervous system. It increases the appetite and lessens the languor and exhaustion of a chronic febrile disease which the still warm air of the old sick room did nothing to relieve The getting rid of the liability to catarrhs of the upper passages by free exposure to pure fresh air had been known to us apart from phthisis if we had only had the sense to apply it, and the enormous difference between sitting in the open and sitting in a draught was an old story which we ought to have remembered. The daily exposure to free, cool air has also been shown to have a direct benefit in lessening pyrexia diminishing sweating and improving sleep. And can we exaggerate the value of the immeasurably greater intake of direct sunshine which this treatment ensures as compared with any ordinary mode of life? With regard to the employment of exercise, the time when it is taken, and the exact amount of it, the sanatorium experience has shown us that the most important therapeutic indications depend on the careful record of temperature. With regard to food we find that the exaggerated fastidiousness which is so hard to deal with in phthisis is less of a difficulty under sanatorium treatment than under ordinary conditions, that the number of patients who are unable to assimilate milk is exceedingly small and, finally that the enforcement of large mixed meals at any rate for a period, is on the whole justified by the results of chemical investigation and of the actual well being of the patients. But, further there is the educational side of the sanatorium. The patient is instructed as to the importance of the disposal of sputa and as to the methods by which a phthisical patient may live with his fellow-creatures without risk to them. Surely the imperative necessity of enlightened and unremitting medical supervision in work of this kind is self evident. Whether there will be evolved any better method of carrying out these indications for the treatment of phthisis in its early and middle stages remains to be seen So far as the rich and well to-do are concerned it will probably be found that the sanatorium fulfils the role of a school which shall educate them in methods which can subsequently be carried out efficiently at home if the conditions are favourable. But with respect to the poor it is only now and then that the home conditions, *even* in the country admit of adequate early treatment and for them in the immediate future we have to look forward to the multiplication of sanatoriums

It seems desirable that we should speak more guardedly about the *cure* of consumption and insist rather upon its *arrest* In that way we throw upon the individual as well as upon the enlightened community the vital necessity of a prolonged after-care of the tuberculous subject. This is another of the instances in which bacteriology has given scientific emphasis and direction to rational therapeutics, for we remember how *many of our patients, in spite of having* increased greatly in weight and general nutrition and of having improved enormously in physical signs nevertheless continue after their sanatorium course to expectorate once a day sputum containing some tubercle bacilli. But even when the general nutrition leaves little to be desired when, so far as physical signs are concerned, the lungs are dry when the temperature is normal after exertion and at every part of the day is it wise to adopt the optimist tone and to assure the patient that he is as sound a man as ever? We cannot, even in the most promising cases exclude the possibility of the reawakening of activity around old foci nor of entirely new local infections and we must continually hark back upon the old text of maintaining the resistance at its maximum. Meanwhile for the poor man there is the question of bread winning and there is the danger of relapse when he returns to unhealthy surroundings.

The question must be faced whether systematised arrangements can be made for open-air occupation. Whether this can best be done in colonies, like the epileptic colonies where horticulture is taught, or by some method comparable to boarding out, requires much consideration. It is also clear that to meet the full needs of the poor there ought to be some form of special hospital provision made for incurable and rapidly advancing cases of phthisis These are certainly not suitable for the sanatorium and it is unfair to frustrate the true work of the sanatorium by sending such patients thither On the other hand, with our present arrangements of general hospital and infirmary wards the contiguity of cases of acute and curable disease with those of advanced phthisis in which there is copious expectoration is always an anxious matter even when precautions are taken We may, nevertheless be grateful to the bacteriologists for enabling us to give the confident assurance to many a poor consumptive that it is the dried sputum and not the moist material which is the most important and if the devoted wife who is nursing a consumptive husband will only carry out scientific cleanliness if she will strive for the greatest amount of ventilation possible and if she will do her best to maintain her own personal resistance at a maximum her risk becomes almost a negligible one.

Looking still further ahead, it is clear that the community is beginning to realise the necessity of going to the root of the matter and of seriously attempting to prevent consumption as well as to cure it. First as to the prevention of infection, voluntary notification has been established in Manchester and elsewhere with very good advantage. There seems to be very little difficulty in securing disinfection of rooms after a fatal case has occurred in the abodes of the poor and experience would seem to show that with tact the notification of phthisis during life may be followed by sanitary inspection and by much useful guidance as to ventilation, cleanliness and disposal of sputum. The example of some of the Latin races has been often quoted to us in respect to the popular estimate as to the infectiousness of phthisis, but Heaven forbid that our people should in consequence of any such teaching become prudential cowards and treat the poor consumptive as a leper and a pariah There have been undoubted cases of hardship in the way of summary dismissal of young people from places of business on account of cough and the suspicion of phthisis It ought to be an honourable understanding that no employer should dismiss such a person without using his best endeavours to secure admission for him or her to a sanatorium or to some adequate equivalent of the sanatorium.

Passing from the care of the individual sufferer and the protection of his immediate neighbours to the wider claims of the community let us do our utmost to secure in our towns the greater access of sunshine and not only strive for large open spaces but for free space round our dwellings. Let us face the question of free air in our houses and work shops and schools and all public buildings and wage unceasing warfare against the lodgment of dust in theatres and all public buildings and insist on the importance of moist cleansing as distinguished from mere sweeping of dusty material There must come many changes in our modes of home life in large towns, in our house architecture and lighting warming and furnishing Surely these are not altogether utopian and foolish forecasts to keep before us and when substantial progress has been made and the public conscience has been quickened and enlightened the sanatorium may be regarded as a temporary and provisional arrangement only and more may be done in the way of rational home treatment even at its outset. At any rate, it is certain that there will be less of it to treat.

With regard to the relation of human tuberculosis to that of the lower animals Koch's remarkable deliverance has no doubt led to much searching of heart, but we must possess our souls in patience and wait for the results of further and more exhaustive investigation. Meanwhile, let us do all we can to prevent the relaxation of the hard-earned sanitary regulations which have been obtained for the protection of the community in respect to cattle There can be no doubt of the wrong done by allowing milk to be supplied from a cow with a tuberculous udder and the value of the tuberculin test for revealing this disease has been definitely proved. The instruction to our patients to scald their milk should be given universally, although we may condemn the prolonged and repeated sterilisation at high temperatures which has lately become fashionable But I must confess that for my own part I have not yet been convinced that the abdominal tuberculosis of young children is in any large amount the result of infection pure and simple from tuberculous milk. Human tuberculosis absolutely limited to the alimentary canal and to the mesenteric glands is not a very common disease. I believe that for young as well as old the entrance of tubercle is in far greater proportion by the respiratory tract and that its resting place is in the bronchial glands and the lung alveoli, and that in a large number of cases the infection of the mesenteric glands is a secondary one or part of the general infection. Also, the habit of swallowing the sputum, which is so constant in children, ought to be taken into account in the consideration of the production of intestinal and mesenteric tubercle Three colleagues of mine at the Children's Hospital, Great Ormond street, London, W C, who had held the post of pathologist there—namely, Dr W S Colman, Dr F E Batten, and Dr G F Still—have published the results of their investigations, and these all point in the same direction.

The carefully recorded observations of Dr J W Carr, Dr L G Guthrie, and Dr Northrupp likewise show the great preponderance of bronchial glands as the common site of tuberculous lesions in children The most important antecedent and predisposing conditions for tuberculosis amongst the children of the poor are measles and whooping cough and the close, stuffy rooms in which they are treated and in which their convalescence takes place. The response of children to open air treatment is if anything more striking than that of adults, and I believe that it will be found that they are more tolerant of exposure to wind than adults are. The importance to healthy children of passing a great part of the day in the open air has been gradually apprehended by the rich, and the poor have been compelled to learn it by their home conditions, but neither rich nor poor have as yet appreciated how large a slice of every 24 hours of a child's life is passed in the bedroom. The traditional fear of night air and of wide open windows, which is perhaps the survival of ancient malarial experience, has still to be unlearned in this country Moreover, we should never forget in our large manufacturing towns the importance in children of paying regard to the unhealthy mouth cavity, which is due to bad teeth and inflamed gums, and likewise to morbid conditions of tonsils and naso-pharynx which make open pathways for the admission of tubercle and lead to localised and limited infections of the glands of the neck Surgery has done a great deal to help us in dealing with advanced lesions, but surely cleanliness of the mouth in the large and complete sense, improved ventilation, the early instruction in nose breathing and timely change to hills or seaside after acute specific illnesses and chronic catarrh ought to anticipate and prevent surgical interference in a large number of cases

Clinical observations ought in future certainly to be carefully made as to the relation of tuberculous milk to the infection of the glands of the neck, but it is exceedingly difficult to get conclusive evidence. What is the practical bearing of the later investigations with regard to the bearing of heredity on tubercle? We have here a conspicuous example of the fact that the more complete our knowledge of the natural history of a disease the more clearly we realise that observations which at an earlier period seemed absolutely conclusive in one direction become susceptible of other interpretations As we know tubercle now we must admit that if there were definite inheritance of tubercle it would imply a direct transmission of a tangible material from parent to child which would be capable of subsequent dissemination Now, to say that it is impossible that tuberculous material should exist in the new born child would, no doubt, be an ultra dogmatic and unjustifiable statement. So far as I know there is no evidence of any case of fœtal tubercle in the human subject, but there is evidence that the calf may be affected with fœtal tubercle, though this is infinitely rare It is certainly significant that in infants under 12 months old tubercle is not very common, as we should expect it to be if congenital tubercle occurred. It is in the second year that tubercle becomes very common indeed. The successive attack of several members of a family by tubercle, instead of pointing necessarily to an inheritance of the disease, is often explicable by their being subjected to the same or similar infective conditions Is there, then, no inherited tendency to develop tubercle at various periods of stress—what has been called inherited vulnerability? That we cannot deny—though it is impossible to prove—but strictly this amounts to nothing more than saying that a given child is delicate and unstable, and all delicacy, whether the parents be tuberculous or not, means weakened resistance to the inroads of disease This is not an academic question, it is a practical one Sensible moralists wi remind us that the doctrine of original sin is responsible f the excuse and wholesale condoning of much wrong doin In our domain we know how often the abject acceptance the doctrine of heredity has taken away the courage an initiative alike of practitioners and of responsible relativ in dealing with delicacy of constitution as well as with pr nounced tuberculous disease

THE PRACTICAL RESULTS OF THE SCIENTIFIC STUDY O MALARIA

In the whole range of medicine there is scarcely a disea which illustrates our opening thesis more forcibly than do malaria. The story of the investigations of our countryme Manson and Ross, are fresh within our memory Up to certain point the life history of the malarial parasite ha been made clear by the observations of Laveran an Marchiafava. The amœba like bodies enter the red co puscles, live on the hæmoglobin, and divide into spore The latter burst through the envelope of the corpuscl become disseminated in the blood serum, and repeat th process of the parent organism. But other forms do n develop spores and in some species these assume with the corpuscles a crescent like shape When the crescen like bodies are observed for some minutes on the war stage a change of shape takes place and motile filamen are observed to escape from them. It was at this poi that Manson's insight led him to join issue with the Itali observers, who looked on this stage as one of degeneratio whilst Manson claimed that it suggested another li cycle of the organism within the body of some host oth than man, which host should be the means of commun cating the parasite to man. That intermediate host, h reasoned, must be a suctorial insect, and predicted that would prove to be the mosquito Ross's investigatio established the truth of this hypothesis beyond any ca and narrowed down the number of possible hosts to gnats the genus anopheles The next inquiry was to ascertain th important facts as to the habitats of the anopheles and i mode of life. And Ross, in the expedition sent out by th Liverpool School of Tropical Diseases, was able to show th the larvæ of these gnats were to be found in shallow poo which were not big enough or permanent enough for fis and yet were not small enough to dry up between showe The drainage or filling up of these pools in the neighbou hood of human habitations, or systematic destruction of th larvæ by the application of paraffin, appeared to be th readiest way of dealing practically with the problem

The further verification of the mosquito theory was final set forth by the results of an expedition planned und Manson's direction, and carried out by Dr L W Sambon an Dr Low of the London School of Tropical Medicine Th objects of this investigation were two-fold (1) to arran for the transmission to London, with proper precautions, specimens of anopheles which had been infected wi malaria, and to arrange for a healthy person to be bitten them, and to watch the result as to the induction of malari fever, and (2) to instal two healthy persons in a malari district through the whole of a fever season, provided the with efficient protection against mosquito bites, and to no the result Ostia, in the Roman Campagna, was chosen f the erection of the experimental hut, which was construct with the greatest care and furnished with wire netting as to be absolutely mosquito proof No quinine or oth prophylactic was taken.

Both these sections of the investigation were absolute conclusive In two subjects in London a sharp attack ague was induced by puncture by the infected mosquito and Dr Sambon and Dr Low, with precautions as to clothi and as to avoidance of exposure to mosquitoes at the feeding times—namely, just after sunset and after sunrise sojourned through the fever season with impunity It is n too much to hope that these researches will jointly give definiteness and a purpose to attempts made to deal in effective way with one of the greatest scourges of mankin But it is not in prophylaxis only that the elucidation of th life history of malaria has been useful Slipshod use of th term malaria has been responsible for many culpable blunders in diagnosis so that many illnesses have been described as malarial which had no claim whatever to this designation. We also see now that the specific effect of quinine on true malaria is most definite when it reaches the blood as soon as possible after the sporulation of the amœbæ has taken place and the young organisms have escaped from the corpuscles into the serum. We realise again that the anæmia, which may come perilously near to being pernicious as the result of the corpuscular destruction, may still persist after the organisms have disappeared, and that it is in this condition that arsenic finds its chief utility We are still in the dark as to the true relation to malaria of that mysterious disease blackwater fever which has so much in common with the mild paroxysmal hæmoglobinuria of our own climate. But its refractoriness to quinine is quite in harmony with the hitherto negative results as to the presence of malaria parasites in the blood.

MALTA FEVER.

In Malta or Mediterranean fever we have another illustration of how complete exhaustive pathological investigation has led to the rational separation of a given disease from every other The discovery by Bruce of the life-history of the micrococcus melitensis settled once for all the specific nature of this intractable but not very fatal illness and separated it entirely from typhoid fever and malaria.

ACUTE RHEUMATISM

The microbic origin of acute rheumatism was strongly maintained at the meeting of this Association as far back as 1887 by Dr A. Mantle, and its clinical analogies with other infective diseases have been repeatedly set forth. The recent researches of Dr F J Poynton and Dr A Paine seem to have established the existence of a specific diplococcus in the blood in the valves of the heart, in the pericardial exudation, in the joints, and in the subcutaneous nodules of acute rheumatism. From pure cultures of this organism intravenous inoculations in rabbits have been followed by clinical manifestations and by non suppurative lesions similar to those with which we are familiar in acute rheumatism. This seems to be a real contribution to the natural history of the disease and when we have learned something about the rheumatic toxins and about the changes which supervene upon their formation we shall probably get a more satisfactory explanation of the action of the salicylates than is at present forthcoming and we may hope for further light as to the treatment of the complications and refractory forms of this common disease.

THE DIFFERENTIATION OF MENINGITIS.

Bacteriology has done a great deal towards the elucidation of the somewhat confused groups of meningitis. Setting aside the septic cases which arise in connexion with otitis and bone disease and injury as well as those severally dependent upon syphilis and tubercle, there remain (1) the epidemic cerebro-spinal fever in which the characteristic organism is the diplococcus intracellularis (2) the rapidly acute forms, often vertical but sometimes cerebro-spinal, which are associated with pneumonia empyema, and ulcerative endocarditis in which the pneumococcus is the characteristic organism and (3) the sporadic subacute form especially found among young children often limited to the posterior region of the base of the brain but sometimes also spinal, which is usually unaccompanied by any visceral disease whatever In this form Dr G F Still has isolated a diplococcus allied to that of the cerebro-spinal fever but with some definite differences.

There is scarcely any group of diseases in which the resources of therapeutics have been so discouraging It is true that in the first and third of these forms there have been a certain number of recoveries, and although for my part I would not relinquish the use of mercury yet it seems doubtful whether drugs have played any important part in the recovery of the successful cases. Although lumbar puncture and drainage from the cervico-occipital region have temporarily relieved pressure symptoms they cannot as yet be strongly urged as curative measures. May we not reasonably hope that serum therapeutics will one day find some tangible success in this group of intractable diseases? The late Dr J W Washbourn whose premature loss we all lament, had succeeded in making an anti pneumococcic serum and it has also been prepared and used in Italy But the results hitherto obtained, so far as pneumonia is concerned, are inconclusive. I am not aware that there is evidence as to its effect in the form of meningitis depending on the pneumococcus

"ORGANOTHERAPY"

Dr Washbourn was cut down in the beginning of his prime, but we have lately lost another physician in the ripeness of years after a long and distinguished career With the name of Dr W M. Ord must always be associated the merit of having given the first systematic and detailed account of the disease which he called by the name of 'myxœdema. As you will remember it was Gull who in 1873, gave the first clinical description of this malady and in his brief and striking paper with remarkable insight he recognised its affinity with cretinism. But Ord made an elaborate investigation both pathological and clinical of several cases and described the atrophic condition of the thyroid gland. And then came a wonderful series of researches. Reverdin and Kocher showed that the outcome of surgical removal of the thyroid for various diseases was the unlooked for cachexia strumapriva Horsley proved that myxœdema could be experimentally produced in monkeys by removal of the healthy thyroid The various attempts to ingraft the thyroid failed from absorption, but presently George Murray proved that hypodermic injections of extract of fresh thyroid were followed by subsidence of the symptoms of myxœdema, and finally Mackenzie and Fox showed that the gland could be equally advantageously administered when taken by the mouth. The analyses of Hutchison and others will probably pave the way to a still further simplification by indicating which are the really efficient constituents of the gland material and some of the alterative effects in diseases other than myxœdema may perhaps be explained by the unexpected organic combination of iodine which is found to be present in this gland. The relation to exophthalmic goitre, though not yet satisfactorily worked out, is clear enough to show where true lines of fruitful investigation will almost certainly lie. The investigations of Schäfer and Oliver on the suprarenal body have revealed to us the existence of an internal secretion concerned apparently in maintaining the tone of muscular tissues generally and especially of those of the vessel walls. And although they have not yielded a cure for Addison's disease they appear to have given us a hæmostatic agent of considerable local potency

HOW ADVANCE MAY BE MADE IN THE FUTURE.

Hitherto we have stood on a more or less solid basis of established fact, though there have been many gaps in our knowledge, but it would be interesting to forecast a few of the probable directions in which research in the forthcoming generation is pretty certain to add to the common stores With regard to nervous diseases it seems almost certain that some of the acute types will be brought still more into line with the specific fevers Anterior poliomyelitis, for example, which occasionally affects two or three members of a family almost simultaneously and which shows some striking relationships to the exanthemata, will almost certainly prove to be an acute infective disease. The nervous sequelæ and complications of the exanthemata are a mine of clinical wealth and suggestion. For they point not only to disseminated foci of cerebral and spinal hyperæmia and extravasation but also to later changes at first insidious but sometimes far reaching dependent on the dissemination of the toxic products of bacillary growth. It may well be that more developed clinical observation may elicit that in the long latent period which we have assumed to exist between an infective disease and its sequelæ there has been a real continuity of morbid process translateable by signs and symptoms which one day will be obvious enough. If locomotor ataxy for instance be, as we believe the remote outcome of specific disease it will be strange indeed if the latent period does not reveal some intermediate clinical and pathological changes. The great group of peripheral neuritis, towards the elucidation of which we are pre-eminently indebted to the Manchester School (and notably so within the last year) is indeed a meeting place for many etiological factors but it is especially suggestive as showing the parallel effects produced by toxins which are the outcome of bacillary activity and by inorganic and organic material introduced by way of the alimentary tract and perhaps by poisonous products elaborated in the body itself by faulty metabolism

Now with respect to the therapeutics of these diseases the elucidation of their natural history has unquestionably done a great deal by teaching us what cause to remove and so to prevent the further extension of the malady, even in some cases up to a fatal issue. Still, it must be confessed that some members of the group show a singular tenacity in going through a certain evolution, even when the peccant cause has been removed This may seem a disparagement of my original thesis, but knowledge is always justified, and it is something to be able to say that although remedies have not hitherto materially modified the process, yet that the cause having been removed we are tolerably certain that, provided there is no extension to the medullary centres, the cycle will come to an end and that recovery will ultimately be complete Further elucidation may yet show a definite method of shortening the morbid process But if the more complete knowledge of the natural history of these and other obscure nervous diseases does not in the immediate future pave the way to definite antidotes for them it will at least save us from many a blunder We shall learn to leave for a time the morbid processes severely alone and to concentrate our therapeutic efforts on food and on the improvement of the general metabolism of the patient. Can there be any reasonable doubt that we are on the eve of a fuller elucidation of cancer, and that when the history of the organism which we suspect to be behind it has been learned then the fragmentary and isolated pieces of knowledge which have been painfully and slowly acquired during past generations will slip into their proper places like the blocks in the puzzle of a child? But if the history of previous discoveries in our science goes for anything this, again, will be an instance of the convergence of work of experimental pathology, biology and chemistry, and of clinical medicine and surgery in their widest connotations

Gentlemen I have finished my task I have tried to drive home the thesis that the advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease I have given various instances in support of this thesis and others could be given If we are agreed, what is our duty arising out of this conviction? Surely, that we ought to do all that in us lies to maintain, to develop and to defend experimental research in alliance with clinical work. Our countrymen are wakening from their complacency and are beginning to realise that in our great industries it is imperative, if we would keep our place, that well directed scientific research should be liberally and steadily maintained And shall it be said that in the care for the life and health of the community, the noblest and most precious of all industries, we are to be left crippled and poverty-stricken by the absence of suitable equipment?

We need trained workers not only in our great university laboratories, which are more or less efficiently equipped, but in every large centre of population it is essential that there should be those who are capable and ready to bring special knowledge to bear on the problems of the public health, and that there should be the necessary means to enable the work to be done It is not the genius of the English people to look to the State to do everything Whoever reflects on the trend of political thought must see that more and more devolution of the national work will go to the municipalities of the country Let us carry the municipalities with us in an enlightened crusade That the public bodies are ready to do the right thing so far as their powers permit and if the plans suggested are practicable is abundantly manifest in this and other great towns And for far reaching researches in the advancement of pathology which lie beyond the proper limits which the municipal bodies could consider may we not look to the generosity of Englishmen? How much has been given for hospitals and charitable institutions but how little for the endowment of research which will help to lengthen human life and to mitigate its physical ills. The British Medical Association has an honourable record in its yearly series of timely and generous grants to individual workers for special research, and some invaluable work has been fostered and helped in this way Might it not in the future seek to coöperate with municipal bodies and through its widespread local branches supply the stimulus and perhaps the pecuniary assistance required to push forward investigation in local laboratories and to afford the direction, encouragement, and countenance which solitary workers so much need. Let us fain hope that the day may come when to the other beneficent functions of this Association there may be added some form of systematised, continuous, and widespread local organisation for the scientific study of the problems of disease.

Five Clinical Lec

ON

THE CAUSATION AND PREVENTION
PHTHISIS.

BY BYROM BRAMWELL, M.D., F.R.
F.R.S. EDIN.,

PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY, &c.

LECTURE V.[1]

GENTLEMEN,—Another argument which has been advan against the compulsory notification of phthisis is that would not work It is argued that there is no likelihood its being efficiently and satisfactorily carried out in th country, that there would be insuperable difficulties in carrying it out in practice, that it would put unj hardships upon phthisical patients since it would in instances lead to their losing their employments, that it would alienate the public in regard to measures of which cannot succeed unless they have the support of public opinion, and that it would place insuperable hindrances in the way of the early treatment of the disease on which the arrest of its future progress and its cure so largely depend. A number of different and very weighty objections are contained in these statements which must be considered individually

Whether a scheme of compulsory notification for phthisis would work or would not work in practice (whether it could or could not be efficiently carried out in this country and whether there would be or would not be insuper objections to carrying it out in practice) entirely, or certainly, very largely, depends upon the nature of the system of compulsory notification, or rather upon the nature of the action (the preventive measures) which would follow upon such notification and the methods adopted for carrying such action into effect I admit, of course, that if phthisis were included under the Infectious Diseases (Notification) Act of 1889, with the object and intention that the same measures of prevention which are habitually applied to the diseases scheduled or included under that Act should be applied to phthisis, the scheme would not work. This argument I have already met. I have pointed out that the restrictive and preventi measures which are required in the case of phthisis a altogether different from, and very much less stringent tha the restrictive and preventive measures which are required in the case of the contagious and infectious scheduled under the Act of 1889, and further, it is essential to remember that restrictive measures would only be required in a limited number of cases, for, as the Board of Health of the city of New York puts it "The sanitary supervision of phthisis should be considered largely on the merits of individual cases and conditions or of classes of cases and conditions." The question is not whether phthisis should be included under the Infectious Diseases (Notification) Act of 1889 with the intention that the same preventive measures which are applied to the diseases scheduled and included under that Act should be applied, but whether it is or is not advisable to make the notification of phthisis compulsory in order that the measures which are advisable and specially adapted for its prevention—i e, for the prevention of phthisis—may be applied In other words, Is it poss to devise a scheme of compulsory notification for phth which would work in practice? The answer is that such scheme is in actual operation in the city of New York Jan 19th, 1897, the following amendment (Section 225) the Sanitary Code of New York was adopted by the Board Health of New York and the following code of instruction was issued to every practising physician in the city :—

CIRCULAR OF INFORMATION TO PHYSICIANS REGARDING THE MEASURES ADOPTED BY THE BOARD OF HEALTH FOR THE RESTRICTION AND PREVENTION OF TUBERCULOSIS IN THE CITY OF NEW YORK.

It is well known to the physicians of the City of New York that for a number of years the Health Department has been earnestly engaged in the study of tuberculosis, the most widespread and fatal disease occurring in this city and in the initiation of such measures for the curtailment of its ravages as seemed practicable and imperative.

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[1] Lectures I, II, III and IV were published in THE LANCET of July 5th (p 6), 12th (p 61), 19th (p 132), and 26th (p 200) 1902 respectively

From the beginning of this work the Board of Health has recognised the fact that while tuberculosis is unquestionably a communicable disease yet the liability to its transmission may be so greatly diminished by simple precautions as to sharply separate it from those diseases properly classed as contagious. It is to be remembered that while tuberculosis is always the result of direct infection yet it is far less readily communicated than such diseases as small pox, scarlatina, &c., and that if proper sanitary conditions can be secured in each case there is little danger of the transmission of the disease to others. *The sanitary supervision of this disease should, therefore be considered largely on the merits of individual cases and conditions or of classes of cases and conditions* [No italics in the original.]

Thus in its "Circular of Information for Consumptives and those living with them" the Health Department has emphasised these facts That a person suffering from consumption may if his sputum be properly cared for pursue his usual avocations without endang[illegible] others that the disease is often curable; and that early recog[illegible] greatly enhances the chances for recovery As this relatively inno[illegible] character of pulmonary tuberculosis is absolutely dependent up[illegible] intelligent observation of simple and obvious measures for the di[illegible] of the sputum, the earlier efforts of the board were largely educational or directed to the collection of knowledge regarding [illegible] cases, or groups of cases as seemed to constitute the most [illegible] menace to the welfare of the public

On Feb 13th, 1894 the Board of Health passed a series of resolutions designed to assist in the accomplishment of its aims in the suppression of tuberculosis. One of these resolutions involved the reporting of certain classes of cases of tuberculosis, and in compliance with it 4166 cases were reported in 1894 5818 in 1895 and 8344 in 1896 and the Department was enabled, without opposition and without the imposition of hardship upon individuals to extend its educational influence and to protect a large number of persons from risks which without such measures, must inevitably have led to further serious spread of the disease

In order to more firmly establish and to extend the work carried on under the measures above-mentioned on 19th January 1897 the following amendment to the Sanitary Code was adopted by the Board of Health :—

Sec. 225. That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease dangerous to the public health It shall be the duty of every physician in this city to report to the Sanitary Bureau in writing the name, age, sex occupation, and address of every person having such disease who has been attended to by or who has come under the observation of such physician for the first time within one week of such time. It shall also be the duty of the commissioners or managers or the principal superintendent, or physician of each and every public or private institution or dispensary in this city to report to the sanitary bureau in writing or to cause such report to be made by some proper and competent person the name, age sex, occupation and last address of every person afflicted with this disease, who is in their care or who has come under their observation within one week of such time It shall be the duty of every person sick with the disease and of the authorities of public and private institutions or dispensaries to observe and enforce all the sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis.

This section of the Sanitary Code in effect gives legal force to the measures which had been provisionally adopted by the board under resolutions three years earlier It will be noted that in this section of the Sanitary Code pulmonary tuberculosis is classed as an "infectious and communicable disease, dangerous to the public health" *and is not grouped with the contagious diseases* [No italics in the original]

The following circular of information to physicians regarding the measures adopted by the Board for the restriction of this disease was originally published in 1894 and was then forwarded to every physician practising in this city It is now re-issued by the Department after being slightly modified to correspond with the provisions of the above amendment. It describes, in sufficient detail for the information of physicians the purpose of the Health Board and the scope of its work in relation to tuberculosis. The circular follows :—

The communicability of pulmonary tuberculosis has been so thoroughly established, and is now so generally recognised by the medical profession throughout the world that the Board of Health of New York City has determined to take active steps looking toward its prevention in this city and has adopted the following measures —

First. The Health Department will hereafter register the name address, sex and age of every person suffering from tuberculosis in this city so far as such information can be obtained and will require that all physicians furnish such information to the Sanitary Bureau as provided in the above section of the Sanitary Code (postal cards for reporting cases of tuberculosis will be forwarded on application) *This information is solely for record and in no instance will visits be made to such persons by the inspectors of the Department, nor will the Health Department assume any sanitary surveillance of such cases unless the person resides in a tenement house or lodging house (unless in other cases the attending physician requests that an inspection of the premises be made) In no case where the person resides in a tenement house or lodging house will any action be taken if the physician requests that no visits be made by inspectors and is willing himself to deliver circulars of information or to furnish such equivalent information as is required to prevent the communication of the disease to others* [No italics in the original]

Second When the Health Department obtains knowledge of the existence of cases of pulmonary consumption residing in tenement houses or lodging houses (unless the case has been reported by a physician and he requests that no visits be made) inspectors will visit the premises and family will leave circulars of information, and instruct the person suffering from consumption, or the family as to the measures which should be taken to guard against the spread of the disease and, if it is considered necessary will make such recommendations for the cleansing or renovation of the apartment as may be required to free it from infectious material

Third In cases in which it comes to the knowledge of the Health Department that rooms or apartments in tenement houses lodging houses, &c., which have been occupied by a consumptive, have been vacated by death or removal an inspector will visit the premises and, when necessary will direct the removal of infected articles such as carpets, rugs, bedding &c. for disinfection and will make such written recommendations to the Board as may be required regarding the cleansing and renovation of the rooms or apartments An order embodying these recommendations will then be issued on the owner of the premises and compliance with this order will be enforced No persons other than those there residing at the time will be allowed to occupy such rooms or apartments until the order of the Board has been complied with Infected articles, such as carpets rugs &c., will, when necessary be removed by the Health Department, disinfected and returned without charge to the owner

Fourth For the prevention and successful treatment of pulmonary tuberculosis, it is of vital importance that a positive diagnosis be made at the earliest possible moment In order that the assistance afforded by bacteriological examinations of the sputa may be at the command of physicians in all cases, *not under treatment in hospitals* the Health Department is prepared to make such bacteriological examination if samples of the sputa, freshly discharged are furnished in clean wide-[illegible] anied by a blank giving the [illegible] it, the duration of the disease, [illegible] nding physician. Bottles for [illegible] o be filled in can be obtained [illegible] ations for the distribution and [illegible] a cultures After the sputum [illegible] he accompanying blank filled [illegible] ill be collected by the Health [illegible] croscopically and a report of the examination forwarded to the attending physician free of charge *The information regarding cases of pulmonary tuberculosis obtained by the Health Department through such bacteriological examinations of sputum is solely fo* [illegible] *monary tuberculosis thus reported will* [illegible] *the Health Department nor will cir* [illegible] *without the special request of the attending physician.* [No italics in the original]

Fifth. The authorities of all public institutions such as hospitals dispensaries asylums prisons, homes &c. are required to furnish to the Health Department the name sex age occupation and last address of every consumptive coming under observation within seven days of such time The premises occupied by all persons reported by the authorities of public institutions as suffering with pulmonary tuberculosis will be visited by inspectors of the Health Department and such action taken as seems necessary

[illegible] physicians in this city coöperate with the Board in an intelligent and sustained effort to restrict the ravages of this, the most prevalent and formidable disease with which we have to deal

In speaking of the results which have so far been attained by compulsory notification Dr Hermann Biggs the medical officer of health of New York, states —

> In nearly one-half of the cases occurring in many parts of the tenement house districts of the city it is found that more or less efficient precautions are being taken and there has been a most gratifying increase of knowledge and intelligence which affords the greatest promise for the future

The following objections have been urged against this—the New York—system of compulsory notification — That it is a system which is compulsory in a very limited sense that the success of the system depends largely on the good will or the expressed desire, of medical practitioners whether any official sanitary control is to be exercised or not that it is for any purpose of prevention that can be deemed applicable to the population generally a voluntary system not a compulsory system and that in this country no statutory effect could be given to a similar system under the present law

In answer to these objections I would say —That the New York system seems to me to be a system of compulsory notification which is eminently well adapted for the special peculiarities of phthisis—and that is what is required that if the system is considered to be satisfactory statutory effect might easily be given to it in this country by altering the law (if fresh legislation is necessary before it can be adopted and applied) and that, allowing for the differences which obtain between phthisis and the infectious and contagious diseases scheduled under the Act of 1889 it appears so far as its practical working is concerned to be very similar to the compulsory system which is employed in Edinburgh for the notification of all the contagious and infectious diseases included under the Infectious Diseases (Notification) Act of 1889

In the year 1879 10 years before the Infectious Diseases (Notification) Act of 1889 was passed the municipality of Edinburgh made the notification of infectious and contagious diseases compulsory They consequently did not think it necessary to adopt the Infectious Diseases (Notification) Act of 1889 The clause (208) of the Edinburgh Municipal and Police Act of 1879 which refers to the notification of infectious diseases is as follows —

> In order to secure more prompt action in dealing with infectious diseases every medical practitioner practising within the burgh shall within 24 hours of the same coming to his knowledge report to the

medical officer of health every case of cholera, typhus fever, typhoid fever, diphtheria, small pox, scarlet fever (scarlatina), and measles (in this Act characterised as infectious or contagious diseases), occurring in his practice and stating the house or place where the patient is being treated under a penalty not exceeding 40s, and if it be found on inquiry by the medical officer of health that the diagnosis of such practitioner was correct such practitioner shall be paid the sum of 2s 6d for each case reported and verified as aforesaid and in order to facilitate the making of such report every such practitioner shall from time to time, be furnished, on application to the medical officer of health, with printed forms stamped for postal transmission

The printed forms which were then issued, and which are still issued, to every medical man in practice in the city, are as follows —

No EDINBURGH MUNICIPAL AND POLICE ACT, 1879

To Medical Officer of Health, Police Chambers

There is a case of
at, ...
.. 18
No immediate attention required ..
Signature

Under this—the Edinburgh System of *Compulsory* Notification for Infectious and Contagious Diseases—the medical attendant is responsible (1) for the notification of cases of the contagious and infectious diseases enumerated above, and (2) is virtually responsible for seeing that, in those cases in which he does not demand the assistance of the medical officer of health, the necessary preventive measures (isolation, disinfection, &c.) are carried out, for, as a matter of fact, the medical officer of health does not take any steps to ascertain that the diagnosis is correct and does not interfere unless his assistance is demanded by the medical man in attendance on the case, or unless he (the medical officer of health) should for any reason conclude that such interference (which had not been demanded by the medical man in attendance) is required. Of course, if there were reason to doubt the correctness of the diagnosis, or to suppose that the medical attendant did not appreciate the gravity of the case or that he was unable without the assistance of the medical officer of health to carry out the necessary preventive measures, the medical officer of health and the sanitary authority would interfere, in other words, hey have the power of interfering in every case and of aking any steps for verifying the diagnosis, the removal f patients, the disinfection of houses, &c., which they he medical officer of health and the sanitary authority) ay deem it advisable or necessary to take But such terference (either for the verification of the diagnosis, for disinfection, or for the removal to hospital), except in those cases in which it is demanded by the medical attendant, is rarely found to be necessary and, as a matter of fact, rarely takes place In the case of phthisis, such interference unless it was demanded by the medical attendant, would be very rarely, if ever, required, except in the poorer districts and the overcrowded parts of the city By the Edinburgh system every medical man who is in attendance on a case of contagious or infectious disease may, practically speaking, be considered to be for the time being in the service of the local sanitary authority Unless the medical officer of health and the local sanitary authority should see fit to interfere he is entrusted with the sole responsibility of the case and is virtually responsible for seeing—for by refusing to call in the aid of the medical officer of health he virtually takes upon himself the responsibility of seeing—that the proper measures for isolation, disinfection, and protecting the healthy persons who have been, or who may be exposed to infection (i e., who are living with the patient) are carried out. The information conveyed by this system of notification to the medical officer of health is regarded by him as confidential, and, as a matter of fact, is strictly confidential, unless any reason to take action should arise. The experience of Edinburgh shows that such a system of compulsory notification works well. Sir Henry Littlejohn informs me that it "has worked in this city of medical men without a hitch," and that it is efficient in the case of all of the infectious and contagious diseases included under the Act of 1899 *A fortiori*, therefore, there is every reason to suppose that it would work well and that it would be efficient in the case of phthisis, provided, of course, that the powers with which the sanitary authority were endowed and the action which the sanitary authority would take subsequently to the notification were modified and adapted to the special requirements of the disease (phthisis)

Such a system as that which is in actual operation in New York for the [illegible] notification of phthisis which in its pract[illegible] working (allowing, of course, differences which obtain between phthisis and the and contagious diseases scheduled under the Act of 1 appears to be very similar to that which is in operation Edinburgh for the compulsory notification of the contagio and infectious diseases scheduled under the Infectio Diseases (Notification) Act of 1889 seems to me to admirably well adapted for the compulsory notification phthisis

Everyone allows that it is to the medical men who are in actual attendance on phthisical patients that we must chiefly look, in the first instance at least, for the introduction of preventive measures, it is their duty to and instruct their patients and the persons with whom those patients live as to the preventive measures—the destruction of the sputum, ventilation, cleanliness, &c.—which should be employed, and it is their duty to do what they can to persuade the patients and their friends faithfully and diligently to carry these preventive measures into effect. And I maintain that a compulsory system of notification specially adapted to phthisis would greatly strengthen the hands of the medical profession and enable the medical practitioner in attendance on a phthisical patient to insist with much more chance of success at present the case that in those cases in which his advice unbacked by such a system, is ignored the necessary preventive measures *are* carried into effect. In this connexion the following statements of Professor G Sims Woodhead and Dr A. Newsholme seem to me to be of great importance.

Professor Woodhead says —

> In regard to the prevention of phthisis spreading from human patients I must frankly confess that I am greatly in favour of compulsory notification and I am in favour of this because I think it one of the means of impressing upon the public, and even in some cases upon ourselves the fact that there is danger of the spread of infection from tuberculous patients, unless proper precautions be taken by the patient and his friends to destroy all excreta and secreta that may contain tubercle bacilli! The very fact that we consider it necessary to speak of tuberculosis as a notifiable disease should render our task of disinfecting a patient and his surroundings a much one.[2]

Dr Newsholme says —

> It will be argued that sanitary authorities (local or central) already have power under existing laws to diminish the operation of respiratory impurities and industrial dust, and possibly, to a less extent, of damp and dark houses That is a plausible opinion which will probably continue to find favour with those who have no practical experience of local sanitary tion but it will not bear critical study Even supposing that there are ample legal enactments against overcrowding and dust, it must be admitted that the knowledge of a case of phthisis in connexion with overcrowding or a dusty occupation will enormously strengthen our hands in securing the adoption of the necessary remedies. Many nuisances cannot now in many districts be remedied because support is not obtained from the sanitary authority or the magisterial bench Would not a medical certificate that a case of phthisis had occurred in the house where the nuisance was found turn the balance in favour of reform?" And again Even in well-organised districts, a house is seldom inspected oftener than once a year and it must be evident that if we knew of a case of phthisis in a house immediate cognisance could be taken of, and action adopted in respect of conditions favouring phthisis which under other circumstances would probably be delayed for many months and which might have to be entirely omitted in the present state of education of the public. Our leverage in sanitary operations would be enormously increased if a considerable proportion of the cases of phthisis were notified Quite apart from the adoption of special precautionary measures against infection the localisation and remedying of house defects as to cleanliness crowd and dampness would amply repay for all attempts at the notifica of phthisis

Under a system of compulsory notification such as advocate (the New York system or the Edinburgh system compulsory notification applied and adapted to phthisis) th medical practitioner would be responsible for the notific tion, he would be obliged to report to the medical officer o health every case of phthisis immediately it came under his observation, he would receive a fee for such notification, he would at the same time indicate whether the assistance of the medical officer of health was required—in other words, whether the sanitary surroundings of his patient were such as to *necessitate* the intervention of the local sanitary authority or not, and he would, during the subsequent progress of the case—i.e., so long as the patient re mained under his observation, be required to report to, in other words to request the aid and of the sanitary authority whenever such intervention seemed urgently required For each such additional he should, I think, be paid an additional fee. The medical officer of health would in this way be informed of the locality of every case of phthisis as soon as it came under medical observation, and he would be at the same time informed by a highly skilled inspector—the medical man in attendance—whether the surroundings of the patients were in a sanitary or an insanitary condition and whether the active intervention of the medical officer of health (i.e., of the sanitary authority) were required or not. Further, he would be kept in touch with all the cases of phthisis which had been notified so long as they continued under the care of the medical practitioners who had notified them. The migratory cases should, I think, be again notified whenever they came under the observation of another medical practitioner and for such second or subsequent notifications another or perhaps a reduced notification fee should be paid. It cannot, I think, be doubted that the information obtained in this way would be of the greatest possible value to the medical officer and to the sanitary authority in dealing with the disease.

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[2] Edinburgh Medical Journal

Another objection urged against such a system of compulsory notification of phthisis as I have sketched out above is that frequent inspections would be necessary, that a large staff of inspectors would be required, and that intolerable friction would occur as the result of such inspections.

In answer to this objection I would say firstly that under such a system as the Edinburgh system of compulsory notification a comparatively limited amount of inspection would be required, for the medical attendants who report the cases would, practically speaking, be inspectors. In those cases in which they did not demand the assistance of the sanitary authority the medical attendants would, virtually speaking, make themselves responsible for seeing that the necessary precautionary measures were satisfactorily carried out so far as the circumstances and surroundings of the patient would allow, and they would, without doubt, usually report that no assistance from the medical officer of health and the sanitary authority was required; for if—as is the fact—the assistance of the medical officer of health and of the sanitary authority is rarely demanded in the case of the contagious and infectious diseases scheduled under the Act of 1889 such assistance would be very much less frequently demanded and required in cases of phthisis. Secondly, that under the Edinburgh system, and so far as I know under the New York system, friction does not occur. On this point Dr. Newsholme states:—

> The inquiries resulting from notification would in nearly every instance be made at the patient's home, not at his place of business, and with proper provisos there need be, and would be, no interference with business. In the final analysis, if any must suffer ought it not to be one rather than many? But, I repeat, there is not the slightest necessity for anyone to suffer through notification, and the medical officer of health through whose action such suffering arose would speedily find his position so uncomfortable that the indiscretion would not be repeated.
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> Speaking from 15 years' experience of local sanitary administration in London and Brighton, I have no hesitation in stating my emphatic opinion that the visitation of phthisical houses in which such visits are desirable is not only perfectly practicable but is of as great importance to the public weal as similar visits in houses where diphtheria or enteric fever has occurred. I protest against the assumption which appears to be so commonly entertained that the official work of the medical officer of health is confined to the seven chief zymotic diseases and that tubercular diseases which cause 60 per cent. more deaths than the aggregate of these seven zymotic diseases and are much more capable of being prevented than are several of them are outside the sphere of his official action.

And thirdly, that even if a considerable amount of inspection were required the necessary staff of skilled inspectors (medical men acting under the immediate supervision of the medical officer of health) ought, in my opinion, to be provided by the local sanitary authority and paid for out of the rates. Even the limited amount of inspection which would be required under the system of compulsory notification which I advocate would no doubt involve a large expenditure of money—at all events for some years to come—but, as I have already pointed out, the object to be obtained is well worth paying for. The financial objection has already been considered.

Another objection which I have heard urged against the compulsorily notification of phthisis is the difficulty of diagnosing phthisis in its early stages and the friction which would consequently arise both between the patient and his doctor who made the notification or suggested that the case should be notified and the medical man originally in attendance and another medical man who would be certain in many cases to be called in when the patient learned that he (the medical man first in attendance) proposed to notify the case.

The answer to this objection is that no case of phthisis would be notified unless it had been proved by microscopical examination that tubercle bacilli were present in the sputum, a fact which would, of course, put the diagnosis beyond dispute. This is one of the reasons why I think it is the duty of the sanitary authority to provide laboratories, or to make arrangements with existing laboratories, for the testing and reporting on the sputum.

Another objection raised against such a scheme of compulsory notification as has been suggested above is that if the phthisical patients refused to carry out the necessary preventive measures (destruction of the sputum, &c.) the sanitary authority would be powerless unless they were to insist upon the removal of such (dangerous) phthisical patients to a hospital, and consequently that the sanitary authority, if it had the power to insist upon such removal and were to insist upon it, would require to provide the necessary hospital accommodation for such cases.

On this point Dr. Hermann Biggs says:—

> A great obstacle to practical success lies in the fact that the necessary precautions cannot, in a large number of cases, be adopted without the establishment, under the direct control of the Health Department, of special hospitals for the treatment of this disease, and hence numerous instances are met with every week "in which members of many households, numerous inmates of crowded tenement houses, employés in dusty and unventilated workshops, and many others ....." reject all proffered assistance and instruction. In such cases sanitary suggestions are futile and removal to a hospital constitutes the only effective action.

This is, I admit, the great practical difficulty in the way of effectually dealing with the disease. The fact must, I think, be recognised and faced that if a phthisical patient refuses to carry out the necessary preventive measures (for the destruction of the sputa, &c.) he is in some degree a source of danger to the healthy (unaffected) persons with whom he is in immediate contact and to the public at large. I admit, with the French Commissioners who have urged this as their most important argument against the compulsory notification of phthisis, that the only logical method of dealing with this difficulty is to give the sanitary authority power to consign such cases of phthisis (or such cases as are considered dangerous) to a hospital and to retain them in hospital until they agree to carry out the necessary preventive measures.[8]

I have already stated that while, in my opinion, it is not the duty of the sanitary authority to provide hospital accommodation for the *treatment* of cases of early phthisis—i.e., to provide and keep up sanatoriums—it is the duty of the local municipal and sanitary authorities (if a real attempt is to be made to reduce the prevalence of phthisis to the lowest possible attainable dimensions) to provide out of the rates, either by themselves or conjointly with the Poor-law authorities, hospital accommodation for those cases of phthisis in which the patients either from (*a*) the insanitary nature of their surroundings combined with their inability to carry out the necessary preventive measures or (*b*) the insanitary nature of their surroundings combined with their refusal to carry out the necessary preventive measures are *a distinct source of danger* to the healthy persons with whom they are in immediate contact, and therefore to the community at large. Theoretically speaking, cases of this kind ("dangerous" cases of phthisis as I term them) ought to be sent to hospital, and personally I am strongly in favour of giving to the sanitary authorities the compulsory powers which are necessary for dealing with such cases, for such compulsory powers are, I think, necessary if our preventive measures are to be thorough and effectual (i.e., in order to reduce the prevalence of the disease to the lowest attainable limit). Further, I believe that a little compulsion judiciously applied (i.e., applied in the worst and most glaring cases) would, in the course of a short time, cause a very substantial diminution in the number of cases in which the patients refused to carry out the necessary (easy and simple) preventive measures, though their number would even then continue to be very great.

But while making this statement I do not mean to suggest

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[8] *Le seul moyen logique et efficace contre le tuberculeux qui ne peut ou ne veut détruire ses crachats ou ses déjections bacillifères c'est l'internement dans un hôpital.* Les Drs. Holmboe et Hansen chargés de rédiger pour la Norvège un projet de loi contre la tuberculose n'ont pas hésité. Voici le 2e paragraphe de l'article VI. de leur projet: "Dans le cas où la situation du malade ne lui permettrait pas de prendre les mesures nécessaires, ou que le malade par suite de mauvaise volonté aurait négligé de suivre les injonctions de l'autorité médicale celle-ci est autorisée à ordonner le transport immédiat dans un hôpital."

[illegible] of phthisis in which the patients [illegible] must immediately be [illegible]lling to carry out the necessary [illegible] numbers are far too great for [illegible] the provision, in the first instance, of [illegible] limited amount of hospital accommodation sufficient to receive the worst and most aggravated—i.e., the most dangerous—cases. I admit that it would be necessary to apply such compulsory powers cautiously and to a limited extent, at all events in the first instance. But while this is my individual—I would add my strong and deliberate—opinion it must be allowed that neither the public, the profession, nor many of the warmest advocates of compulsory notification seem as yet prepared to consent to such compulsory notification. Dr Newsholme, for example, states —

> In practice, segregation of the phthisical patient, except where it is voluntarily undertaken in the interest of the patient, is entirely out of the question

I have already dealt with the objection that the provision of such hospital accommodation would necessitate a very large expenditure of money, and have stated that unless the public and their representatives—the municipal and sanitary authorities—are prepared to face a large expenditure of money it is in my opinion, useless and Utopian to talk of attempting to stamp out and eradicate phthisis and other forms of tuberculous disease, or to expect that the maximum amount or anything like the maximum amount, of prevention which is attainable with our present means of prevention will ever be reached.

Another objection, which is practically the same as that which has just been considered, is that the compulsory notification of phthisis would interfere with the liberty of the subject to such an extent that it would not be accepted by the people of this country. This objection seems to be based upon the supposition that if the notification of phthisis were made compulsory the same action (restrictive measures) would necessarily follow as in the case of the contagious and infectious diseases scheduled under the Act of 1889.

I have, however, already pointed out that the action which would follow the compulsory notification of phthisis would necessarily be very different from the action which follows the compulsory notification of the infectious and contagious diseases scheduled under the Act of 1889, since the reasons for notification are entirely different in the two cases—I mean the contagious and infectious diseases scheduled under the Act of 1889 on the one hand and the great majority of cases of phthisis on the other—and in those (dangerous) cases of phthisis in which compulsory removal to a hospital is urgently required I see no reason why the public should merely because of their chronicity, though I admit that their numbers would be a great practical difficulty and that for a time at least one would have to be content with dealing with the worst (most dangerous) cases only, object to such compulsory removal, since it would only be practised because the patients were a distinct source of danger to their neighbours and to the community, any more than they object to the compulsory removal of cases of the infectious or contagious diseases scheduled under the Act of 1889. But, as I have just stated, the public do not as yet seem to be prepared to consent to such restrictive measures, though individually I am strongly of opinion that without such restrictive legislation it will be impossible to reduce the prevalence of the disease to anything like the lowest possible attainable limit. Too much weight must not, however, be attached to this admission as an argument against the compulsory notification of the disease, for I submit that the compulsory notification of phthisis would still be of immense benefit even if it did not carry in its train compulsory powers for dealing with (i.e., removing to hospital) those patients whose sanitary surroundings are eminently bad and who are either (*a*) unable or (*b*) unwilling to adopt the necessary preventive measures, though I believe that the benefits which would result from any system of compulsory notification would be considerably lessened if it did not carry with it compulsory powers for dealing with those cases of phthisis which I have termed 'dangerous.'

The next argument—or, rather, series of objections—which has been advanced against the proposal is that the compulsory notification of phthisis would entail great hardships on phthisical patients since it would lead to a large number of them being dismissed from their employments, that phthisical patients who had been dismissed in this way would in future take care not to afford any outward evidence of their malady by the adoption of precautionary measures urged [illegible]terests of the public, that [illegible] would [illegible]quently, after being once dismissed from the employment, avoid consulting another medical practi [illegible] and that a large amount of harm would therefore [illegible] the disease were scheduled under the list of notifiable diseases under the English Act, for the knowledge [illegible] notification would ensue would prevent resort to advice in the early stages of the disease when its [illegible] could be best arrested.

I admit that if the premises on which this argument is based are correct and that if the conclusions which are founded on those premises are accepted they form serious and weighty objections to the compulsory notification of the disease. But, I ask, are these premises these conclusions correct? And my answer is that I do think so. It is argued that "the justification for the that phthisis shall be compulsorily notified lies in the fa that the person in question is suffering from a dangero infectious disorder communicable from person to person." I emphatically protest against, and disagree with, this way of stating the fact that phthisis is an infectious disease which may under certain circumstances be communicated from person to person, for it is, I maintain, calculated to give an altogether erroneous conception of the infect of phthisis and of the danger which a healthy unaffected person runs of contracting the disease from being in contact a person affected with the disease, and it is, therefore, calculated to do harm by unduly alarming the public. In my opinion it would be more correct to say that the justification for the demand that phthisis shall be compulsorily is founded on the belief that it (compulsory notification) is necessary and essential in order to reduce the prevalence of the disease to the lowest attainable point. I allow that if the public are taught, without any qualification, to believe that phthisis is a dangerous infectious disorder communicable from person to person loss of employment would be likely to follow the compulsory notification of the disease. But I emphatically dissent from the unqualified statement that "phthisis is a dangerous infectious disease communicable from person to person." I submit that if the public were made thoroughly to realise and to appreciate the fact that a healthy person who lives or works in close contact with a patient suffering from phthisis runs, practically speaking, little or no risk of contracting the disease, provided that certain simple precautionary measures are carried out (notably the disinfection or destruction of the sputum while it is still moist), such loss of employment would be much less likely to occur than has been supposed. The fact that, provided the sputum is destroyed or thoroughly disinfected while it is still moist, the risk of infection in cases of phthisis is so slight that for practical purposes it may be entirely ignored is of paramount importance. It is of the utmost importance that it should be brought home to the public. The public must be made to understand (1) that phthisis is not dangerous except through the sputum,[4] (2) that the sputum is easily dealt with (disinfected and destroyed), and (3) that if the sputum is disinfected or destroyed while it is still moist and proper precautions are taken in respect to ventilation and cleanliness there is practically no risk of being in contact with a patient affected with phthisis.[5] The latter statement is abundantly justified by the statistics of the Brompton Hospital and by the opinion of numerous weighty authorities. These observations show that even in hospitals specially devoted to the treatment of consumption and filled with phthisical patients the physicians, nurses, and attendants do not acquire the disease, provided that proper attention is given to ventilation, cleanliness, and the disinfection of the sputum. Cornet states "The consumptiv in himself is almost harmless and only becomes harmfu through bad habits."

I of course admit that a healthy person should not sleep in the same bed with a patient suffering from phthisis. I admit that if this condition were enforced a certain number of phthisical patients would lose their employment.

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[4] In the present connexion I need not refer to the diarrhœa which results from tuberculous ulceration of the intestine since tuberculous ulceration of the intestine does not occur in the early stages of phthisis and since persons affected with tuberculous ulceration of the intestine whether occurring as a late event in the course of ordinary phthisis or as an early event in the course of generalised (acute) tuberculosis are not in a position to follow their employment.

[5] Except through inhaling particles of sputum coughed into the atmosphere, or through kissing, or using a cup [illegible] spoon [illegible]taminated with phthisical sputum

But this is inevitable It cannot be prevented under any circumstances (whether the compulsory notification of the disease is adopted or not) provided that it be granted—and every one, I presume, will grant this—that the healthy (unaffected) members of the community have a right to be protected from infection. It must be remembered that the healthy members of the community and healthy employés have at least, equal rights with the diseased (phthisical) members and diseased (phthisical) employés I therefore maintain that no employer has a right to allow—and the sanitary authorities have no right to permit, if they can prevent it—an employé who is suffering from phthisis to sleep in the same bed with a healthy employé I further suggest—though this is no doubt a debatable question, since the risk that a healthy person runs of being closely associated with a patient suffering from phthisis is a small risk—that no right-minded employer of labour should, if he can prevent it, allow a person who is suffering from phthisis to work in close contact with other healthy employés, unless he (the employer) is satisfied that the proper precautionary measures (for the destruction of the sputum, for ventilation and cleanliness) are carried out, since such preventive measures are, in most cases at all events simple and are easily and readily carried out. I maintain that the healthy members of the public—the large majority—have a right to demand that they should be adequately protected against phthisis, just as they have a right to demand that they should be adequately protected against the diseases scheduled under the Act of 1889 notwithstanding the differences as regards chronicity

I conclude then that if the public were made clearly to understand that there is little or no risk of a healthy person contracting phthisis from being in close contact with a person affected with phthisis, provided that proper precautions with regard to cleanliness, ventilation, and the disinfection of the sputa are carried out, the loss of employment which it is stated would result from compulsory notification would be much less than has been supposed

But I go further than this and I suggest that the compulsory notification of phthisis, instead of being likely to cause the dismissal of phthisical patients from their employments would, on the contrary be likely to maintain them in their employments. My reasoning is as follows. Up to the present time or until quite recently the public have not realised the fact that phthisis is under certain circumstances an infectious disease—i e. capable under certain circumstances of being conveyed from the sick to the healthy Consequently phthisical patients have been allowed to work in close contact with healthy persons, and even to sleep in the same beds with healthy persons, without any special precautions being taken. The great advance in public knowledge regarding phthisis which has recently taken place and which is making rapid progress every day has placed the position on a very different footing The public have been now taught to regard phthisis as an infectious disease. But, as I have already pointed out, this statement requires qualification—it is in short, essential that the public should be also taught that there is practically little or no risk of infection provided the proper precautions are taken and that these precautions are simple and easy Consequently it reasonably may be expected that as soon as the public thoroughly realise that there is a risk of the disease being propagated from person to person unless satisfactory precautions (for the destruction or disinfection of the sputum and as regards ventilation and cleanliness) are taken right-minded employers of labour will not allow persons affected with phthisis to be employed along with other healthy persons and therefore will dismiss persons who are suffering from phthisis, or whom they suspect to be suffering from phthisis from their employment, unless the necessary and simple precautionary measures to prevent infection are taken, and healthy persons will object to be employed in close contact with persons suffering from phthisis, or persons whom they suspect to be suffering from phthisis unless such precautions are taken. But if they (the public, the employers of labour and the healthy employés) are made to understand as they should be made to understand, that there is little or no risk from being closely associated with persons suffering from phthisis provided that the necessary and simple preventive measures (for the destruction of the sputum ventilation and cleanliness) are carried out, and if they realise that by a compulsory system of notification every person who is suffering from phthisis will, as soon as he applies for medical advice be carefully instructed with regard to the necessary preventive measures, and that medical men and the sanitary authorities will do their best to see that such preventive measures are carried into effect, they will feel that they have in compulsory notification and the precautionary measures based thereon a protective measure which is of great benefit to them—which is a distinct safeguard to them. In short, they will realise that with a system of compulsory notification there is much less risk than there would be without a system of compulsory notification of their being associated with patients suffering from the disease. Consequently it may be reasonably expected I suggest that in the future phthisical patients will run less risk of being dismissed from their employments if a system of compulsory notification is adopted than they would do if a system of compulsory notification were not adopted.

Since the foregoing paragraph was written I find that the same opinion has been expressed by Dr Newsholme. He says —

> While writing the above I have heard of the case of a clerk who appears to have been discharged from his post because he was phthisical in connexion with the recent publicity given to the dangers arising from the sputa of such patients If the admirable propagandism of the Association for the Prevention of Tuberculosis is to continue (and we all hope that it will) a certain amount of alarm among those imperfectly informed is inevitable In all probability nothing would be more successful in removing this unreasonable fear (unreasonable when proper precautions are taken) than the knowledge that cases of phthisis are notified to the medical officer of health who has official charge of any necessary precautionary measures

But even granting that loss of employment did occur in a certain proportion of cases are we justified for this reason in concluding that the compulsory notification of the disease should not be adopted? I do not think so. A certain amount of hardship must necessarily result if the prevalence of phthisis and other forms of tuberculous disease is to be reduced to the lowest attainable limit. The few must unfortunately *suffer for the many* Year by year as the *disease* would become eliminated from the population the few would become fewer and fewer If I am right in thinking that it is impossible to reduce the prevalence of phthisis to anything like the lowest possible attainable limit without a system of compulsory notification, if compulsory notification would afford as I hold it would undoubtedly do valuable assistance in the prevention of phthisis and is essential and if our preventive measures are to be thorough and effectual we are surely justified in disregarding however much we may deplore it, the hardship which would be enjoined upon the few The benefit to be gained by the many in my opinion far outweighs the hardship (loss of employment) to the few

Let me next consider whether the compulsory notification of phthisis would have the disastrous effects which it is stated it would have in preventing patients suffering from early phthisis taking medical advice and the necessary measures for the cure of their disease. In considering this question it seems to me essential in the first place to determine whether a healthy person does or does not run a risk of contracting the disease from being closely associated—as, for example, in a workshop, office or shop—with a patient suffering from phthisis. That there is some risk (though I believe in the case of perfectly healthy persons it is comparatively speaking a small risk) unless the proper preventive measures (for the destruction of the sputum satisfactory ventilation, and cleanliness) are taken everyone will, I suppose allow That this risk is greatly diminished and is, practically speaking abolished if such precautions are taken everyone or almost every one, will I suppose, also allow Further it must be admitted that a compulsory system of notification such as I have suggested would in some degree diminish the risk to the healthy employés since it would to some extent at all events ensure that the necessary preventive measures were carried out. Again it must be allowed that the healthy employés have a right to demand either that they should not be employed alongside phthisical patients or that the phthisical patients should be obliged to take the necessary and simple precautions to prevent their being dangerous to their neighbours. I have further suggested that if the public are made to understand that there is practically no risk of associating* with phthisical patients, provided that certain simple and easily carried out precautions are adopted, in the future phthisical patients will if they take such precautions and that sufficient hospital accommodation must immediately be provided for all the cases of phthisis in which the patients are either unable or unwilling to carry out the necessary preventive measures. The numbers are far too great for this All I advocate is the provision, in the first instance, of a certain limited amount of hospital accommodation sufficient to receive the worst and most aggravated—i.e., the most dangerous—cases. I admit that it would be necessary to apply such compulsory powers cautiously and to a limited extent, at all events in the first instance. But while this is my individual—I would add my strong and deliberate—opinion it must be allowed that neither the public, the profession, nor many of the warmest advocates of compulsory notification seem as yet prepared to consent to such compulsory notification. Dr Newsholme, for example, states —

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* I exclude sleeping with phthisical patients for this as has been already pointed out is attended with some risk

> In practice, segregation of the phthisical patient, except where it is voluntarily undertaken in the interest of the patient, is entirely out of the question

I have already dealt with the objection that the provision of such hospital accommodation would necessitate a very large expenditure of money, and have stated that unless the public and their representatives—the municipal and sanitary authorities—are prepared to face a large expenditure of money it is in my opinion, useless and Utopian to talk of attempting to stamp out and eradicate phthisis and other forms of tuberculous disease, or to expect that the maximum amount or anything like the maximum amount, of prevention which is attainable with our present means of prevention will ever be reached.

Another objection, which is practically the same as that which has just been considered, is that the compulsory notification of phthisis would interfere with the liberty of the subject to such an extent that it would not be accepted by the people of this country This objection seems to be based upon the supposition that if the notification of phthisis were made compulsory the same action (restrictive measures) would necessarily follow as in the case of the contagious and infectious diseases scheduled under the Act of 1889

I have, however, already pointed out that the action which would follow the compulsory notification of phthisis would necessarily be very different from the action which follows the compulsory notification of the infectious and contagious diseases scheduled under the Act of 1889, since the reasons for notification are entirely different in the two cases—I mean the contagious and infectious diseases scheduled under the Act of 1889 on the one hand and the great majority of cases of phthisis on the other—and in those (dangerous) cases of phthisis in which compulsory removal to a hospital is urgently required I see no reason why the public should merely because of their chronicity, though I admit that their numbers would be a great practical difficulty and that for a time at least one would have to be content with dealing with the worst (most dangerous) cases only, object to such compulsory removal since it would only be practised because the patients were a distinct source of danger to their neighbours and to the community, any more than they object to the compulsory removal of cases of the infectious or contagious diseases scheduled under the Act of 1889 But, as I have just stated, the public do not as yet seem to be prepared to consent to such restrictive measures, though individually I am strongly of opinion that without such restrictive legislation it will be impossible to reduce the prevalence of the disease to anything like the lowest possible attainable limit. Too much weight must not, however, be attached to this admission as an argument against the compulsory notification of the disease, for I submit that the compulsory notification of phthisis would still be of immense benefit even if it did not carry in its train compulsory powers for dealing with (i.e. removing to hospital) those patients whose sanitary surroundings are eminently bad and who are either (*a*) unable or (*b*) unwilling to adopt the necessary preventive measures, though I believe that the benefits which would result from any system of compulsory notification would be considerably lessened if it did not carry with it compulsory powers for dealing with those cases of phthisis which I have termed "dangerous"

The next argument—or rather, series of objections—which has been advanced against the proposal is that the compulsory notification of phthisis would entail great hardships on phthisical patients since it would lead to a large number of them being dismissed from their employments, that phthisical patients who had been dismissed in this way would in future take care not to afford any outward evidence of their malady by the adoption of precautionary measures urged on them in [illegible] of the public, that would consequently, after being once dismissed from employment, avoid consulting another medical practition and that a large amount of harm would therefore resul the disease were scheduled under the list of notifia diseases under the English Act, for the knowledge th notification would ensue would prevent resort to medic advice in the early stages of the disease when its could be best arrested.

I admit that if the premises on which this argument is based are correct and that if the conclusions which are founded on those premises are accepted they form serious and weighty objections to the compulsory notification of the disease But, I ask, are these premises and these conclusions correct? And my answer is that I do not think so It is argued that "the justification for the that phthisis shall be compulsorily notified lies in the fact that the person in question is suffering from a dangerous infectious disorder communicable from person to person." I emphatically protest against, and disagree with, this of stating the fact that phthisis is an infectious disease which may under certain circumstances be communicated from person to person, for it is, I maintain, calculated to give an altogether erroneous conception of the infectiousness of phthisis and of the danger which a healthy unaffected person runs of contracting the disease from being in contact with a person affected with the disease, and it is, therefore, calculated to do harm by unduly alarming the public. In my opinion it would be more correct to say that the justification for the demand that phthisis shall be compulsorily notified is founded on the belief that it (compulsory notification) is necessary and essential in order to reduce the prevalence of the disease to the lowest attainable poin I allow that if the public are taught, without an qualification, to believe that phthisis is a dangerous infectious disorder communicable from person to person loss of employment would be likely to follow the compulsory notification of the disease. But I emphatically dissent from the unqualified statement that "phthisis is a dangerous infectious disease communicable from person to person" I submit that if the public were made thoroughly to realise and to appreciate the fact that a healthy person who lives or works in close contact with a patient suffering from phthisis runs, practically speaking, little or no risk of contracting the disease, provided that certain simple precautionary measures are carried out (notably the disinfection or destruction of the sputum while it is still moist), such loss of employment would be much less likely to occur than has been supposed. The fact that, provided the sputum is destroyed thoroughly disinfected while it is still moist, the r of infection in cases of phthisis is so slight that practical purposes it may be entirely ignored is of par mount importance. It is of the utmost importance that should be brought home to the public. The public must b made to understand (1) that phthisis is not dangerous except through the sputum,[4] (2) that the sputum is easily dealt with (disinfected and destroyed), and (3) that if the sputum is disinfected or destroyed while it is still moist and proper precautions are taken in respect to ventilation and cleanliness there is practically no risk of being in close contact with a patient affected with phthisis.[5] The latter statement is abundantly justified by the statistics of the Brompton Hospital and by the opinion of numerous weighty authorities. These observations show that even in hospitals specially devoted to the treatment of consumption and filled with phthisical patients the physicians, nurses, and attendants do not acquire the disease, provided that proper attention is given to ventilation, cleanliness, and the disinfection of the sputum Cornet states "The consumptive in himself is almost harmless and only becomes harmful through bad habits."

I of course admit that a healthy person should not sleep in the same bed with a patient suffering from phthisis. I admit that if this condition were enforced a certain limited number of phthisical patients would lose their employment.

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[4] In the present connexion I need not refer to the diarrhœa which results from tuberculous ulceration of the intestine since tuberculous ulceration of the intestine does not occur in the early stages of phthisis and since persons affected with tuberculous ulceration of the intestine whether occurring as a late event in the course of ordinary phthisis or as an early event in the course of generalised (acute) tuberculosis are not in a position to follow their employment.

[5] Except through inhaling particles of sputum coughed into the atmosphere, or through kissing, or using a cup [illegible] taminated with phthisical sputum.

But this is inevitable It cannot be prevented under any circumstances (whether the compulsory notification of the disease is adopted or not) provided that it be granted—and every one, I presume will grant this—that the healthy (unaffected) members of the community have a right to be protected from infection. It must be remembered that the healthy members of the community and healthy employés have, at least, equal rights with the diseased (phthisical) members and diseased (phthisical) employés I therefore maintain that no employer has a right to allow—and the sanitary authorities have no right to permit, if they can prevent it—an employé who is suffering from phthisis to sleep in the same bed with a healthy employé. I further suggest—though this is no doubt a debatable question since the risk that a healthy person runs of being closely associated with a patient suffering from phthisis is a small risk—that no right-minded employer of labour should, if he can prevent it, allow a person who is suffering from phthisis to work in close contact with other healthy employés, unless he (the employer) is satisfied that the proper precautionary measures (for the destruction of the sputum, for ventilation and cleanliness) are carried out, since such preventive measures are in most cases at all events simple and are easily and readily carried out. I maintain that the healthy members of the public—the large majority—have a right to demand that they should be adequately protected against phthisis, just as they have a right to demand that they should be adequately protected against the diseases scheduled under the Act of 1889 notwithstanding the differences as regards chronicity

I conclude, then, that if the public were made clearly to understand that there is little or no risk of a healthy person contracting phthisis from being in close contact with a person affected with phthisis, provided that proper precautions with regard to cleanliness, ventilation and the disinfection of the sputa are carried out, the loss of employment which it is stated would result from compulsory notification would be much less than has been supposed.

But I go further than this and I suggest that the compulsory notification of phthisis instead of being likely to cause the dismissal of phthisical patients from their employments, would on the contrary, be likely to maintain them in their employments. My reasoning is as follows. Up to the present time or until quite recently the public have not realised the fact that phthisis is under certain circumstances an infectious disease—i.e. capable under certain circumstances of being conveyed from the sick to the healthy Consequently phthisical patients have been allowed to work in close contact with healthy persons, and even to sleep in the same beds with healthy persons, without any special precautions being taken. The great advance in public knowledge regarding phthisis which has recently taken place and which is making rapid progress every day has placed the position on a very different footing The public have been now taught to regard phthisis as an infectious disease. But, as I have already pointed out, this statement requires qualification—it is in short, essential that the public should be also taught that there is practically little or no risk of infection provided the proper precautions are taken and that these precautions are simple and easy Consequently it reasonably may be expected that as soon as the public thoroughly realise that there is a risk of the disease being propagated from person to person unless satisfactory precautions (for the destruction or disinfection of the sputum and as regards ventilation and cleanliness) are taken right-minded employers of labour will not allow persons affected with phthisis to be employed along with other healthy persons, and, therefore will dismiss persons who are *suffering from phthisis*, or whom they suspect to be suffering from phthisis from their employment, unless the necessary and simple precautionary measures to prevent infection are taken, and healthy persons will object to be employed in close contact with persons suffering from phthisis or persons whom they suspect to be suffering from phthisis unless such precautions are taken. But if they (the public, the employers of labour and the healthy employés) are made to understand, as they should be made to understand that there is little or no risk from being closely associated with persons suffering from phthisis provided that the necessary and simple preventive measures (for the destruction of the sputum ventilation and cleanliness) are carried out, and if they realise that by a compulsory system of notification every person who is suffering from phthisis will, as soon as he applies for medical advice be carefully instructed with regard to the necessary preventive measures, and that medical men and the sanitary authorities will do their best to see that such preventive measures are carried into effect, they will feel that they have in compulsory notification and the precautionary measures based thereon a protective measure which is of great benefit to them—which is a distinct safeguard to them. In short they will realise that with a system of compulsory notification there is much less risk than there would be without a system of compulsory notification of their being associated with patients suffering from the disease. Consequently it may be reasonably expected I suggest that in the future phthisical patients will run less risk of being dismissed from their employments if a system of compulsory notification is adopted than they would do if a system of compulsory notification were not adopted

Since the foregoing paragraph was written I find that the same opinion has been expressed by Dr Newsholme. He says —

> While writing the above I have heard of the case of a clerk who appears to have been discharged from his post because he was phthisical in connexion with the recent publicity given to the dangers arising from the sputa of such patients. If the admirable propagandism of the Association for the Prevention of Tuberculosis is to continue (and we all hope that it will) a certain amount of alarm among those imperfectly informed is inevitable In all probability nothing would be more successful in removing this unreasonable fear (unreasonable when proper precautions are taken) than the knowledge that cases of phthisis are notified to the medical officer of health who has official charge of any necessary precautionary measures.

But even granting that loss of employment did occur in a certain proportion of cases, are we justified for this reason in concluding that the compulsory notification of the disease should not be adopted? I do not think so. A certain *amount of hardship must necessarily result if the prevalence* of phthisis and other forms of tuberculous disease is to be reduced to the lowest attainable limit. The few must unfortunately suffer for the many Year by year as the disease would become eliminated from the population, the few would become fewer and fewer If I am right in thinking that it is impossible to reduce the prevalence of phthisis to anything like the lowest possible attainable limit without a system of compulsory notification, if compulsory notification would afford as I hold it would undoubtedly do, valuable assistance in the prevention of phthisis and is essential and if our preventive measures are to be thorough and effectual we are surely justified in disregarding however much we may deplore it, the hardship which would be enjoined upon the few The benefit to be gained by the many in my opinion far outweighs the hardship (loss of employment) to the few

Let me next consider whether the compulsory notification of phthisis would have the disastrous effects which it is stated it would have in preventing patients suffering from early phthisis taking medical advice and the necessary measures for the cure of their disease. In considering this question it seems to me essential in the first place to determine whether a healthy person does or does not run a risk of contracting the disease from being closely associated—as for example in a workshop office, or shop—with a patient suffering from phthisis That there is some risk (though I believe in the case of perfectly healthy persons it is comparatively speaking a small risk) unless the proper preventive measures (for the destruction of the sputum satisfactory ventilation, and cleanliness) are taken, everyone will, I suppose, allow That this risk is greatly diminished and is, practically speaking abolished if such precautions are taken everyone or almost every one will I suppose, also allow Further it must be admitted that a compulsory system of notification such as I have suggested would in some degree diminish the risk to the healthy employés since it would, to some extent at all events, ensure that the necessary preventive measures were carried out. Again it must be allowed that the healthy employés have a right to demand either that they should not be employed alongside phthisical patients or that the phthisical patients should be obliged to take the necessary and simple precautions to prevent their being dangerous to their neighbours. I have, further suggested that if the public are made to understand that there is practically no risk of associating[*] with phthisical patients provided that certain simple and easily carried out precautions are adopted, in the future phthisical patients will if they take such precautions and if a compulsory system of notification be adopted, be less liable to be dismissed from their employment than if they did not take such precautions and if a compulsory system of notification were not adopted

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[*] I exclude sleeping with phthisical patients for this as has been already pointed out, is attended with some risk.

Now if these propositions are granted, then it must I think, be allowed that the disastrous results which have been suggested as the results of compulsory notification—viz , concealing the nature of the complaint, refusing to adopt obvious precautionary measures and to take advice at the stage when the disease is curable, and the extension of infection to others—will not follow But even granting, for the sake of argument, that considerable numbers of phthisical patients were for the reasons suggested dismissed from their employment, is there sufficient reason to suppose, as has been argued, that they would in order to obtain situations elsewhere refuse to place themselves—or rather, I would say, to continue—under medical treatment in the early and curable stage of the disease? Such a result might perhaps have been expected to follow a few years ago But would it follow at the present day? I do not think it would be likely to do so in any large proportion of cases of early phthisis, provided that the patients could obtain medical advice and could manage to carry out the appropriate treatment. A few years ago phthisis was popularly regarded as an incurable disease We now know that, provided that the right means of treatment are employed at a sufficiently early stage of the case, it is a curable disease in a considerable proportion of cases And if the public are only made thoroughly to realise this fact it is surely reasonable to suppose that even those phthisical patients who should happen to be dismissed from their employment would, in most instances at all events, endeavour by every means in their power to adopt the necessary means to become cured

In connexion with the compulsory notification of phthisis I have advocated the formation of sanatoriums for the treatment of cases of early and curable phthisis , and what more appropriate cases for admission to such sanatoriums than patients affected with early phthisis who have been dismissed from their employment? If a determined effort is to be made to stamp out phthisis a certain amount of sanatorium accommodation must be provided. This will, of course, involve a large expenditure, but I have already insisted upon the fact that it is hopeless to attempt to deal with the disease in a thorough and effective manner without a very large expenditure of money I do not mean to suggest that sufficient sanatorium and hospital accommodation must be immediately provided for the reception and treatment of every case of phthisis and for the retention of every early case of phthisis until the disease is cured or until the tubercle bacilli have disappeared from the sputum. This seems to me to be quite impracticable But I do think that if a determined effort is to be made to reduce the prevalence of the disease to the lowest attainable limit the charitable public and the Poor law authorities ought to provide a certain amount of sanatorium accommodation for the treatment of cases of early and curable phthisis, and the sanitary authorities ought to provide a certain amount of hospital accommodation for the more "dangerous" cases of the disease

I would further point out that it is not essential that the early cases should remain in sanatoriums for prolonged periods of time—i.e , until the disease is completely cured or until the tubercle bacilli have disappeared from the sputum—though this would, of course, be advisable and eminently desirable if it could be managed Even if the early cases of phthisis could be placed in sanatoriums for a limited period—a few weeks only—until the patients were instructed and drilled in the measures which it is advisable and necessary to take for the treatment of the disease and for the prevention of the extension of the disease to others (i.e , for the destruction and disinfection of the sputum), the beneficial effects both to the patients themselves and to the community at large would be enormous After his discharge from a sanatorium the patient who had been thoroughly taught to carry out the necessary precautionary measures might safely be employed alongside healthy persons and be allowed to follow his ordinary employment, so far at least as the welfare of his fellow and healthy employés was concerned

In short, for the reasons already given I do not anticipate that a compulsory system of notification specially adapted to phthisis would have the disastrous results, either as regards loss of employment or as regards refusal to continue the necessary medical treatment, which have been suggested Even if it is admitted that a certain proportion of phthisical patients would probably lose their employment, I believe that if the necessary hospital and sanatorium accommodation were provided they would, in most instances at all events, willingly agree to continue under medical treatment and to do everything in their power to get cured of their disease. This would not, of course, meet the difficulty of providing for the wives and families of those phthisical patients who were thrown out of employment while they—the bread winners—were undergoing treatment in a sanatorium or hospital This is, in my judgment, one of the greatest practical difficulties connected with the subject But it is absolutely impossible to prevent some hardships if the disease is to be dealt with thoroughly and satisfactorily It would be the duty of the Poor law authorities and of the charitable public to provide for the maintenance of the wives and families of such phthisical patients

Lastly, it is argued that the compulsory notification of phthisis would retard the very object which its advocates have in view, since it would alienate the public in regard to the measures of prevention which cannot succeed unless they have the support of public opinion This is simply, it seems to me, another way of stating that the objections to the compulsory notification of phthisis are greater than the advantages which it would confer The whole object of this communication has been to show that, under a system of compulsory notification specially adapted to phthisis, such need not, and in fact would not, be the case. I believe that if the public once thoroughly realised the *enormous* benefits which they would derive from reducing the prevalence of phthisis to the lowest possible attainable limit , if they once became convinced that without the compulsory notification of the disease it was impossible to attain this end , that the compulsory notification of phthisis was essential in order to attain this end , and that it was possible to introduce a system of compulsory notification which would work effectively and smoothly in practice , in short, if the public were once convinced that the advantages to be gained by the compulsory notification of the disease were greater than the disadvantages, hardships, &c , which it would entail, then, instead of being alienated by the proposal they would willingly submit to the proposal and would agree, and in fact demand, that it should be put in operation The medical profession, who are able to appreciate the subject in all its bearings and whose willing a active coöperation is essential for the success of any schem of compulsory notification for phthisis, must be first convinced on these points , and it is with the object of trying t convince the profession, and through them the public, that the advantages of a *compulsory system of notification specially adapted to phthisis* are far greater than are the disadvantages, that these lectures have been written and are now published

THE
SIMULATION OF ACUTE PERITONITIS BY PLEURO-PNEUMONIC DISEASES

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THIS paper deals with a class of cases in which it is n easy to mistake thoracic for abdominal disease. This dec tive likeness of two diseases is not of purely theoreti interest, for a mistaken diagnosis is often followed in such case by an unnecessary operation. This condition, whil well known to the older physicians, has dropped out of notic in recent years, and that is some excuse for this paper

CASE 1 *Right diaphragmatic pleurisy and pneumonia with marked abdominal signs, simulating appendicitis with peritonitis* – This case I owe to the kindness of Dr P Kidd A little girl, aged 11 years was admitted to the medical wards of the London Hospital in 1895 complaining of pain in the head, but especially in the abdomen Three days before admission she had severe pain down the right side of the abdomen and vomited bilious fluid several times. When she was first seen at the hospital her abdomen was rigid and especially tender in the right iliac fossa. Her bowels had not been opened for three days and her tongue was brown and dry Her pulse was 104 full and not easily compressed and her temperature was 103° F The thoracic signs which at no time were very marked, were almost absent on admission, she was, however breathing about 40 to the minute and cut her respirations short because they hurt her in a manner characteristic of pleurisy She had moreover tenderness along the attachment of the diaphragm and the veins were dilated there By the fourth day after admission there were obscure signs at the right base of some pneumonia, the breath sounds were a little diminished, and there were a *few moist râles, but these were also heard at the left* base. Her temperature which had remained at about 103° fell by crisis to normal on the fourth day, but soon became irregular and for four or five weeks it frequently reached 102° During this time the signs of pneumonia and diaphragmatic pleurisy became more distinct and at last left no doubt as to her condition but had she been admitted to a surgical instead of a medical ward, and at the present time when so many cases of appendicitis are submitted to early operation instead of seven years ago I cannot help thinking that her abdomen would probably have been explored.

CASE 2. *Pleuro-pneumonia of the right base acute abdominal pain and vomiting no lung signs herpes labialis empyema recovery*—This case I owe to the kindness of Mr H P Dean and Dr G Schorstein. A little boy aged 10 years, was admitted to the London Hospital in 1899 as suffering from acute peritonitis after an injury Two days before admission he had received a blow in the lower part of the chest or in the upper part of the abdomen On the following day the day before admission, he was seized with severe pain in the abdomen, chiefly in the upper part, and he vomited twice. On admission, his abdomen was found to be somewhat distended tender and rigid all over but especially so in the epigastric region. His bowels had been constipated since the pain commenced and an enema only gave a small result. He lay with both legs drawn up. His temperature was 99 5° F on admission but it rose to 103° the same evening His pulse ranged from 130 to 140 but was of good volume and strength His respirations were 44 per minute and catchy The examination of the thorax gave absolutely negative results Soon after admission he developed herpes labialis and was transferred next day to the medical side No signs had yet appeared in the thorax but on the following day there was undoubted consolidation at the right base. The temperature fell by crisis on the ninth day of the disease but seven days later it rose again and became irregular and empyema developed on the right side. This was opened and drained and he then made a good recovery

CASE 3. *Double basal pneumonia with right diaphragmatic pleurisy in a girl the subject of a gastric ulcer acute epigastric pain with collapse laparotomy death*—This case is certainly the most perplexing one that I have yet heard of I am indebted for it to Mr F S. Eve A girl aged 17 years, had been attending the out-patient department of the London Hospital for some months for marked anæmia and gastric ulcer She had had once before a similar attack to the one which I am about to describe. One morning in 1899 she started for work as usual and on her way was seized in the street with violent epigastric pain and vomiting She was brought to the hospital at once in a state of collapse. Her pulse was 120 and very thready and her temperature was 104 5° F Her abdomen was rigid, motionless very tender and distended, and these signs were most marked in the epigastric region. She was admitted to the surgical wards as a case of ruptured gastric ulcer and within two hours Mr Eve opened her abdomen He explored the anterior and posterior surfaces of the stomach the greater and lesser curvatures but found no trace of gastric ulcer nor was there any peritonitis. Unfortunately ether was the anæsthetic given. Misfortunes followed fast Her cough became so violent that a coil of intestine and some omentum escaped between the stitches and had to be washed and returned and the abdomen again sewn up. On the second day after admission it was clear that she had right basal pneumonia but her temperature had fallen to 101° On the third day it rose again to 104° and signs of consolidation appeared at the left base and she died on the fifth day from the commencement of the attack. At the post mortem examination double basal pneumonia and right diaphragmatic pleurisy were found and in the stomach was a shallow ulcer of the size of a sixpenny piece which was not even near perforation. There was no peritonitis. I think that all will admit that this was an impossible case to diagnose correctly Looking back at the case the only point which should have aroused suspicion was the temperature of 104 5° No record of the frequency of respiration was kept

CASE 4 *A case of pyopneumothorax of the left base simulating appendicular peritonitis or left subphrenic abscess of gastric origin.*—A male Hebrew aged 34 years was admitted to the London Hospital under a medical colleague for colic and peritonitis in 1901. I was asked to give a surgical opinion on his abdominal condition. He had not been well for a year suffering chiefly from pain and wind in the stomach after food but without vomiting For several weeks he had also had pain in the left lower and back part of his chest with a bad cough and night sweats and wasting He had been constipated for 12 days. When I saw him his temperature was 101° F his pulse was about 100 and fairly strong and his respirations were 38, his nares being vigorously dilated at each inspiration He was a little icteric but not really jaundiced. His abdomen was rigid and very tender all over but I could make out no local dulness or resistance and the abdominal wall relaxed between each respiration. The base of the left lung behind was dull on percussion. Vocal resonance and tactile vocal fremitus were diminished. Such breath sounds as could be heard were of a somewhat tubular character The house physician thought that the right iliac fossa was more rigid and resistant than the rest of the abdomen. The medical registrar was of opinion that the signs indicated left subphrenic abscess due to a perforated gastric ulcer but the stomach resonance was normal and the spleen was not displaced. My medical colleague agreed with me that the signs appeared to indicate trouble above the diaphragm and arising from the lower lobe of the left lung Ten days later it was clear that he had pyopneumothorax at the left base, probably arising from a tuberculous focus in the apex of his left lower lobe. A rib was accordingly resected and his temperature fell to normal. He put on flesh and lost all pain but a sinus persisted when he left the hospital.

CASE 5 *A case of pyopneumothorax of the right base simulating appendicular peritonitis*—On Sept. 12th, 1901 I was called late one evening to see a man in the wards of the London Hospital who was said by my house surgeon to be suffering from appendicitis and general peritonitis." Two days before admission the patient was running for a train on his way to work in the morning when he was seized with severe pain in the right iliac fossa. He gave up work at 1 P M on the same day and took to his bed Next day his bowels were well opened by a pill and castor oil. He had no vomiting He had never been seriously ill before. When I saw him in the wards it was clear that he was seriously ill and in great pain His temperature was 100° F his pulse was 80 his respirations were 43, and his tongue was furred and dry His abdomen was hard rigid and tender all over but perhaps a little more so in the right iliac fossa. It relaxed however between the respirations for a second and became soft and there was no marked distension or localised dulness or resistance. The heart was normal and the examination of the lungs showed nothing but a little bronchitis and emphysema. I refused to operate because whilst the abdominal signs appeared to me at least doubtful the respirations—43 a minute with a pulse of only 80—appeared to indicate that the lungs were the source of the trouble. The thing however which really decided me not to operate was that I did not think that he could safely take an anæsthetic. I carefully examined him again on the next day with a medical colleague. The abdominal signs had disappeared almost entirely and dulness at the right base with diminished breath sounds and tactile vocal fremitus the presence of a pleural rub, and the absence of tubular breathing left no doubt that he had right basal pleurisy Eight days later the signs at the right base had much increased and pus was found by an exploring needle. A rib was resected and 24 ounces of pus with air were evacuated. The condition was then found to be one of pyopneumothorax I saw him once again in February 1902. He had been attending the out-patient department for a sinus left by the empyema. An energetic dresser had syringed out his cavity with some antiseptic and had nearly choked him by the passage of the fluid through the orifice in the lung into the trachea.

CASE 6. *Traumatic left pleurisy with abdominal signs laparotomy*—A labourer aged 38 years was admitted to the London Hospital under my care in February, 1901. giving the following history He was assisting to unload deal planks from a barge when one of the planks swung round suddenly whilst hanging from the crane and struck him violently over the lower left ribs, precipitating him 12 feet into the barge where he alighted on the back of his head. He was slightly concussed and had a scalp wound in the occipital region. He soon recovered from the shock of the fall and the only sign of the injury which could be made out was a fracture of two of his left lower ribs, probably the ninth and tenth, but he was so muscular a man and the part was so tender that the exact ribs broken could not be determined. Within 12 hours of admission a pleuritic rub was heard in the region of the broken ribs. On the next day acute abdominal signs appeared. He complained of violent abdominal pain which was worse down the left side of the abdomen. His abdomen was rigid all over but especially in the left hypochondrium and lumbar regions, the abdominal wall, however, still moved on respiration. Ill-defined dulness was found down the left side and this was thought to be due to blood in the peritoneum. He vomited continuously and the vomitus soon became bilious. His bowels had not been opened since he was admitted and an enema of one and a half pints of soap-and water was given. This was retained. Retention of urine which had been present since admission persisted. His temperature was 99° F. and his pulse was 75 and of good volume. A diagnosis of laceration of the spleen with recurrent hæmorrhage was made, and laparotomy was decided upon. I must admit that this diagnosis was largely due to the fact that within a fortnight a very similar case had been admitted to the same ward and did not develop any marked abdominal signs until the fifth day when the patient was to have left the hospital. On that day he collapsed and his abdomen became distended and much free fluid was discovered. Laparotomy was performed and the spleen was found to be torn nearly in two. He died from hæmorrhage on the table whilst the clots were being displaced to find the pedicle. The abdomen in the present case was opened in the left linea semilunaris and the abdominal contents were found to be absolutely normal. The dulness was explained by the enormous muscular development of the abdominal wall, which was so great that the recti and lateral abdominal masses projected into the peritoneum as rounded masses, which were at first thought to be hæmatomata. The great muscular development of the abdominal wall was apparently due to the man being by trade a deal runner. Some idea of the spasm may be gained by the fact that strand after strand of ordinary silkworm gut snapped without drawing the edges of the incision together, and finally the stoutest silk had to be employed and the anæsthetic vigorously pushed before the abdominal wound was closed. The wound healed by first intention and the patient made an uninterrupted recovery.

Andral[1] appears to have recognised this condition clearly in 1836 and in his book narrates several typical cases. Watson,[2] in his admirable text-book of medicine, quotes Andral and refers to cases of his own in which pleurisy at the right base simulated hepatitis, but he does not appear to have recognised the possibility of confusing diaphragmatic pleurisy with acute peritonitis. Fagge knew the condition well. In his text-book he says: "In exceptional cases the pain is referred to the terminal branches of the intercostal nerves, to the hypochondrium so as to lead to a mistaken diagnosis of hepatitis, to the loins, so that the case has been called one of lumbago, or to the neighbourhood of the umbilicus, so that peritonitis has been suspected", and in a note he adds: "I have myself had a patient whose sole complaint was of pain in the crista ilii. I feel sure that if it had not happened that a short time before my attention had been specially directed to this question I should have failed to discover that he had pleurisy, although on applying my stethoscope I at once heard a rub.—C. H. F."[3] Modern medical writers for the most part are vague in their reference to this class of case and many do not even refer to them at all. The condition is altogether unknown to surgeons if we judge from their text books and this is all the more unfortunate as it is they who will open the abdomen of the pleuritic patient should they be ignorant of this condition after they have caused ether to be administered. My excuse for this paper is to call attention to a pitfall in surgery into which, as may be seen here, I have fallen myself.[4]

The thoracic diseases which can give rise to such severe abdominal signs as [illegible] in the lower part of [illegible] or the adjacent p[illegible] of my cases were [illegible] the lung, involvin[illegible] which apparently [illegible] lower lobe rupture[illegible]y, producing pneumothorax. One case was most interesting in that the pleurisy was traumatic, due to a localised injury and associated with broken ribs, it was recognised and yet the abdomen was opened, so definite were the abdominal signs.

The abdominal signs and symptoms which may arise in such conditions are conveniently divided into parietal and visceral.

Parietal.—The abdominal wall is acutely tender and painful. The tenderness often extends over the whole abdomen, but in some cases it is unilateral, it may be present only above or below or be more intense in these situations. It will readily be seen that such acute abdominal pain and hyperæsthesia in the right hypochondrium may be mistaken for hepatic and biliary diseases, whilst in the right iliac region an appendicitis would at once suggest itself and in the epigastrium a perforated gastric ulcer. The abdominal muscles are, moreover, in spasm so that the abdominal wall is board like and hard. So great is this spasm that the deepest anæsthesia is necessary to relax it and the pupils will be widely dilated before the abdomen becomes soft. This has practical application, for if the intestines are allowed to escape they will be returned to the abdomen with the greatest difficulty and the surgeon will find that the stoutest silk alone will stand the strain necessary to close the wound. The respiration is of the costal type, but it will be found on placing the hand upon the abdominal wall that this relaxes for a moment at each inspiration, and this is an important diagnostic sign. Writers on diaphragmatic pleurisy insist on the importance of unilateral exaggeration of costal respiration on the side of the chest affected.

Visceral.—The visceral signs are distributed along the whole length of the alimentary canal. Gastric disturbance leads to nausea, hiccough, and vomiting which may be urgent and become bilious. The intestines are apparently more or less paralysed, so that the abdomen becomes distended, and this, with the tenderness and spasm of the abdominal wall already referred to, produces a most deceptive resemblance to peritonitis. Constipation is nearly always present and enemas may be retained, so that apparently the rectum has lost its irritability. Even the profound vascular changes which we are in the habit of associating with severe lesion in the splanchnic area are frequently present, at least at the onset of the attack, although it must be admitted that they do not often persist or become more severe as the disease develops.

The patient is often collapsed at the onset of the pain. The extremities are cold and beads of sweat may break out on the forehead, whilst the features are pale and pinched, but in none of my cases did I see the rings round the eyes or the dry shrivelled tongue which one associates with general suppurative peritonitis.

DIAGNOSIS.

The diagnosis is nearly always easy if suspicion is aroused and the surgeon is aware of this deceptive condition. The chief points to be observed are the rapidity of the respiration, often 40 a minute or more, which is out of all proportion to the pulse rate, which is seldom so frequent as 100 a minute and is not weak or wiry. The respirations will often exhibit the curious catch at the top of inspiration which is characteristic of pleurisy. The abdominal tenderness is, moreover, found to be chiefly superficial and firm deep pressure with the flat hand may be permitted. It will then be found that the abdominal wall becomes soft for a moment at each inspiration which is not the case in acute peritonitis. The absence of rings round the eyes and a temperature of about 103° should also make one hesitate to diagnose a serious and general peritoneal infection. When once a suspicion has dawned on the mind of the surgeon the patient is comparatively safe, for an examination of the suspected side of the thorax will reveal some dulness or friction sound or some excess of costal movement on that side over the other which will lead him to pause and perhaps to consult his medical colleague, but it must be frankly admitted that direct thoracic signs are often almost entirely lacking for 24 hours or more.

The great danger, after all, appears to arise from an auto-suggestion by the patient's surroundings and the circumstances under which he is first seen. The surgeon is summoned by his house surgeon, perhaps in the dead of night, to see a case of ' acute peritonitis probably of appendix or gastric ulcer origin. He goes to his well known ward where he has seen series of cases of every phase of abdominal disease but seldom or never pleurisy or pneumonia. There he finds a patient suffering from acute abdominal pain perhaps vomiting and the house surgeon tells him that the patient has retained an enema. The pain the patient is in and perhaps his cries when he is being examined, disturbing the whole ward as they do at night, prevent a complete examination. It may be that the surgeon is not quite satisfied that the signs undoubtedly indicate general peritonitis but his clinical experience at once reminds him how vague the signs of general peritonitis may be of the case of ruptured liver or spleen in which the signs were so vague for three or four days that operation was postponed until too late or of that case of ruptured gut which for two days was supposed to be abdominal contusions. In such circumstances it is really not surprising that patients exhibiting the signs which I have mentioned are sometimes operated on This is an accident always to be deplored, for very frequently ether is administered and this adds bronchitis to the pre-existing lung condition, whilst an extensive abdominal incision seriously hinders coughing The only guard against such deplorable accidents is to recognise the possibility of their occurrence and that is my excuse for this paper and the record of those cases.

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[1] Andral, translated by D. Spillane, 1836.

[2] Sir Thomas Watson: Principles and Practice of Physic, fifth edition, 1871.

[3] Hilton Fagge: Principles and Practice of Medicine, third edition vol. i., p. 1026.

[4] Since this paper was read at the Clinical Society on April 11th, 1902, a paper has appeared on the Simulation of Appendicitis by Acute Intra thoracic Disease by Dr. Maurice H. Richardson, Boston Medical and Surgical Journal, April 17th, 1902.

PATHOLOGY

The pathology is one of referred pain and divides itself into three heads

1. *Irritation in continuity* of the lower six dorsal nerves will explain the hyperæsthesia and spasm of the abdominal wall. These intercostal nerves supply the diaphragm and lower part of the pleura and here their branches if not their trunks, will be irritated by an acute inflammatory process. The terminations of the seventh to the eleventh dorsal nerves pass to the abdominal wall and supply the skin and muscles there. If the seventh eighth and ninth nerves are chiefly affected the acute epigastric tenderness and spasm will closely simulate a perforated gastric ulcer or if chiefly hypochondriac and on the right side hepatitis or gall bladder trouble. When the tenth dorsal nerve is mainly affected the pain is referred to the umbilicus as it is in so many abdominal complaints, whilst the area of the tenth and eleventh dorsal nerves on the right side is that in which the signs of an acute appendicitis develop. Moreover the presence of tenderness and spasm on the left side in the tenth and eleventh dorsal areas does not exclude appendicitis, for in the early stage of this affection the pain may be referred to that side It is interesting to note that three of my six cases terminated in suppuration. This seems to indicate that the inflammation in order to produce such abdominal signs must be severe enough to penetrate to the nerve trunks themselves and to produce actual neuritis

2. *Referred visceral pain* has been most exhaustively studied by my colleague Dr Henry Head[*] and it will explain referred abdominal pain from lung disease without pleurisy The seventh eighth and ninth dorsal rami communicantes are those which supply the lungs When broncho-pneumonia, phthisis or bronchitis but not lobar pneumonia supervene, even without pleurisy impulses may pass up to the posterior root ganglia of these nerves and there produce such changes that normal impulses passing through these ganglia from the terminal branches of the nerves in the epigastrium and upper abdominal wall are exalted into painful impressions. The spasm follows in a reflex manner from the pain. Dr Head tells me that he has seen such cases but none of those related here are explicable on this pathology

3. *Of the pathology of the visceral signs* to which I have referred gastric, intestinal rectal, and vascular we know very little Perhaps they are the result of a reflex in the reverse direction to that to which I have just alluded to that irritation of the six lower intercostal nerves by a pleurisy produces disturbance in the distribution of the three splanchnic nerves which are derived from the same level of the spinal cord. On the other hand it may be due to irritation of these nerves in continuity as they lie beneath the pleura or pass through the diaphragm to the great sympathetic plexuses and ganglia of the abdomen

Welbeck-street W

A CASE OF RECOVERY FROM MEMBRANOUS GASTRITIS

BY OTTO GRÜNBAUM M B CANTAB M R.C P LOND

MEMBRANOUS gastritis is a condition characterised by an exudation from the epithelial lining of the stomach leading to the formation of a false membrane over the whole or part of that viscus. The symptoms of the disease are extremely variable. Thirst is often distressing occasionally vomiting is uncontrollable and pain in the stomach may be considerable, but cases have been recorded in which no symptoms have existed The pathognomonic sign is the vomiting of a cast of the stomach or shreds of croupous membrane, but owing to the rarity of the presence of this sign along with the fact that this form of gastritis usually occurs as secondary to a grave disease which averts attention from the gastric symptoms, the condition is not frequently diagnosed during life. In membranous gastritis the cast consists of fibrin and blood cells only, while in phlegmonous inflammation of the stomach the necrosed mucosa is shed This difference is not strictly adhered to in the literature on the subject.

As to the rarity of the disease authorities agree but they differ in their experiences as to the most frequent causes Rokitansky[1] states Croupy inflammation of the stomach never occurs as a primary and substantive affection except in the shape of delicate flocculent exudations in the aphthous processes of children but always and then rarely as a sequela or degeneration of exanthematic processes, in variola, in typhus, in the absorption of pus into the circulation and particularly in puerperal inflammation of the uterine veins Delafield[2] saw a man aged 46 years suffering from this disease and termed the condition idiopathic because no cause was assignable This author recognises that membranous gastritis is usually secondary to typhus fever pyæmia puerperal fever cholera, dysentery and irritating poisons Von Ziemssen[3] suggests that the condition may arise from the membrane in diphtheria spreading down the œsophagus into the stomach while Ziegler[4] writes that croupous and diphtheric inflammations of the stomach are rare They occur most frequently in typhus fever cholera measles scarlet fever small pox, pulmonary tuberculosis and pyæmia In diphtheria, on the other hand they are extremely rare Wilks,[5] Fox,[6] Kundrat,[7] Goodhart[8] Rotch[9] and several others describe the condition but add little to the above summaries. Recklinghausen[10] saw one case complicating gangrenous pneumonia. Goodhart and Still record that they have seen membrane scattered over the surface of the stomach mostly on the top of the rugæ and accompanied by intense congestion of the mucous membrane in a case of severe broncho pneumonia where there was no evidence of diphtheria. The condition was associated with membranous colitis. Osler[11] found an extensive area of croupous inflammation represented by a thick adherent greyish white exudate covering an area 12 by 8 centimetres in one of his series of 100 cases which died from pneumonia Quite recently Foulerton[12] described a case of membranous gastritis from which he was able to isolate pneumococci. Bizzozero[13] saw two cases during the epidemic of diphtheria at Milan in 1875. The presence of the membrane in the stomach was not suspected during life and caused surprise at the necropsy Six cases of the disease are described by Smirnow[14] osis of the theria, because in that number only two of the gastric mucous membrane evident, prior to the discovery of the Klebs-Löffler bacillus necrosis considered a *sine quâ non* of the diphtheritic process and the absence of necrosis prevented the condition being termed diphtheritic. Talfourd Jones[15] saw a case of exudative gastritis in 1862, his patient was a rachitic child who developed a membrane in its stomach so similar to that which normally appears in the throat in diphtheria that the diagnosis of gastric diphtheria was made. Wollstein[16] reports with great detail and many references two cases, in neither of which any evidence of diphtheria bacilli in the membrane was obtainable. One of the cases was a child suffering from advanced pulmonary tuberculosis, while the other had a false membrane on the inner side of the thyroid cartilage, micrococci were found in the membranes, but no Klebs-Löffler bacilli. The only case so far recorded in which a complete cast of the stomach was vomited is that by J Thomson.[17] The diagnosis of acute pulmonary tuberculosis was confirmed at the necropsy and no evidence of other disease was found. Two cases of undoubted diphtheritic gastritis came under the care of T Leary[18], in one there was membrane in the throat and in the other upon the conjunctiva. From the stomach of the former the bacillus of diphtheria was isolated. Willett[19] recorded a case of diphtheritic membranous gastritis in a child, one and a half years old, who had died from pharyngeal diphtheria. No membrane was found in the œsophagus nor did the exudation extend beyond the pylorus. W S. Fenwick[20] described a case of diphtheria of the stomach in a child three years of age, there was no pharyngeal membrane but "the respiratory tract was lined by diphtheritic membrane from the larynx to the finest ramifications of the bronchial tubes The lower lobe of the left lung was solid from broncho-pneumonia" This membrane was found to swarm with micrococci but no diphtheria bacilli were found. This author points out that the vomit ejected by his patient did not contain hydrochloric acid and Rolleston suggests that the rarity of a gastric false membrane may be due to the solvent action of the gastric secretion.

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[*] Herpes Zoster, Brain, 1900; Referred Visceral Pain of Heart and Lungs Brain 1896

[1] Handbuch der Pathologischen Anatomie Band II

[2] Delafield and Prudden's Pathological Anatomy p. 549

[3] Von Ziemssen's Handbuch Band VII (1) p. 62.

[4] Lehrbuch der Pathologischen Anatomie 1893, Band II, p. 603

[5] Wilks and Moxon's Pathological Anatomy 1875 p. [illegible]

[6] Diseases of the Stomach 1872

[7] Gerhardt's Handbuch der Kinderkrankheiten Band iv

[8] Diseases of Children 1899

[9] Pediatrics p. [illegible]

[10] Virchow's Archiv vol xxx p. [illegible]

[11] Transactions of the Pathological Society of Philadelphia [illegible], vol. xii p. 183.

[12] Pathological Society of London 1902.

[13] Medicinisches Jahrbuch, 18[illegible] p. 219

[14] Virchow's Archiv Band cxiii p. 333.

That it is rare to find a false membrane in the stomach sven when it exists on many other mucous surfaces is well llustrated by the papers of Villy and of Cary and Lyon 'illy[21] examined the gastric mucosa of a large number of patients who died from diphtheria after having had well-marked gastric symptoms The mucous membrane was often invaded by leucocytes and hyperæmic, but in no case lid he find a definite false membrane Cary and Lyon[22] eview the literature of pseudo-membranous inflammation of he mucous membrane caused by the pneumococcus and they nd only one case in which the membrane was seen in the omach. Without criticising the probable accuracy of the agnosis in the above cases they may be classified. 19 cases recorded—eight are ascribed to diphtheria, four to umonia, and two as sequelæ to pulmonary tuberculosis annot help thinking that the cases of membranous gas s which are stated to have followed variola, pyæmia, &c., phlegmonous rather than pseudo-membranous gastritis e patient whose case I am about to describe was a hy looking girl aged three years of a rachitic type. father was consumptive but no further history of the e was obtainable. She had been rickety since she was nths old and was subject to the complaints which pany that disorder Her present illness commenced . 8th, 1902, when the child was irritable and gave her s the impression that she was sickening for some , prior to this she had had a cold for a week. midnight she awoke and complained of a sharp pain ft ear, passing down the neck on the same side and slight stomach ache. Judging from the spells of pain in the head seemed to become more intense ree times during the hour, between midnight and patient vomited four times without, as far as one

became fretful, and four hours la seemed to be wel During t the ear returned, accompanied by vomiting upon her left side, she was sensible and w being disturbed. Both cheeks were flushed slight tenderness over the left mastoid re sufficient to prevent the child from lying on tha was no nystagmus, strabismus, or paralysis of a

In regard to the respiratory system a detailed of the lungs did not reveal any signs of diseas dition of the circulatory system was as follows beat of the heart was behind the fifth rib one inch internal to the nipple line. The heart w rapidly (128 per minute) but the sounds were cle not suggest any cardiac lesion. The pulse was normal volume, and about 100 mm. Hg pressu temperature was 97 8° F The abdomen was rathe of a rachitic type There was no tenderness or res any part. The spleen could not be felt below th margin nor did percussion lead to the conclusi there was any enlargement of that organ The li of good colour and the tongue was moist and but evenly coated. The breath was slightly foul tonsils and fauces were hyperæmic but no tr a membrane was visible in any part of the The vomit consisted of glairy mucus, free from bl blood. The bowels were slightly costive but with exception the motions were normal. In regard to nervous system the knee jerks could not be obtaine either side Although all the superficial and deep refl were examined no other alteration from the normal found. The urine contained a trace of albumin. The bl was examined on Feb. 10th with the following results cells, 4,480,000, and white cells, 8700 per cubic millimet A differential count showed polymorphonuclear cells, 43 per cent., lymphocytes, 48 5 per cent., mononuclear cel (large), 7 9 per cent., and eosinophile cells, 0 5 per cent.

The child complained of great thirst and since vomitin followed even small doses of water by the mouth recta feeding was adopted. On Feb 10th the temperature and pulse remained unaltered. Vomiting occurred repeatedly during the day but the thirst seemed to have been relieved by the rectal injections. In the evening the child again complained bitterly of thirst and was given a few teaspoonfuls of water, shortly after which she cried out with gastric pain and then vomited a piece of membrane, the nature of which will be described later Occasional vomiting continued during the night, accompanied by slight abdominal pain. About 3.30 on the following afternoon, after considerable pain and retching, another piece of membrane was vomited and this along with the former piece seemed to be a complete cast of the stomach The vomiting from this time onward became less frequent, while the condition in other respects remained unaltered. On the 12th with a pulse of 128 and a temperature varying between 97° and 98° F, the patient gave the impression of improving, the tongue being slightly cleaner and the vomiting less frequent. Knee jerks could not be obtained On Feb 14th the pulse was 132 and the temperature was 97 4° The patient slept well during the night but was drowsy in the morning A trace of albumin was present in the urine During the day the child expressed a desire for food On the 16th the pulse was 116 The child had n vomited for 24 hours The heart sounds were weaker a the rhythm rather embryonic. The desire for food was mo marked. On the 17th the pulse was 112 but very weal One ounce of peptonised milk mixed with three times tha quantity of water was given by the mouth and was retained. The patient was improving on the 18th. Milk and beef-juice were digested. From this time onwards the patient steadily improved and *pari passu* with larger quantities of food being taken by the mouth the rectal injections were diminished in volume and frequency The right knee-jerk returned on March 6th and the left on the day following The child has been perfectly well for several months.

Diagnosis—That the case was one of membranous gastritis was placed beyond doubt by the shape and nature of the cast vomited. The cause of the exudation had to be considered The temperature was subnormal, the pulse was rapid, there was slight albuminuria accompanied by the loss of knee-jerks, and a normal number of white cells in the blood. These are all compatible with diphtheria. A swab of the back of the throat was taken on Feb 10th but no

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[15] Brit. Med Jour 1889 vol i p 880

[16] Archives of Pediatrics vol ix p 489

[17] Ibid vol xii p 286

f the Boston Society of Medical Science 1897 No 16

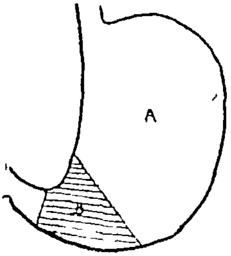
ns of the Pathological Society of London 1892, vol xliii.

[20] Ibid 1894 vol xlv p 60

[21] Medical Chronicle, 1899 p 391

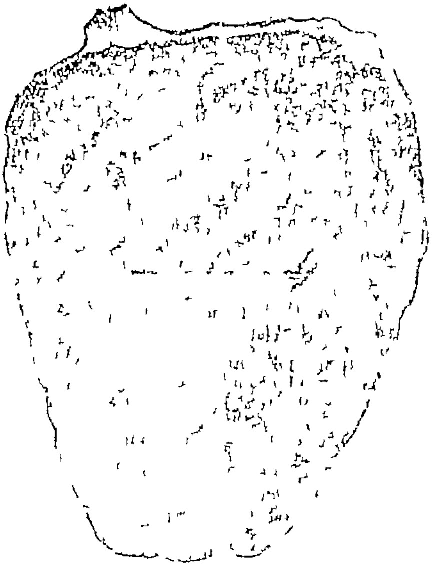
of the Association of American Physicians, 1901, suspicious bacilli were found either in a stained film or by culture on blood serum. I regret that no cultures or inoculations were made from the vomited membrane. Microscopically I failed to find in it any bacilli which resembled Klebs-Löffler bacilli. In toxæmia of diphtheritic origin it is not rare for the heart's action to be altered in rate and rhythm without the temperature of the body being greatly elevated. The temporary albuminuria and loss of knee-jerks make one doubt whether croupous gastritis would have been the correct diagnosis. The subnormal temperature along with an absence of leucocytosis both make it improbable that the membrane was of pneumonic origin. The examination of the blood did not add to the data upon which diagnosis was based. Although a marked leucocytosis as a rule accompanies diphtheria it is not invariably the case. The differential count of the white cells is not far from normal; the child was three and a half years old, at which age normally the polymorphonuclear and mononuclear elements of the blood are present in equal numbers. There is a tendency in rachitis, as in all conditions of malnutrition, for the lymphocytes to be relatively increased and this may have been responsible for the high percentage of mononuclear cells. It is scarcely necessary to add that full investigation as to the possibility of the gastritis being due to an irritant introduced through the mouth was made, with a negative result. The piece of membrane vomited on Feb. 10th was of a shape and size that suggested a cast of the greater part of the stomach, including the cardiac opening; the pyloric end was missing but the tissue ejected on the following day completed the cast (Fig. 1). The thickness of the membrane varied in different parts, but in no place did this exceed one millimetre. It was of a pinkish grey colour coursed by red streaks; when examined in water it assumed a rugous aspect (Fig. 2). Microscopically it consisted of a fine network of fibrin, the meshes of which contained large numbers of white and red blood corpuscles, the former being in excess. Epithelial elements were totally absent (Fig. 3). Sections stained with Löffler's blue and by Gram's method show the presence of some number of micrococci, mostly arranged in pairs, but only very few are of the shape that suggests the diplococci of pneumonia. No bacilli resembling diphtheria bacilli have been seen in the membrane. The micro-organisms are most numerous on the side which was in contact with the gastric mucosa. The outer side of the cast is ragged; the fibrin has been dissolved by the gastric secretion which probably led to the separation of the exudation from the epithelium. It is of interest to note that the false membrane covering the pyloric end was the last to be shed, as one would have expected from the fact that the glands at that end of the stomach do not secrete so much [illegible] ast of the stomach was vomited [illegible] gastritis was not considered but [illegible] cessitated the adoption of rectal [illegible] ssibility of the diphtheritic origin of the disease was raised immediately upon the ejection of the membrane, nevertheless it was decided not to use diphtheria antitoxin. The advantage of the use of antitoxin on the fourth day of the disease is questionable and in a case which has already shed its membrane without that membrane possessing evidence of diphtheria it did not seem justifiable. This decision was fortunate, for if an injection of antitoxin had been given it would not have been easy to fully realise that the recovery was purely *post hoc* and not *propter hoc*. An attempt was made to maintain strength by giving a rational rectal diet. The form of nutrient selected consisted of 60 cubic centimetres (two ounces) of ox serum, 60 cubic centimetres of milk, and eight grammes (two drachms) of raw starch every four hours. Three grammes of chloretone were dissolved in every litre of serum. This had

FIG. 1.



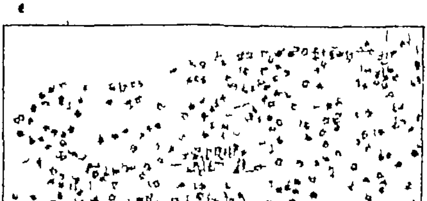
A was vomited on Feb. 10th. B was vomited on Feb. 11th.

FIG. 2.



The membrane floated out in water showing the rugous appearance.

FIG. 3.



Section of cast prepared with a nuclear stain showing altered blood corpuscles in a fibrin network. The upper surface was the inner side of the cast.

[illegible] preserved the serum, it acted as a sedative the mucous membrane of the rectum, and it also caused the child to sleep for an hour or two after the administration of the injection, thus facilitating its retention and hence its assimilation. 360 cubic centimetres of serum, 360 cubic centimetres of milk, and 48 grammes of carbohydrate were introduced during the 24 hours, which diet possesses an energy value of over 500 calories, which is not much short of three quarters of what is necessary for a child three and a half years of age. When the pulse became feeble and the heart sounds assumed an embryonic type a few minims of tincture of nux vomica and of digitalis were added to the nutrient enemata. The efficiency of a rational rectal diet containing materials which we know can be absorbed by the large intestine was proved by the very slight loss in weight of the patient in spite of no food being given by the mouth for 10 days.

To Dr. H. D. Rolleston I am indebted for kindly criticism in writing out the case and for assistance in the recent literature of the subject. Mr. Robert MacQueen was good enough to take daily notes of the case and to draw two of the diagrams, and without his able assistance it would have een impossible for me to have recorded the case.

Wimpole-street, W.

PURPURA FULMINANS FOLLOWING SCARLET FEVER

By HUBERT E. J. BISS, M.A., M.D. CANTAB.,
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THE diagnosis of the exceedingly rare condition from which the patient whose case is narrated below suffered is not by any means clear. It seems to me to correspond more closely to the condition which is described by Henoch under the name of purpura fulminans than to any other with which I am acquainted. It is noticeable, too, that one of the two ases related by him occurred after scarlet fever, as did also ne of two cases related by Ström and Arctander. Now, emorrhagic scarlet fever, as described in some works, is of eat rarity in this country at the present time; it is ubtful, indeed, if extensive cutaneous and subcutaneous morrhages ever occur in the early stages of the disease; whether the cases related in those works, in fact, were not actually cases of hæmorrhagic diphtheria. Hæmorrhages into the skin and subcutaneous tissue are met with not very infrequently in association with obstinate suppurative lesions after scarlet fever such as chronic suppurative lymphadenitis, suppurations in joints, and suppurations in and about the temporal bone. No such lesion obtained in this case. The child had a very severe attack of scarlet fever which did not present any unusual features and convalescence appeared to be established. He still had some ulceration of the soft palate, it is true, but the other symptoms had either passed off or had much abated, the temperature was settling down, and he was bright and comfortable. At this point cutaneous hæmorrhages in enormous abundance took place, accompanied by hæmatemesis, bloody stools, and oozing from the gums. In 36 hours from the appearance of the first hæmorrhages he was dead. The chief feature of the post-mortem examination was the state of the kidneys. These were transformed almost entirely into fat, a little blood-clot being found in the calices. This blood-clot, too, must have been very recent, as none was found lower down the urinary tract, even the urine in the bladder being free from blood. The kidney was a very different one from that associated with any variety of scarlet fever and no sign or symptom of nephritis occurred during life, except that albumin in small quantity was present in the urine for one day soon after admission. The change would appear to have been far more of the nature of an acute degeneration than of an inflammation, the homogeneity of the condition being very different from the sectional infiltrations seen in either the septic or glomerular type of scarlatinal kidney. No renal phenomena were noted by Henoch in the necropsies of his cases and Ström and Arctander do not state whether post-mortem examinations were made in their cases.

The sudden occurrence of these widespread hæmorrhages ests a very acute toxæmi [illegible] infection due to [illegible] elaboration of some toxic substance or the [illegible] some fresh organism, but what the nature of such body m have been and what determined its appearance [illegible] of the disease are speculations beyond the range of legitimat theorisation. A conceivable criticism is that these abundan hæmorrhages were but an advanced stage of the punctiform hæmorrhagic rash that occasionally follows the administration of animal sera, for diphtheria antitoxic serum had been given to this child in error. That this should be so is in the highest degree improbable, for not only has such an occurrence never been noted after the many thousand administrations that have come within one's purview, but this particular serum was used for injection into many children in the hospital without any analogous phenom ensuing.

The clinical and pathological features of the case may briefly summarised as follows.

A boy, aged three and a half years, was admitted into th Grove Fever Hospital on May 16th, 1902, certified to b suffering from diphtheria and on this supposition was give an injection of serum containing 24,000 units of diphtheria antitoxin. On examination, however, his trunk and limbs were found to be covered with a coarse, blotchy, punctiform erythematous rash; the throat was much reddened and very œdematous; the tonsils were coated with slimy exudation; the nasal mucous membrane was turgid and covered with muco-purulent discharge; the submaxillary lymphatic glands were considerably enlarged, and the tongue was dry and clothed with fur. Culture of the tonsillar exudation presented an abundant growth of streptococci. He was very ill till the 21st, when the temperature, had been continuous at 103° F., fell to 99°, and ther a general abatement of the symptoms. On that eve he became more feverish (the temperature being 102 and on the next day an urticarial rash appeared on trunk, due doubtless to the previous injection of ser Double otitis media, diarrhœa with green stools, and general desquamation ensued. On the 25th a furt eruption, a macular, purplish red one, was noticed about t knees, the ankles, and the elbows. By the 29th he was mu better; the glandular swellings had almost disappeared an there was no rash or diarrhœa. Bilateral otorrhœa, how ever, remained, and there was a little rhinitis, whilst a ulcer of the size of a threepenny-piece was found at the junction of the soft palate and the right anterior pillar of the fauces, though the tonsils were free from exudation and the tissues of the throat were but little swollen. From this time he improved rapidly till June 4th, notwithstanding that the temperature still fluctuated between 101° and 99°. On that day a vast number of pin point hæmorrhages were seen in the skin of both sides of the trunk, whilst the next morning the trunk and limbs were literally covered with these points, the upper extremities being so densely set with them as to appear almost uniformly purple. There were but few on the face, except on the inner sides of the eyelids where they were about the size of grape stones. Blood oozed from the gums, but there were no subcutaneous or subconjunctival hæmorrhages. His general condition was markedly worse. He vomited half a pint of red blood twice during the day and towards the evening he passed about that quantity of brightish red blood per rectum. He died soon afterwards.

Necropsy.—At the post-mortem examination, which was performed 30 hours after death, the cutaneous hæmorrhages were abundantly apparent and blood clot encrusted the lips, the nose, and the anus. Under the visceral pericardium and pleuræ a few punctiform hæmorrhages were seen, similar points being present under the endocardium of the left ventricle. The pleuræ each contained a few drachms of clear, pink fluid and the trachea and bronchi similarly tinted frothy mucus. The stomach showed many medium sized, submucous hæmorrhages, and both it and the intestines, which latter were deeply cyanosed, contained chocolate-coloured fluid; crimson, viscous blood filled the rectum. Beyond thickening and ulceration of the tissues of the throat nothing else remarkable was seen till the urinary system was examined. Both kidneys were a little enlarged, but their capsules stripped readily. On section the parenchyma was found to be transformed almost entirely into fat, which stained readily with osmic acid but not at all with iodine solution. There was no differentiation into cortex and medulla and a few faint pink streaks alone suggested the direction of the tubules. Several of the calices conta little blood-clot but none was found in the pelves or ureters. The bladder was distended with clear, yellow urine which gave no hæmoglobin reaction when tested with tincture of guaiacum and ozonic ether

I am indebted to Dr J E Beggs medical superintendent for permission to publish this case.

Tooting S W

SOME ADDITIONAL REMARKS ON THE ETIOLOGY AND DIAGNOSIS OF ACUTE DILATATION OF THE STOMACH

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IN my recently published book on the subject of acute dilatation of the stomach I have discussed at some length the different theories which have been put forward to account for the disease, and while in no way denying that some cases may be obstructive in origin I inclined to the belief that a primary paralysis of the organ must be regarded as the underlying cause in the majority of the cases. Those who support the theory that obstruction is the main cause consider that under certain conditions within the abdomen the superior mesenteric artery may exercise a constricting force upon the duodenum and the conditions necessary thus to produce this constriction are thought to be fulfilled by the displacement of collapsed intestine into the pelvis by which such a tension is put upon the mesentery that the cord like superior mesenteric artery becomes converted into a constricting band and obliterates the lumen of the duodenum There are many arguments against this theory which I have discussed elsewhere and need not again refer to here, but the main objection to the adoption of this view lies in the fact that the point at which distended bowel passes into collapsed bowel varies in different cases which it obviously would not do if the situation of the constricting force were a constant one as it would be in the case of the superior mesenteric artery I quoted cases in my book showing that sometimes only the first part of the duodenum shared in the dilatation while in others the distension extended some inches along the jejunum. More recently I have had an opportunity of making a necropsy upon a case in which acute dilatation of the stomach was accompanied by distension of eight feet of small intestine, the distension passing abruptly into collapsed bowel at that point. The appearance of the distended stomach and upper coils of intestine is shown in the accompanying figure which is reproduced from a photograph taken at the time of the necropsy and it is obvious that in this case the superior mesenteric artery cannot be considered as the constricting force nor were there any signs of any other constricting force having been present.

Acute dilatation of the stomach and upper eight feet of intestine

In the absence of any constriction a primary paralytic condition would seem to give an adequate explanation of this case, as it does in so many others and as I have before pointed out, there is no obvious reason why, if a primary paralysis is assumed to take place in the stomach, we should suppose that paralysis to be necessarily limited to the stomach. The nervous connexions between the vagi and abdominal plexuses are very complex and it seems reasonable to suppose that the paralysis which involves the stomach may in different cases extend variable distances along the intestine and such variable extension would adequately explain the fact that the distended bowel terminates at different levels Reference in my former writings will also be found to the probable relationship between acute dilatation of the stomach and the paralytic distension of the intestines which occurs during cases of acute peritonitis It is, of course common and indeed usual, to find the intestines distended in cases of peritonitis and there can be little doubt that the distension is due to paralysis of the gut walls consequent to the inflammation of the peritoneum. While in these cases distension of the intestine is usually the predominating feature, both during life and after death the necropsy often shows that the stomach has also to some extent participated in the condition and occasionally the gastric symptoms form the most prominent feature of the case and may for the time even mask all the symptoms of the underlying peritonitis. This fact assumes considerable importance when it is remembered that peritonitis is the condition which clinically most closely resembles acute dilatation of the stomach and for which many primary cases of the latter have been mistaken We have thus in every case in which symptoms of acute dilatation of the stomach occur after an abdominal operation or under other conditions in which [peritonitis would be likely to arise, to decide whether the dilatation is a primary condition or whether it is only the predominating feature of a general peritonitis. A case which I recently had an opportunity of seeing with Dr Comyns Berkeley well illustrates this condition and also the difficulty which one may have in arriving at a correct diagnosis when there is a possibility of peritonitis co-existing, although there may be no obvious reasons which would lead one to suspect its presence.

The patient was a female, aged 32 years, and had previously had five children. She had passed uneventfully through a sixth pregnancy and on the evening of Jan 5th, 1902, intermittent pains came on and it was considered that labour had commenced On the evening of the 7th the pain became continuous and more distressing and about the same time the patient commenced to vomit some yellow fluid The pain and vomiting continued and were for some hours accompanied by alarming symptoms of collapse, but the child was safely delivered and after that the symptoms subsided, the pulse fell from 130 to 80 and the temperature was normal. This respite was, however, very brief and six hours later the pulse had risen to 136, the respirations were 60, and there was continuous vomiting and great collapse but no pain It was at this juncture that Dr Berkeley first saw the patient and on examination he found signs indicating great dilatation of the stomach. The organ appeared to reach within two inches of the pubes The liver dulness was partially obliterated and the lower lobe of the left lung was pushed up, so that the percussion note over the lower part of the left side of the chest was hyper resonant. The diagnosis was further confirmed by the elicitation of a marked succussion splash and by the presence of frequent vomiting of large quantities of yellowish fluid without any effort. Dr Berkeley kindly asked me to see the case and we came to the conclusion that the predominating symptoms were those of acute dilatation of the stomach and from the apparently normal confinement which had taken place only a few hours before and in the absence of abdominal pain and tenderness there did not seem any justification for supposing there was any underlying cause other than shock. We therefore, with a view of alleviating the more distressing symptoms, passed a soft tube into the stomach and drew off over three pints of fluid, after which the patient for a time expressed herself as considerably relieved but she eventually died about six hours later A post mortem examination showed the presence of general purulent peritonitis which had arisen from the rupture of an ovarian abscess The stomach was moderately distended and had evidently undergone some contraction after the evacuation of the fluid, as has frequently been noticed in other cases

In this instance, then, the acute dilatation of the stomach was secondary to the peritonitis and therefore merely a symptom of a much graver condition It is, of course, most important from the point of view of both prognosis and treatment to distinguish, if possible, between such a case and one in which the stomach factor is either the primary condition or the threatening fatal complication of some less serious malady

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NOTES ON THE THERAPEUTIC USES OF THE SALSOMAGGIORE WATERS[1]

BY G SANDISON BROCK, M D EDIN & ROME, F R S. EDIN.

IN the admirable report of THE LANCET Special Analytical and Sanitary Commission on the Iodo-bromo saline Waters of Salsomaggiore[2] reference is made to my own observations bearing upon the therapeutic uses of the waters At the risk of repetition I shall here endeavour to arrange these as far as possible in the order of their importance and at the same time to supplement to some extent what has already appeared in THE LANCET's report.

The uses to which the waters of Salsomaggiore are now put, as well as the methods of employing them, have been largely determined by the nature and the mode of treatment of the first few cases recorded by Berzieri, the village practitioner of Salsomaggiore, to whom the original inspiration came (in 1839) of utilising them for therapeutic purposes The first case in which he used the baths was one of caries of the bones of the foot, no doubt tuberculous, and to this day the waters continue to enjoy the reputation earned by the success of that treatment in a great variety of tuberculous lesions, whether in bones joints, glands, or skin. It is, perhaps, chiefly for this class of cases that the waters are most esteemed amongst the common people in Italy, the various communes sending for treatment to the sanatorium of Salsomaggiore batches of patients, mostly of this kind, every three weeks throughout the summer and paying their expenses No better testimonial to the efficacy of the waters could be given than the fact that the same communes, encouraged by the great benefit derived, continue to send such patients year after year, and that in many instances these patients return from time to time of their own accord and at their own expense when assailed by recurrences of their maladies No doubt the change of air and the better food which such patients obtain at Salsomaggiore contribute largely to the success of the treatment in these cases, nevertheless, they must still be regarded as amongst the most promising of those indicated for the Salsomaggiore cure.

The alterative, absorbent, and healing properties displayed by the waters in these scrofulous cases naturally led to an extension of their use to all affections where in connexion with a localised morbid process there existed open sores, sinuses, inflammatory swellings, or exudations Their beneficent action in the chronic stages of inflammatory diseases forms, indeed, the basis of their fame at the present day In the acute stages they are generally regarded as contra-indicated (although this is by no means a settled question), but the acute stage once over all are agreed that great benefit is derived from their use in such affections. In cases of appendicitis where a certain amount of pain and swelling remain after an acute attack or where an abscess has been opened or has burst leaving painful adhesions or exudations behind in the neighbourhood of the colon the absorbent and healing effects of the baths are often very remarkable For sequelæ of peritonitis, of pleurisy, and of synovitis, for arthritic troubles after dislocations, for the thickening of bone and periosteum following fractures and other injuries, or indeed in most chronic inflammatory processes accompanied by pain, stiffness, swelling, or deformity, the soothing or stimulating properties of these waters, or of applications of the mud deposited from them, are found to be highly beneficial. Especially satisfactory are the results obtained in arthritis consequent upon acute rheumatism or relapses of that malady, as well as in that occasioned by gout. In these cases the baths exercise a strongly soothing and absorbent influence locally, and at the same time stimulate powerfully the excretory functions of the body, enabling the system to throw off rapidly the poisonous waste products by the skin, the lungs, and the kidneys

The remarkable absorbent effects of the waters have led to their very extensive employment for diseases of women It is, perhaps, in this connexion that they are most known and made use of in Italy amongst the well to-do classes All possible varieties of gynæcological ailments find their way to Salsomaggiore, and it is really wonderful how many different maladies in that large category of diseases find relief from the treatment. This is explained by the fact that the greater number are of an inflammatory nature, in the chronic stage so favourable to the healing action of the waters Amongst those most amenable to the treatment are the various inflammatory affections of the uterus and adnexa—to wit, cervicitis, endo-, para-, and peri metritis, salpingitis, pelvic peritonitis, and pelvic cellulitis Lacerations, displacements, and new growths may derive benefit as far as certain secondary effects produced by them are concerned. Sterility is often cured, as might be expected when the cause producing it is susceptible of removal, by a course of the baths Functional derangements of the sexual organs of the most diverse kind often yield to the treatment —such as amenorrhœa, menorrhagia, dysmenorrhœa, or irregularity of menstruation—a result due probably to a general tonic effect which the waters exercise upon the nutrition of the body

The large quantity of iodine present in the waters has suggested their use in diseases due to infection by specific germs other than that of tubercle, and they are, in fact, found of great value in the later stages of syphilis (both for the secondary manifestations in the skin, the mucous membrane, and the periosteum, and for the tertiary changes in the bones and the organs), as well as for the sequelæ of gonococcic infection, whether in the genital organs themselves (as urethritis, orchitis, metritis, &c.) or in other parts of the body (post-gonorrhœal rheumatism, arthritis, and synovitis)

A considerable number of neurasthenic and anæmic patients also benefit, often quite remarkably, by the Salsomaggiore treatment. In those cases the restfulness and quiet of the place itself must greatly contribute to the successful result, but the soothing effects of the baths and the alterations which they are capable of producing in the nutritive processes of the body through the nervous system and the circulation have also, we may be sure, an important share in bringing it about.

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[1] For much information regarding the therapeutics of the waters I am indebted to my colleague at the baths Professor Zoja.

[2] THE LANCET, July 12th 1902, p 94

A popular belief has gradually arisen in the power of the waters to give tone to the mucous membrane of the respiratory tract and so to prevent attacks of coryza and ordinary bronchial colds. Many go through the "cure" regularly every summer with the idea that they are thus insured against such attacks for the whole of the ensuing year This virtue is especially attributed to the inhalations which form a great feature of the treatment as it is now carried out at Salsomaggiore, and undoubtedly they have proved to be a most valuable adjunct to it, both by means of their local effect upon the parts with which they come into contact as well as by an indirect action exercised through the blood upon the system generally Whilst there seems to be as yet no satisfactory evidence that any absorption of the saline and other constituents of the waters takes place through the skin during bathing there can be no doubt that during a prolonged stay in the inhalation room a certain amount of the iodine and other ingredients of proved therapeutic value does actually enter the blood, and it is therefore reasonable to suppose that their presence there may exercise a distinct influence upon morbid processes in the body and contribute appreciably to their cure. The ordinary course of baths is for this reason often supplemented by the use of inhalations even when there is no local affection of the respiratory apparatus calling for their employment. But where such exists excellent results are frequently obtained either by directing a spray of the *acqua madre* (deprived of some of its calcium and magnesium salts) on to the affected part, or by causing the patient to breathe for a considerable length of time the atomised natural water in the inhalation room. The direct spray is used for affections of the upper air passages (rhinitis, pharyngitis laryngitis, and trachitis) where the lower part of the respiratory tract is involved as in chronic bronchitis and bronchial asthma, a prolonged stay in the inhalation room is also frequently beneficial. In chronic catarrhal conditions of the conjunctival mucous membrane a spray or douche of the diluted *acqua madre* may be used with benefit. In all cases where the direct spray is used it is essential to begin the treatment with weak solutions of from 1° to 2° Beaumé, gradually increasing the strength to 7° or 8° Beaumé. The use of the direct spray and of the inhalation room is often combined in these catarrhal affections for both have a beneficial effect by soothing irritation reducing congestion and swelling liquefying and loosening thickened adherent mucus, and thus bringing about a healthy condition of the mucous surfaces.

When a powerful local effect is desired—as, for instance, in cases of glandular enlargements arthritic joints, injuries by sprains damage to parts by old wounds dislocations, fractures, &c.—the Salsomaggiore mud or *fango* is made use of This mud collected from the tanks into which the springs flow on emerging from the artesian wells, is saturated with the salts of the waters and strongly impregnated with the oily bituminous ingredients contained in them. Applied hot in the form of a poultice over or around the affected part it has an excellent effect in soothing pain reducing swelling and removing stiffness. These mud applications are kept on for from 20 minutes to half an hour and are scraped off just before the patient enters his bath. They are a most useful part of the Salsomaggiore treatment and are much in favour amongst patients on account of the speedy relief which they generally afford

The indications for the Salsomaggiore treatment may be summed up briefly as follow —

1. Tuberculous disease in bones, joints, glands or skin
2. Gynæcological ailments, more especially those of an inflammatory nature.
3. Rheumatism and gout, especially the arthritis associated with them.
4 Inflammations in general in the chronic stage catarrhal affections of eyes ears nose mouth and throat, and bronchitis.
5. *Various results of injuries, wounds &c.*
6. Tertiary syphilis and post-gonorrhœal affections.
7 Neurasthenia, neuralgia, and neuritis.
8. Anæmia and retarded convalescence from acute illnesses.

Rome

THE TREATMENT OF CONVERGENT SQUINT IN HOSPITAL PRACTICE

BY G T BROOKSBANK JAMES, F R.C.S. ENG
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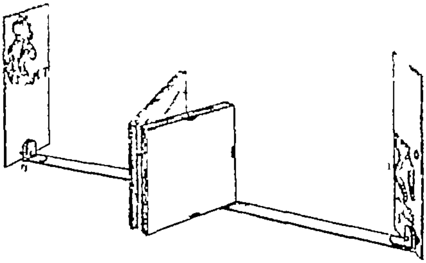
THIS important subject is far from receiving at the present day the attention which it merits. I do not refer to the question of operation in this disorder as there has never been a tendency to under activity in that department. I allude to the well known fact that no systematic method of orthoptic training is usually adopted owing to the time and trouble necessary to carry out such treatment efficiently The constant rush of out patient work and the demand on the time and energies of ophthalmic surgeons for many other purposes are responsible for the neglect of this valuable means of cure.

The backbone of orthoptic treatment is the stereoscope. Many excellent forms of this instrument have been invented and can be used in high degrees of squint. These cannot be of service for hospital purposes for one reason—they are prohibitive in price It has always seemed to me that perhaps the most important reason why the treatment of convergent squint is so unsatisfactory is that no stereoscope of suitable construction and small cost is at the command of the ordinary hospital patient for home use If the surgeon finds it impossible to carry out the treatment he may safely delegate this to the patient's mother if she is provided with a cheap and convenient instrument for the purpose and is shown its use beforehand. I have devised the little stereoscope shown in the woodcut for use in hospital practice. It is constructed of the cheapest materials and can be used in cases of convergence of high degree I am well aware of its imperfections which are mostly such as are inseparable from its cheapness. It consists of two mirrors eight centimetres square united by a hinge. To the lower border of each mirror is attached a brass bar 15 centimetres long with a clamp obliquely placed at its extremity The bar is freely moveable but can be fixed at any angle to the mirror by a toothed stay which gives additional firmness. The angle at which it is usually placed is 115° When not in use the hook is undone and the instrument can be folded into a convenient shape. The stereoscopic figures employed vary much in size according to the visual acuity and youth of the patient. Duplicate coloured scrap figures on glass slides are very useful parts of each figure having been carefully cut out. It is of great service to use letters on each glass slide alongside or across the figures and leave gaps between them On fusion in the mirrors they are seen as short words such as "Tom," "Bob" &c. and act as valuable controlling tests in children who can read. Almost any object the ingenuity of the experimenter may devise can be adapted to the instrument. The ordinary photographic views in the shops can be employed. They are first cut in half and transposed right half in the left clamp and *vice versa* controlling dots are useful, of course, with these. The oblique position of the clamps presents the objects nearly square *in the mirror* to the observer and facilitates their fusion. Our usual routine treatment in cases of squint occurring in hospital practice is as follows The refraction is first accurately estimated under atropine two pairs of glasses are then ordered The first pair contains the patient's full distance correction under a mydriatic and are for constant



use, the second pair adapt him to a distance of 25 centimetres, approximately that at which the objects are viewed in the mirrors. The lenses in the latter pair of glasses are decentred inwards Stereoscopic training is at once resorted to when the glasses are procured. The patient's mother is first shown the use of the instrument. The child is then shown the two separate halves of the figure on the slides. The latter are then superposed and he sees the whole figure and is told he must look for it in the mirrors. He is now placed on a chair facing the windows and the teacher stands behind holding the angle of the mirror in front of the patient's nose and open at about a right angle. The head is steadied by the teacher's wrists in this position. If the patient sees the separate halves of the object simultaneously the mirrors are gently manipulated until he fuses them and I find that if left alone with the mother the child can often accomplish this sooner than with anyone else. The next step is to train him to relax his convergence in the interests of binocular vision and this is often a tedious business, but steady improvement usually takes place if he is exercised twice daily by the mother and presents himself every fortnight at the hospital. Herein lies, I think, the chief argument for the use of a stereoscope at home. The fusion faculty in a young child may be readily aroused and preserved by occasional exercises, but to overcome the tendency to converge unduly requires many such exercises and these at short intervals In the cases where the patient is unable to see both objects simultaneously in the mirrors, the one seen may be thrown into shade by tilting the mirror, and the stay on the opposite side being gently released from its attachment the bar may be moved independently to attract attention

With regard to the age at which such exercises may be begun there is no definite rule, much depending on the idiosyncracy of the child Glasses should be ordered, however, and stereoscopic training should be resorted to at the earliest age possible in each individual case. Other methods of orthoptic training, such as bar reading, are most useful with older children, but cannot contend in point of accuracy with the stereoscope. I would point out, however, the advantage of teaching a child its letters at the earliest age possible, as a modified form of bar reading can then be adopted with large letters and is of the greatest value. In cases of monocular squint I cover the good eye until the squint becomes alternating at the will of the patient, though in such a case the visual acuity in one eye may remain much below that of the other In such a case stereoscopic training should also be adopted as a modified though useful form of binocular vision may be procured even though the sight of one eye differs greatly from the other I do not believe, however, in the prolonged exclusion of one eye after a fair effort has been made to restore the visual acuity of the other, nor do I think that such wearisome treatment renders the patient more likely to learn to fuse in the *stereoscope*. With regard to the question of operation tenotomy of an internal rectus is necessary in most old cases of monocular squint and probably in these alone Advancement of each external rectus has now many advocates and is far preferable in the younger cases. The earlier stereoscopic training is resorted to, the greater the care taken in its details, and the more constant its employment the less frequently will the surgeon have to resort to operative treatment in cases of convergent squint.

Wimpole-street, W

CHRONIC SPHENOIDAL SUPPURATION SOME OBSERVATIONS ON OPERATION AND CICATRISATION

By DAVID McKEOWN, M.A., M.D, M.Ch. R.U I,
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THE treatment of chronic suppuration of the sphenoidal sinus ranges itself under three heads (1) irrigation and insufflation of powders, (2) breaking down the anterior wall and curetting the cavity, and (3) extending the operation by removing a part of the floor

Some surgeons advise against operation on account of its difficulties and dangers. The depth of the sinus from the surface, the small and uneven calibre of the channel for manipulation, the irregularity of contour of the which may present large pouches or diverticuli, important intracranial structures in close with it, and the breaches (anatomical or which may be found in the bony wall—all countenance to this view But an unyielding cavity (bony walls) filled with retained pathological (solid and fluid) and the lining membrane of which suffered the usual degenerative changes cannot be cured irrigation through an opening at a considerable height the floor Hence the attempt to treat the sinus on the which surgical experience has shown to be removal of pathological products and drainage. This was sought by breaking down the anterior wall and the cavity Did the means attain the end? the removal of the pathological products it is to observed, having regard to the anatomical conditions to the pathological changes which may have taken that curetting must be considered as a delicate procedure that in individual instances there may be doubt as to it has been efficient—whether the diverticula and pouche have been thoroughly explored In respect of the effected the method of operation was also open to objectio The opening obtained does not always reach the level of lowest part of the sinus. To remedy this defect it was suggested that a part of the floor should be removed Does th enlarged operation always secure thorough drainage? I hav performed it in three cases, removing (in addition to whole of the anterior wall) as much as I could—both anter posteriorly and laterally—of the floor I employed Grunwald' forceps and burrs driven by a dental engine. The bur were very useful, enabling portions of bone to be remove which on account of physical difficulties could not be with by the forceps. In two of the cases (mentioned hereafter as No 2 and No 3) the opening effected almo reached the level of the lowest point of the floor, but i the patient mentioned hereafter as No 1 it did no although the opening was large, the great depth and rapidly increasing thickness of the bony floor limiting th operation. In all the cases the lateral margins of th opening were flush with the septum and the outer wal Whether or not the drainage in such cases is effectu depends not merely on the presence or absence of depressions or pouches but also largely on the character of the healing process which sets in This suggests the question, Wha is the condition of the sinus when as the result of treatmen it has ceased to be a discharging cavity? Has it lined by a more or less thin dry membrane or has it becom wholly or largely occupied by granulation tissue? Eve where the opening has been the largest possible the surgeo would probably find it a difficult matter to describe th condition of the cavity at a given moment durin cicatrisation.

As the cases which I have mentioned bear upon the point which have been raised I shall now state a few fact concerning them The patients were a man, aged 30 years and two young women, aged 21 and 19 years respectively In all (left side) there were nasal polypi (in No. 1 and No. these were so numerous and bulky as to fill a nostril o large dimensions—the septum was displaced—and also t encroach on the post-nasal space), in all the ethmoidal cell and the sphenoidal sinus were involved, in all the middl turbinated bone and the polypi were removed, the ethmoida cells were broken down and curetted, and then the anterio wall of the sphenoidal sinus was removed and the cavit curetted. In No. 1 and No 3 the floor of the sinus was no removed for several weeks, but in No 2 the anterior wall an the floor were removed at the same sitting I was forced t remove the floor in No 1 by finding on one occasion tha the quantity of secretion on dressing was greater than coul be accommodated in the cavity as revealed by exploration after removal of the anterior wall From this circumstance it was inferred that there must be a pouch s situated as to escape detection and necessitating for exploration and treatment a larger opening This view was foun to be correct when the larger part of the floor was removed It was then seen that there was a large deep pouch, latera to the plane of the outer wall of the nose, formed by a bon septum which was beyond the effective reach of the forcep and burr, so that for the pouch I was limited to scraping b a ring knife. In all the cases the ethmoidal seat of operation healed quickly and satisfactorily, in all granulatio tissue was formed in such quantity in the sinus and aroun its artificial opening that, large as the aperture was, it becam so reduced both antero-posteriorly and laterally that I thought it insufficient for drainage and dressing and likely to close. Hence, on several occasions I have by the cautery enlarged the opening almost to its greatest dimensions and destroyed part of the granulation tissue (in one of the cases I have also used chromic acid).

In all the cases the discharge is now small in quantity but can one be sure that none is penned up either in anatomical pockets or cicatricial pockets—i.e. pockets formed by the coalescence or contact of opposing granulations leaving cavities behind unlined by dry membrane? Judging from what takes place in other more accessible parts of the body such an occurrence must be regarded as not improbable. My experience of radical mastoid operations—extending to about 200—shows this clearly Here the field of operation lies before the eye, pathological products can as a rule be completely removed and the wound cavity in its entirety and throughout cicatrisation is generally open to inspection In some cases the cicatricial tissue produced is small so small indeed that the healed cavity is almost as large as the operation cavity which has been covered by a thin layer of dry membrane. In other cases the cicatrised cavity is small, very much smaller than the operation cavity granulation tissue having been abundantly produced. Between these extremes there are many grades. The free production of granulation tissue after mastoid operations leads at times to trouble. Cases are not unusual in which it is difficult to keep opposing surfaces apart until the reparative process immediately behind (deeper) has been effected—in other words, to prevent the formation of pockets This difficulty I have experienced in cases where at the time of operation I have paid special attention to the walls of the cavity with a view to guard against this contingency by so far as possible removing ridges and avoiding depression Again pockets may be in existence for considerable periods without manifesting their presence in one case a pocket requiring treatment was found after months of what seemed complete cicatrisation. In studying sphenoidal cicatrisation our experience of mastoid cicatrisation should not be forgotten neither should it be overlooked that the latter is more under the surgeon's control than the former for in mastoid cases the surgeon is more favourably circumstanced (*a*) to remove the whole of the diseased products and tissues, (*b*) to render the cavity more favourable to healing by removing ridges and (*c*) to control cicatrisation by caustics and dressings It is evident that the question of cicatrisation after even the most skilful operation on the sphenoidal sinus may be of great importance and that a cure may not have been effected although for a considerable period there has been no discharge from the sinus.

Note—Although the subject of this paper is chronic suppuration of the sphenoidal sinus it is desirable that I should give some additional facts relating to the three cases mentioned above, showing the extent of the area involved in the pathological process, in order that their character and significance may be more fully understood. In No 1 there was on the left side (in addition to the ethmoidal and sphenoidal suppuration) suppuration of the frontal sinus and the antrum, both of which have been operated on from the outside. On the right side there are some small polypi and pus and it is not unlikely that some of the air spaces will have to be dealt with. The nasal trouble in this case is believed to date from boyhood. In No. 2 there were on the right side nasal polypi and suppuration of the ethmoidal cells and sphenoidal sinus the polypi and middle turbinate were removed the ethmoidal cells were broken down and curetted and the anterior wall of the sphenoidal sinus was broken down and the cavity curetted with an apparently satisfactory result. On this side the frontal sinus is to be opened. In No. 3 the left frontal sinus requires to be opened but for domestic reasons it has to be postponed.

Manchester

CONVALESCENT HOME AT LLANDUDNO—The foundation stone of a new convalescent home was laid at Llandudno on July 23rd by Lady Forester The funds for the erection and endowment of the institution are derived from the estate of the late Lady Forester who bequeathed nearly £750 000 for the erection of hospitals and a convalescent home for the benefit of the poor of Shropshire and North Staffordshire.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv Proœmium

WESTMINSTER HOSPITAL

A CASE OF ANEURYSM OF THE SECOND AND THIRD PARTS OF THE LEFT SUBCLAVIAN ARTERY, LIGATURE OF THE FIRST PART RECURRENT PULSATION SIMULTANEOUS LIGATURE OF THE INFERIOR THYROID VERTEBRAL, AND THIRD PART OF THE AXILLARY ARTERIES RECOVERY

(Under the care of Mr CHARLES STONHAM C.M.G.)

THE treatment of an aneurysm of the second or third part of the subclavian artery on the left side stands in rather a different position from that of an aneurysm of this vessel on the right side of the body for on the right side there is no intrathoracic portion of the subclavian and ligature of the innominate artery is certainly a much more serious operation On the left side, however the first portion of the subclavian artery is much longer than on the right, and there is ample room for the application of a ligature internal to the origin of its branches. The following case is remarkable not merely for the successful application of a ligature to the intrathoracic portion of the subclavian but also for the subsequent ligation of several of its branches and of the axillary artery with an ultimately successful result. In estimating the prognosis of such operations no stress should be laid on the statistics of pre-antiseptic days for sloughing of the sac and secondary hæmorrhage from the site of application of the ligature were the chief causes of failure and nowadays these are practically eliminated. We congratulate Mr Stonham on the success of his treatment.

A man aged 43 years was admitted into Westminster Hospital on April 13th, 1899 in consequence of a swelling in the root of the neck on the left side The patient had contracted syphilis 14 years previously and 10 months before admission he had a gumma on the left calf one on the inner side of the left thigh and a third on the left forearm In November 1895 he was admitted into St. Peter's Hospital Bristol in consequence of bronchitis and considerable hæmoptysis", he was an in-patient 10 months when he was discharged as suffering from phthisis and being incurable. He was then admitted into the St. George's Infirmary Fulham road, and improved considerably On his discharge he resumed his work as a carpenter and worked regularly until he came to the hospital, although he was troubled with his chest and a cough." He had also suffered from piles and right-sided sciatica. As regards his present illness five months before admission the patient experienced an aching pain in the upper part of the left chest and noticed a swelling of about the size of a walnut at the root of the neck above the left clavicle. This swelling was at first very tender but the pain soon passed off and the patient put pressure on the swelling for two or three days, after which according to him it disappeared but suddenly reappeared two or three days later This swelling gradually increased in size but although at first he occasionally suffered acute stabbing pain in the left chest and down the left arm this did not trouble him latterly and he continued his work until April 12th, 1899 the day before his admission.

On April 17th the patient was thin and had a worn expression. The chest was badly formed and its mobility was markedly deficient The percussion note was somewhat impaired at the apex on both sides there were no moist sounds or other abnormality there was no expectoration. The heart was normal. The arteries were not rigid or particularly tortuous. The abdominal viscera were normal The urine was of specific gravity 1016, acid and contained no albumin or sugar The ends of the fingers were clubbed especially on the left hand. There was a swelling in the left supra-clavicular region of about the size of a duck's egg rising well above the clavicle and situated over the third and part of the second part of the subclavian artery, extending forwards beneath the clavicular head of the sterno mastoid to near the middle of the sternal head. The swelling occupied the whole of the supra clavicular fossa, but there was no dulness below the clavicle indicative of its extension in that direction, although it is true that there was deficient resonance at the apex of both lungs, this deficiency was equal on both sides The swelling was expansile and there was a very distinct systolic bruit and thrill. The diagnosis was aneurysm affecting the convexity of the second and third parts of the left subclavian artery Dr W H. Allchin kindly saw the case with Mr Stonham with the view to ascertain the condition of the thoracic viscera, he was unable to detect any organic mischief After carefully considering this case in all its bearings and being convinced that rupture of the sac would occur in a short time, Mr Stonham determined to attempt cure by proximal ligature in spite of the general opinion that such an operation should not be undertaken

An operation was performed on April 26th The patient was placed under chloroform and Mr Stonham proceeded to tie the vessel in the thorax, being most ably assisted by Mr E. P Paton The shoulders being somewhat raised by pillows, the head thrown slightly backwards, and the face turned to the opposite side, a vertical incision about six inches long was made parallel to, and just outside, the sternal head of the sterno-mastoid, the centre of the incision being placed over the sterno-clavicular articulation. The upper part of this incision exposed the muscular fibres while the lower half was made right down to the sternum A second incision was then made along the inner half of the clavicle, the knife being made to cut down to the bone. The clavicular head of the sterno-mastoid was separated from its attachment, the clavicle being closely "hugged" all the time, this part of the muscle with the upper triangular flap of skin was very carefully turned upwards and outwards. A small portion of the pectoralis major was now separated from the sternum and clavicle and was turned with the second triangular portion of skin downwards and outwards The parts were very vascular but no vessel of any importance was encountered, all bleeding points were at once clamped and tied, the most troublesome one being a small perforating branch in the first intercostal space The clavicle was now very carefully sawn about one inch or rather more, from its sternal end, the division being completed with bone forceps, the sternal portion of the bone was isolated by means of a raspatory and by the knife, both instruments being kept as close as possible to the bone so that in point of fact the resection was practically sub-periosteal During the division of the bone the deeper parts were protected by a retractor The floor of the wound was now seen to consist of a portion of the clavicular periosteum a layer of the deep cervical fascia and muscular tissue By means of two pairs of dissecting forceps the outer edge of the muscular layer was clearly defined, the muscles being the sterno-hyoid and the sterno-thyroid, these were drawn inwards. Further blunt dissection revealed the carotid artery running vertically upwards along the inner border of the wound which was now becoming very deep On the outer side and below was the dome of the pleura covered by the junction of the subclavian and internal jugular veins and a short piece of the left innominate These veins were carefully drawn downwards and outwards, when deeply behind them about two thirds of an inch of the subclavian artery were revealed, surrounded by a little loose fat. The thoracic duct was not seen nor were any nerves or veins other than those mentioned Little ifficulty was experienced in passing an ordinary aneurysm eedle armed with salicylic floss silk round the vessel from ithin outwards, the finger was then placed upon the vessel hich was apparently quite healthy and highly elastic) nd the loop of the ligature was drawn tight beneath it, the dial pulse and all pulsation in the aneurysmal sac were rested, and the ligature was then tied with a surgeon's ot, the ends being cut quite short. The ligature was only d with sufficient force to occlude the artery, not to rupture inner coats, it was situated behind the sterno-clavicular t about half an inch from the aneurysmal sac The deep nd was carefully dried and the displaced structures were wed to resume their normal position the sterno-hyoid sterno-thyroid muscles completely hiding the artery from

The skin wound was closed with silkworm gut and ehair interrupted sutures a short gauze drain being d in the middle of the incision as deep as the sterno- and thyroid muscles. The wound was dressed with

double [illegible] wool, the
in Gam [illegible] vas bandaged to the side,
a grain of morphia was administered hypode
patient was put to bed in the dorsal positio
turned slightly to the right and was kept in t
sand-bags, a small pillow was placed beneath
to support it.

On April 27th he had been sick three ti
slept for six hours and had been comfortable
was 84, regular, and of rather low tension. The
was normal. One of the fingers when ex
quite warm and the circulation was good
no pain. On the 28th he had slept fairly
was no pain The pulse was 76. The cl
the left hand was good and the radial pulse d
complained a good deal of thirst Five grains of
iodide were ordered to be given thrice daily Th
ture was normal On May 2nd the wound was d
the gauze drain was removed Slight pulsation, not
was felt in the sac, which was much smaller and ha
the 9th the stitches were removed, the wound wa
healed, it was now covered with a collodion dressi
sac was smaller, denser, and more localised, slight
could be felt in it but could not be seen The rad
was more distinct. From May 9th to June 2nd the
was kept quiet in bed, still taking potassium iodi
the latter date the pulsation in the sac was di
excentric and the sac had somewhat increased in
the outward direction Until a week before Jun
this increased size of the sac slightly diminishe
now the pulsation was more evident, especially
upper and outer part The patient also complain
pain in the shoulder and down the upper arm The
pulse was very good but delayed in time. On the
equable and continuous pressure was applied to the
by means of marine sponges and bandages. On the
there was no result from the pressure and it was conseque
discontinued, indeed, the sac was clearly increasing
wards and upwards and the pulsation was becoming m
evident. Dr Allchin kindly saw the case with Mr Stonh
and it was decided that something further must be do
On the 27th the left hand was slightly swollen and congest
and the patient complained that he could not move t
fingers properly

On June 28th the vertebral, inferior thyroid, and the thi
part of the axillary artery were ligatured. A vertical incisio
was made just external to that employed for the previou
operation and was carried further upwards along the oute
border of the sternal head of the sterno-mastoid. A second
incision was made from the lower end of this outwards along
the line of the clavicle and this triangular flap of skin was
then turned upwards and outwards, the remains of the
clavicular head of the sterno-mastoid were drawn out-
wards and the internal jugular vein was exposed Blunt
dissection external to the vein exposed the anterior scalene
muscle and phrenic nerve. The jugular vein was drawn
inwards and the muscle outwards The transverse pro-
cess of the sixth cervical vertebra was exposed A vess
of no great size was now defined in the position of th
vertebral artery and was ligatured with silk, the ligatur
unfortunately broke, dividing the vessel which was
secured with difficulty and tied at both ends No other
vessel could be found in this situation, though the foramen
through the transverse process could be clearly defined. A
second vessel—the inferior thyroid artery—was also tied
A piece of gauze was carried to the bottom of the wound
as a drain and the incision was sutured with horsehair
Ligature of these vessels materially diminished but did
not arrest the pulsation in the sac and it was therefore
determined to apply a distal ligature to the third part of the
axillary artery, and this was accordingly done just above the
subscapular branch and was followed by complete arrest of
the pulsation

On June 29th the patient was comfortable, sickness had
been very slight. The circulation in the fingers was good.
The wound in the neck had oozed a little and the dressing
was stained, this had been packed On the 30th the wound
was dressed and a smaller plug of gauze was put in the
cervical wound The wounds were healthy On July 3rd
the patient was progressing satisfactorily and was kept on
fluid diet. The dressings had not been touched. The
circulation in the arm was good but no pulse was present
either at the wrist or the elbow On the 4th the bowels
were opened On the 5th there had been

progress. The wound was dressed and the sutures and gauze plug were removed. No pulse was to be felt. The aneurysm was decidedly smaller harder, and denser, there was no trace of pulsation in the sac. On the 11th the wounds were soundly healed. The aneurysm was still smaller and harder over it slight pulsation could be felt along a transverse line (? the transverse cervical artery). The radial pulse was just perceptible. The further progress of the case was uninterrupted. The sac gradually diminished in size and the pulse became stronger in the radial. The patient complained for a few days of stiffness in the fingers He got up for the first time on August 6th and soon went to a convalescent home.

Remarks by MR STONHAM.—In November I saw the patient and could find absolutely no trace of the sac—indeed, examination by surgeons who did not know the case did not lead to a diagnosis as to what operation had been performed and why The complete disappearance of the sac is most remarkable. The space between the sawn end of the clavicle and the sternum contained a little fluid which I thought was probably synovium there was no pain or redness. The movements of the arm were necessarily weak. The patient had suffered from rheumatism for years and at this time there was effusion into the left ankle-joint. In other respects he was quite well. I have seen this man as lately as March 1902, and he continues quite well. He is doing light work as a carpenter

HULL ROYAL INFIRMARY

A CASE OF GUMMATOUS PERITRACHEITIS PENETRATING THE AORTA, WITH PROBABLY SYPHILIS OF THE LUNG

(Under the care of Dr FRANK NICHOLSON)

FOR many years it was disputed keenly whether syphilis affected the lung at any time and it is not improbable that many of the earlier cases of pulmonary disease which were ascribed to syphilis were really tuberculous in origin. It cannot at present be doubted that syphilitic lesions, though rare, do occur in the lung of these gummata are certainly the most common. The value of potassium iodide in the treatment is indubitable but the drug must be persevered with and must be given in sufficiently large doses[1] but mercury must be administered with great care in any case which may be tuberculous in nature. In all probability the lung affection in the following case was syphilitic For the notes of the case we are indebted to Dr F C. Eve house physician.

The patient was a well nourished man aged 38 years who had formerly been in the army for 12 years. Six weeks before admission he was in perfectly good health when he caught cold after violent exertion (running) Two days later he was in bed suffering from cough pain in the chest, cold shivers, vomiting and anorexia, and he brought up yellowish expectoration which rapidly became offensive These symptoms became aggravated and on the strength of a gumma on the sternum he was admitted on the surgical side under the care of Mr E. Harrison. Here the patient was treated with a short course of potassium iodide without improvement to the gumma or to the symptoms in the chest. Dr Frank Nicholson's opinion was then invited and as there were loud tubular breathing bronchophony and dulness on the lower part of the left lobe in front the case was transferred to the medical side under his care. The gumma on the chest had only been noticed for six weeks Near it were three scars where similar lumps had been excised a year ago in this infirmary with the diagnosis of necrosis of the ribs There was no history of phthisis or of swallowing a foreign body In face of the patient's long military career an inquiry as to syphilis was considered supererogatory

On admission the patient looked ill. His chest moved very badly especially on the left side. Behind there were no physical signs. In front, below the left apex the percussion note was slightly higher pitched there was tubular breathing and ægophony was heard extending over the præcordia and invading the right side above the liver The heart was not displaced and there were no signs of aneurysm. No tubercle bacilli were to be found in the very offensive purulent profuse expectoration. During the fortnight that the patient was under medical treatment he improved, and the vomiting which was at first troublesome had ceased and he was on ordinary diet. There was no stridor or dysphagia. The temperature, pulse and respiration had all remained quiet throughout (temperature from 97° to 99 5° F pulse from 112 to 84 and respiration from 36 to 20), and the physical signs had become very much less marked He had just finished a hearty meal when without warning he had a profuse hæmoptysis, and after a few minutes of intense agony he expired like a drowning man before our eyes.

Necropsy —The post-mortem examination revealed a gumma as large as half a Tangerine orange lying between the trachea and the aortic arch. This had eroded on the one hand into the trachea with an aperture two inches in length having warty margins, and on the other hand into the aorta by a pinhead aperture while the heart of the gumma was septic and sloughing The aorta was otherwise quite healthy The lungs on the right side were healthy but on the left above the heart there were several (? six) patches of carnification as large as sparrow's or thrush's eggs. The apices were healthy and there was no sign of phthisis. The Clinical Research Association reported that the mediastinal gumma was quite caseous and necrosed and showed no microscopic features The carnified lung showed pneumonic consolidation as well as much interstitial fibrosis. There are also foci of small cells not unlike gummata but with no caseation. There are no signs of tubercle or malignant growth "

Remarks —The fact that a gumma may establish communication between the trachea and aorta is mentioned in Dr Hector Mackenzie's article on Syphilis in Gibson's Textbook on Medicine but it is presumably very uncommon. The evidence that the lung in this case was affected with syphilis is strong if not absolutely convincing The points in favour are (1) that tubercle can be excluded by the healthiness of the apices the absence of pyrexia and the microscopic appearance of the lung and sputum (2) that a patchy septic pneumonia can be excluded by the absence of pyrexia and the presence of fibrosis in the lung (3) that gummata were present in the mediastinum and chest wall, (4) the presence of fibrosis and of foci of small cells not unlike gummata in association with broncho pneumonia (5) the size and number of the nodules and their situation in the middle of one lung and (6) the purulent offensive sputum without pyrexia The points *against* the diagnosis of pulmonary syphilis are (1) its extreme rarity (it is said that there are less than a dozen undoubted museum specimens in London) (2) the failure of potassium iodide (for a short time) and (3) the fact that the carnified nodules were red and not caseous or greyish white. This may be accounted for by the nodules not having yet reached the stage of caseation.

Medical Societies

BRITISH GYNÆCOLOGICAL SOCIETY —A meeting of this society was held on July 10th, Dr Heywood Smith a vice president being in the chair —Dr F A. Purcell showed (1) three Uteri removed by vaginal hysterectomy two for malignant disease and one after perforation of the fundus during dilatation for the purpose of removing the sloughing particle of a fibrous polypus previously expelled and (2) a Uterus with Multiple Myomata removed through the abdomen.—These specimens were discussed by the Chairman Dr Routh, Dr J J Macan Dr Macnaughton Jones and Dr H Snow —In his reply Dr Purcell agreed with Dr Routh that hard and tender vaginal carunculæ suggested malignant disease. In the case of perforation the dilatation had been quite gradual commencing with No 1 Hegar and it was No. 9 that had perforated the fundus Experience had taught that no serious results need necessarily follow perforation but for it to be harmless the instrument should be aseptic and the endometrium also and as the pedicle was sloughing he removed the uterus He quite approved of preliminary dilatation by a tent. Professor Bossi's instrument, which Dr Macnaughton Jones had shown them, might perhaps have been used in the case without accident.—Dr Macnaughton-Jones read notes of a case of Suppurating Ovarian Cystoma complicating miscarriage during the third month. When he was consulted 14 days after the miscarriage there were signs of extensive cellulitis and some peritonitis, a week later there were softening and fluctuation in the vaginal vault. On the twenty third day after delivery and the eleventh of the illness, after exploration, as the abscess could not be satisfactorily reached by the vagina, cœliotomy was performed A cyst extending nearly up to the umbilicus, with wide adhesions which bled freely when separated, burst during manipulation and pus escaped, the peritoneal cavity was flushed out with formalin solution Alarming symptoms supervened on the fourth day but the patient rallied and from the fourteenth day her temperature was hardly above normal and she did well—In reply to Dr Snow, Dr Macnaughton-Jones said that the strength of the formalin solution was 1 in 5000, but he had frequently employed it in the peritoneal cavity in solutions of 1 in 3000 and even of 1 in 2000, and never with bad effect.—Dr H M Macnaughton-Jones, jun, for Dr R. D Purefoy, Master of the Rotunda Hospital, Dublin, read (1) notes of a case of Cystic Ovaries and Rudimentary Uterus without any Vagina (the patient was tall and well developed with normal mammæ and external genitals, and had sought relief for molimina associated with incapacitating pain), and (2) notes on a Pedunculated Secondary Growth from an Abdominal Cicatrix after hysterectomy (the operation had been done for a benign tumour) Dr Purefoy had not heard of such growths after hysterectomy, but they were described by Bland Sutton as occurring after ovariotomy and one such had come under his notice.—Dr R H. Hodgson read a paper on a case of Double Pyosalpinx removed after 17 years' suffering

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[1] Wilson Fox: Diseases of the Lungs and Pleura, p 942.

WIGAN MEDICAL SOCIETY—A meeting of this society was held in the board room of the Royal Albert Edward Infirmary on July 15th, Mr T M Angior, the President, being in the chair The President was elected to represent the society at the International Congress of Medicine to be held at Madrid in April, 1903 The following cases were exhibited by Dr R. Prosser White (1) Lupus Vulgaris treated by Injections of Old Tuberculin (a complete cure), (2) Keloid of the Cheek after a Burn, (3) Lupus Erythematosus treated by the New Tuberculin (cure), and (4) other cases of Tubercular Affections of the Skin.—Mr Hugh E Jones exhibited (1) Miscellaneous Drawings Photographs, and Radiographs (the latter by Mr C Thurstan Holland) illustrating the Effects of Concussion of the Eyeball Gunshot Wounds of the Orbit, &c., (2) Patients illustrating Vairous Forms of Cataract and their Treatment, (3) Plastic Operations for Contracted Socket and Cicatricial Ectropion, and (4) Ophthalmoscopic Cases—Mr W Berry showed the following cases in the wards 1. A patient who had aborted two months before admission A portion of placenta was supposed to be retained as there were repeated hæmorrhages He curetted and in place of placental tissue omentum was pulled down through the cervix, a piece four inches square was ligatured and cut off, the remaining portion was pushed back through the cervix, and the uterus was plugged with iodoform gauze. This was allowed to remain for 48 hours and afterwards she was douched daily She made an uninterrupted recovery 2 A case of Double Genu Valgum in a girl, aged 15 years Macewen's operation was performed on both thighs at the same time with an excellent result and without a single rise of temperature 3. A case of Concussion of the Brain 4 A large Gluteal Abscess in a female.—Mr C M Brady showed a case of a Cyst in the Right Spermatic Cord of a boy, aged one and a half years—Dr J Blair showed a large Papilloma of the Vagina in a girl, aged one and a half years—A vote of thanks to the board of management of the infirmary concluded the business

VACCINATION EXPENDITURE—Several of the boards of guardians in the west of England have been recently discussing the resolutions passed at a conference of delegates from the metropolitan boards of guardians to the effect that fees for primary and revaccination cases should not exceed 2*s* if performed at the home of the patient and 1*s* 6*d* if performed at the surgery of the public vaccinator The resolution at present has not received much local support, some of the guardians referring the matter to a medical committee, as the Newton Abbot board did on July 23rd. The Falmouth and Stonehouse boards of guardians at their meeting held on July 24th were both in favour of the proposal, whereas the South Molton guardians, who also held their meeting on the same day, would not entertain the idea.

Reviews and Notices of Books.

The Mental State of Hystericals By PIERRE JANET, M.D. With a Preface by the late Professor J M CHARCOT. Translated by C R. CORSON London and New York: G P Putnam's Sons 1901 Pp 535 Price 15*s* net.

Dr Pierre Janet has long been known as one of the ablest clinical and psychological investigators among the many brilliant pupils who owed their inspiration to the late Professor Charcot, and the book before us is an excellent example of temperate and judicious examination of a most difficult subject. The author's conception of hysteria is broad and philosophical. Hysteria is viewed as a neurosis which affects the entire personality of the individual, disturbing not only the psychical functions and thus giving rise to a protean assemblage of mental symptoms but modifying also the bodily functions and bringing about various visceral and somatic troubles

The work is divided into two parts The first part occupies about 200 pages and deals with the so called "mental stigmata" of hysteria. The various symptoms and conditions studied here include the anæsthesias of hysterical patients, the forms of amnesia from which they suffer, the disorders, or rather the defects, of will which they exhibit (aboulias), the motor disturbances which they manifest, and, finally, the modifications of character and disposition which they undergo Under each of these headings a vast amount of facts and observations is collected and discussed and the pathological basis and significance of the conditions are clearly pointed out. Full references are given to original memoirs and articles The second part of the work occupies nearly 300 pages It contains the most illuminating description and discussion to be met with in medical literature on such subjects as suggestion and sub conscious acts, fixed ideas among the hysterical, hysterical convulsions, and the conditions of delirium, delusion, and somnambulism which are present in the graver forms of hysteria. Among so much that is excellent it is difficult to pick out any particular part of the work for special mention, but the chapter on Suggestion and Sub conscious Acts may be referred to for the clearness of exposition, depth of insight, and abundance of clinical and psychological knowledge which it exhibits The work is one that deserves to be consulted and studied carefully in view of the light which it throws on the various clinical and psychological aspects of hysteria. It will for long remain the classical work on the subject. The translation is executed with great felicity and clearness of expression and the text is remarkably free from errors

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Transactions of the Ophthalmological Society of the United Kingdom Vol XXI, Session 1900–1901 London J and A. Churchill 1901 8vo, pp 328 Price 12*s* 6*d*

THE publication of a volume of Transactions, annually or periodically, by such a society as this is of considerable importance The longer papers read before the society would no doubt be reproduced by the authors in another form but the memory of a large number of cases, or of what are now called "card specimens," would in all probability be utterly lost even if they gained admission into the pages of the more prominent journals devoted to general medicine and surgery Appearing in the Transactions of a society easy reference can be made to them and the wearisome process of looking through many pages of indices dealing with irrelevant subjects is saved Moreover, the comments of experts are often appended and the experience of others as well as that of the authors is thus obtained

The arrangement of the contents of the volume before us is topographical, diseases of the conjunctiva, the cornea, the iris, and the choroid and the retina brought before the society being successively given Other sections are devoted to injuries of the eye, operations instruments and appliances congenital conditions colour blindness, and ophthalmic pathology There are no less than 18 plates, many of them being well executed chromo-lithographs, whilst others illustrate pathological specimens the microscopical features of which are reproduced by photography There are also many diagrams and drawings in the text.

There is a good article by Mr Norman G Bennett, in which the author adduces evidence showing the frequent co-existence of lamellar cataract and hypoplastic teeth—that is to say teeth presenting imperfect calcification—and considers that this combination suggests a common cause for the two lesions The ocular lesion, however he points out differs from the dental lesion in being produced after the development of the tissue instead of during that process as it must be in the case of a calcified tissue. He is inclined to think that of several causes capable of producing hypoplastic teeth one or more only can cause the ocular lesion. He maintains that lamellar cataract is a disease of early infantile life and is due to some general derangement of health which also affects the teeth. The general derangement is brought about by errors of feeding and nutrition.

Various forms of apparatus and new instruments are described. Thus Mr A. Ainslie Hudson extols the action of an instrument adapted to effect vibration massage It is worked by electricity and sets up rapid vibrations the influence of which penetrates to a great depth. He has found its application extremely useful in a case of incessant supra-orbital neuralgia and in cases of paralysis of the external and internal recti Major Herbert E. Drake Brockman I.M.S., has devised a new pattern of eye speculum which amongst other advantages is light and by the introduction of an additional joint in the shanks allows of considerable alteration of the general curve to suit the contour of the face. Mr H Secker Walker has devised a diagrammatic model intended to assist in the teaching of refraction in relation to the eye. Mr Gustavus Hartridge uses a curved capsulotomy knife of which he gives a drawing Mr J H. Tomlinson exhibits a recording colour perimeter and Mr C. S Blair a portable refractometer

A valuable communication illustrated by many plates is that by Dr Leslie Buchanan In this article the pathological changes that occur in the eye as a consequence of the entry of a chip of metal into it are carefully followed out. The microscopical feature of the exudate that is found in cyclitis the multiplication of nuclei and cells, the subsequent processes of fibrosis and fatty degeneration, and the final stage of ossification are all fully described and are well shown in the illustrations Another article of considerable merit and much originality is that by Dr Ernest Thomson on the Determination of the Influence of the Eyeball on the Growth of the Orbit, by Experimental Enucleation of One Eye in Young Animals. Sir Anderson Critchett records some interesting cases of bullet wounds affecting vision received during the late war There are two communications from Dr F W Edridge Green one upon a Trichromic or Three-unit Case of Colour blindness and the other upon the Evolution of the Colour Sense Short accounts are given of a large number of isolated cases occurring in the practice of the members The volume supplies good evidence of the vitality of the society

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Higher Mathematics for Students of Chemistry and Physics By J W MELLOR, D Sc. London Longmans Green and Co. 1902. Pp. 543. Price 12s 6d

ADVANCED students of theoretical chemistry have long felt the want of a book like this which contains just the kind of mathematics that is required daily in connexion with their work. Scientific investigators are constantly endeavouring to group together their observations under some general law After collecting their facts they proceed to guess at the nature of the underlying law that connects them. Assuming this working hypothesis as provisionally true they argue as to its effect in other cases, and a further appeal to experience either verifies or negatives the truth of the hypothesis. It is only comparatively recently that this last and most important step of verification has been taken with regard to certain chemical theories. This is mainly because chemists as a class are not mathematicians and they do not realise that some knowledge of the calculus would show them exactly what experiments would finally test their hypotheses. Dr Mellor's admirable method of dealing with his subject is well exemplified in his introduction to the study of integration. Cane sugar is converted into invert sugar in the presence of dilute acids. What law governs this change? Wilhelmy has suggested the law that the speed of the chemical reaction at any moment will be proportional to the amount of cane sugar actually present in the solution The law however in this form cannot be experimentally verified for the speed is not really constant during any finite interval of time because the amount of cane sugar remaining to be acted on is continually decreasing The law is therefore expressed as a differential equation and then by the methods of integration the amount of invert sugar formed according to this law in a given time whether five seconds or an hour can be found. On making these experiments the results are in complete accordance with Wilhelmy's hypothesis which is now known as Wilhelmy's law Integration therefore bridges the gap between theory and fact in a form suitable for experimental verification This simple instance will show that some knowledge of both differential and integral calculus is required by the scientific investigator of chemical laws.

The last chapter of the book contains a very complete discussion on the Theory of Errors. It is most important that all scientific workers in the laboratory should know how to interpret their observations. If for instance, 13 different observations of the atomic weight of oxygen are made the method of finding the best representative value for this set of observations is given, and further if any observation is very discordant with the others whether it should be rejected or not. When a very large number of observations have been made no one should be rejected under the pretence that it vitiates the other observations when however the number is small the abnormal measurement if allowed to remain, would exercise a disproportionate influence on the mean. In these circumstances Chauvenet's criterion is recommended which is an attempt to show that trustworthy observations will not deviate from the arithmetical mean beyond certain limits

Enough has been said to show the eminently practical nature of the book the able chapter on Fourier's theorem would probably not satisfy a pure mathematician but the two assumptions made in it are clearly stated and those who have waded through the elaborate investigations to justify them will be the first to admit that they have no place in a book of this kind. The style of the book is clear and interesting and the type is excellent and remarkably free from misprints. A minus sign should be substituted for the plus sign on page 27 (12) and on page 30 in example (5) a *x* should be substituted for the *y* One misprint occurs several times parellelopiped for *parallelepiped* It may be noted too that in the section on Solid Geometry the positive direction of the axis OY is taken outwards whereas this is usually taken as the negative direction The author is to be sincerely congratulated on his masterly treatment of such a large range of subjects, each section of which is of more or less practical importance to those engaged in chemistry or physics

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Le Traitement Médical des Inflammations du Cæcum—Typhlite, Pérityphlite, Appendicite (*The Medical Treatment of Inflammations of the Cæcum—Typhlitis, Perityphlitis, Appendicitis*) By Dr BOURGET, Professor of Clinical Medicine in the Faculty of Medicine of Lausanne, Switzerland. Geneva C Eggimann and Co

THIS is a very useful practical book—especially useful just now, for it is evident from the correspondence columns of THE LANCET that medical opinion and practice in relation to the questions treated are not yet mature. Thoughtful physicians, especially those in charge of patients in the wards of hospitals, have long been face to face with the difficulties. They have frequently had under their care patients who have presented the classical signs of perityphlitis—pain on pressure over the situation of the cæcum, resistance felt over this area, sometimes a localisation of the maximum of the tenderness and pain over the anatomical site of the appendix vermiformis together with subjective signs suggesting a local peritonitis In many cases they have found rest and careful treatment to be followed by recovery In some cases there has been relapse, but even in relapsed cases recovery has followed The relative proportions of recoveries to deaths have been variously estimated. Some have thought that the great majority of patients have recovered, others have put down the fatal cases as one quarter at least of all those observed. It has been, at any rate, proved that in a very notable proportion surgical interference has in these later days been a means of saving life. It is easy for the reasoning to be in favour of surgical intervention in *all* cases This seems to be illogical in view of the fact—if it is a fact—that a large number of patients recover without the intervention of the operating surgeon. This little book, certainly without any elaborate and profound reasoning, takes the side of the *medical* observer, agrees that a very large proportion can be cured by judicious treatment without surgical operation, and points out the practical means to be adopted. First the author dismisses the treatment by external applications of ice and by internal administrations of opium as useless or worse than useless. He insists upon the value of prophylactic measures, affirming that all the individuals attacked with perityphlitis suffer from gastro-intestinal troubles Anti-dyspeptic treatment is therefore of high importance, and the chief of these means is anti constipation treatment by diet, by the administration of vegetable juices, by judicious muscular exercises, and by laxatives such as Carlsbad salts or capsules containing small doses of castor oil. A suitable *régime*, too long to quote here, is given on page 23 If an acute crisis occurs the diet should be liquid, castor oil in sufficient doses, with salacetol in doses of from 15 to 30 grains, should be given and enemata should be administered. This is the strong contention of the author that any preconceived objections to intestinal lavage in these cases are chimerical and that by means of a suitable apparatus a litre of warm water with ichthyol (four parts per 1000 in an aqueous solution) and a little olive oil should be gently injected as an enema twice a day The author claims for these oil containing enemata that they rapidly calm the pain and distress, producing an effect analogous to that observed in hepatic colic when olive oil has been ingested. After the second or third day of such treatment the castor oil taken by the mouth as an aperient is omitted and replaced by a saline laxative containing phosphate and sulphate of soda. The enemata are continued for from two to 10 days By this treatment it is possible that the necessity for operative interference will be much reduced though not abolished It is illogical to [illegible] a surgical operation in all cases, and still more illogical to remove the vermiform appendix as a prophylactic measure in the healthy

The author concludes with records of all the cases (23 in number) of perityphlitis which have been under his care in hospital since January, 1901 These deserve careful study and go far to fulfil the indication of a correspondent in THE LANCET of July 19th, p 184, who suggests that it would be well for physicians instead of recording the antiquity of the disease, to enlighten the medical mind as to the mode of treatment found by them to be most successful.

LIBRARY TABLE

Heresies, or Agnostic Theism, Ethics Sociology, and Metaphysics By H CROFT MILLER. Vol V London Grant Richards 1902. Pp 599 Price 10*s*—In the preface of this volume which is the fifth of a series, the author gives a brief history of his life, which he tells us may be divided into three periods During the first or blind and trusting period "he faithfully fulfilled one day per week what passes as the Christian duty of mumbling responses and pretending to listen to pulpit orations." During the second or inquiring period "he worshipped at the altars of empirical science" and he also "slashed at metaphysic" At this time he contributed to free thought journals and wrote a book in which he applied "in the moral and religious arenas" the investigations of a distinguished German biologist. Another book which adumbrated "the author's third personality" was "a pseudo-metaphysical struggle with the materialistic ogre." At length came the wrestling period "Like a nightmare came the dead emptiness of what had afforded the illusion of living substance" He was troubled by "the great secret, the Whence and Whither" He asked himself whether a man could rest with Conservation and Dissipation, Gravitation, Catastrophism, Uniformitarianism, Central Localisation, and Darwinian Descent? "One man at any rate could not", That man was Mr H Croft Miller Then the inner voice told him that what he knew was mind, and that he should learn what is real, but he found a difficulty How could he account for hands, brains, telephones, rivers, dead bodies, time, space, and other things? The inner voice told him to seek "The author has sought, and he believes has found" He reveals what he has found He no longer slashes the metaphysic, on the contrary, he has become the chief teacher, if not the actual discoverer of "the metaphysic," and as he is so good as to explain to us, "this concluding volume of the metaphysic may be said to contain its empirical authentication" He goes on to express the hope that "the metaphysic in its main aspects is now beyond successful intellectual attack." The author, kindly recognising the difficulty that a critic might have "in dealing with a work covering unfamiliar ground," advises us to approach it in the spirit of a scientific investigator A perusal of parts of the present volume may, he thinks, 'whet the appetite for a serious study of the whole work." A study of the four volumes already published may make the reader look forward with respectful joy to another volume which the author promises, which is to deal with morality and religion Mr H. Croft Miller is so kind as specially to recommend the present volume to physicians "The metaphysic" has something to teach them—to wit, that "what is called the advance of medical science constitutes what may be called an advance in the manufacture of disease The more we popularise medical studies of new disease the more we popularise the diseases themselves. What is called preventive medicine operates beneficially by hypnotising the public into confidence, which is another way of saying that it prevents the public from hypnotising the matter soul so as to propagate the disease" Mr Miller is mistaken in suggesting that his book does not deal with familiar subjects.

We have heard of Mrs. Piper the lady who picks at her finger nails, and of Mrs Eddy of Christian Science, of Home, who floated in the air we have also heard nor have we forgotten Katie King Mr Miller recalls the doings of some of these worthies. His quotations are historically interesting his own statements will be thought by some people blasphemous, by others absurd. The book is more amusing than dangerous but considered as a work of humour it is dear at the price charged for it.

Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air-passages Being Two Lectures delivered at the Medical Graduates' College and Polyclinic on Oct. 2nd and 9th 1901. With an Appendix consisting of Two Letters published on Nov 23rd, 1901, and on Jan 11th, 1902, in the *British Medical Journal*. By Sir FELIX SEMON M D Berlin F R C P Lond Physician Extraordinary to the King, Royal Prussian Professor of Medicine, Physician for Diseases of the Throat to the National Hospital for the Paralysed and Epileptic, Queen square. London Macmillan and Co Limited New York The Macmillan Company 1902. Pp 130 Price 2*s* 6*d*. net.—What might be called the text of these lectures was Dr J F Goodhart s statement that throats and noses suffer terribly from this lust of operation that has beset the public, though Sir Felix Semon para phrases this in his ' thoughts" and says that has beset the rhinologist. We must, however, state that it is not at the English rhinologist alone that this odium is hurled but also at numerous exponents of rhinology in Germany The author refers early in his lectures to the well known tendency of medical men to rush from one extreme to the other, to praise a treatment beyond its merits or to condemn it entirely without due cause. Speaking generally our old friend ' placebo" is ruthlessly condemned as an instance of want of strength of mind on the part of a medical man These lectures are extremely well prepared well written and give evidence of an absolutely thorough acquaintance with the literature of the speciality Possibly they are more destructive than creative theories and practices are attacked but there is given in place little but general broad lines of guidance. There is no doubt that the author shows wisdom for had he attempted a wider definition he would have laid himself open to a task which he could not have completed within the limits of time at his disposal when the lectures were delivered The letters which are inserted are two, the first and last of a controversy which was carried on in the pages of our contemporaries

The Neuroses of the Genito-urinary System in the Male with Sterility and Impotence By Dr R. ULTZMANN Professor of Genito-urinary Diseases in the University of Vienna. Second edition, revised by the translator GARDNER W ALLEN M.D Surgeon in the Genito-urinary Department of the Dispensary of Boston Philadelphia F A. Davis and Co 1902. Pp. 198. Price $1 —We can find little to praise in either the matter of this book or its manner Professor Ultzmann did not live to revise his own work and it is doubtful whether such an undertaking was required of any body else. Those who take a pleasure in the freest use of barbarous pseudo-scientific terms and in the perusal of masturbatory consequences will be satisfied in these pages—other persons will not peruse them. The translator is we imagine, chiefly to blame for the unattractive nature of the work as it appears in English

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JOURNALS.

The Practitioner —The July number of the *Practitioner* contains an excellent practical article upon the Operative Treatment of Malignant Disease of the Uterus from the pen of Dr Walter W H. Tate. Dr Tate lays stress upon the frequency with which an accurate diagnosis can only be made by the aid of examination under anæsthetics and points out that the decision for or against operation depends upon this examination. He remarks that cases which appear to be favourable for operation often prove, under the more searching examination possible with anæsthesia, to be really unsuitable for any such treatment. The question of vaginal hysterectomy is described in close detail and the mortality of it is stated as not more than 3 per cent. Mr A. G R. Foulerton contributes a long article upon the Causation of Carcinoma and Sarcoma. The various prevalent ideas and innumerable authorities are quoted Conclusions are reserved for a future number The editor falls foul of Mr Jonathan Hutchinson s remarks upon the possible rôle of arsenic in the causation of cancer

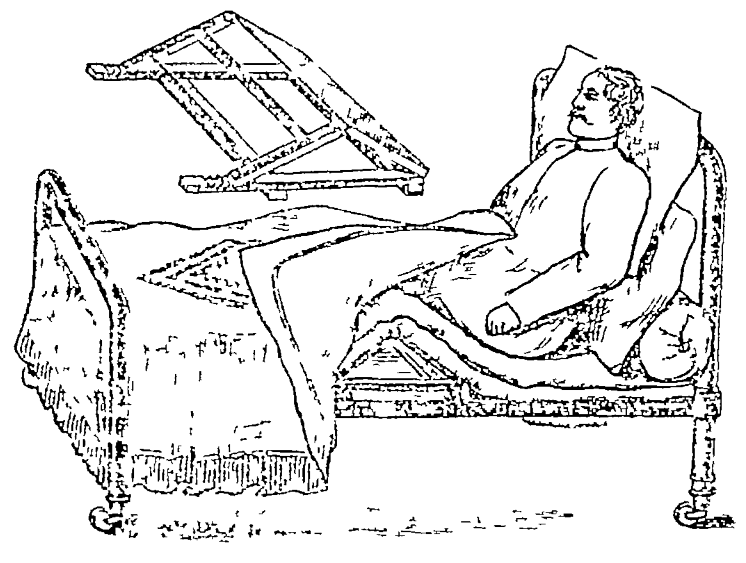
Annals of Ophthalmology Managing Editor, H. V WÜRDEMANN M D Vol XI. No. 2. April, 1902. Pp 239 Published quarterly price 18*s* per annum.—The American journal, *Annals of Ophthalmology* besides con taining good original articles is conspicuous for the excellent abstracts of contemporary ophthalmological literature embracing not only the work done in France, Germany, Holland, and Italy but that which has been published in Russia, Scandinavia, Hungary and Japan. The chief original articles in this number are as follows. Glaucoma, by Dr Edward B Coburn whose efforts to ascertain the etiology of the disease consisted in undertaking four series of experiments the first of which was devoted to the determination of the course of the lymph currents in the anterior segment of the eye the second to the effect of increased pressure in the anterior and posterior chambers, the third to the results of the introduction of foreign material into the eye, and the last to the effects of the indirect introduction of substances through the circulation and the closure of the channels of exit by causing changes in the ciliary region and aqueous. Dr Coburn finds that intra-ocular changes may be induced by deleterious substances in the circulation and *shows* that these changes are associated with narrowing of the angle between the iris and the cornea. Dr Howard F Hansell and Dr Harry Friedenwald also deal with the subject of glaucoma. Dr E F Snydacker discusses Professor Mauthner s method of diagnosing paralysis of the depressors or the elevators of the eye. Dr J P Nuel, the professor of ophthalmology in the University of Liége, and Dr F W Marlow professor of ophthalmology in the University of Syracuse, N Y supply the abstract of a Report on the Toxic Amblyopias, including quinine, tobacco alcohol and other forms of amblyopia. They show that the nerve fibres are primarily affected and that secondarily proliferation of the interstitial tissues takes place. Lastly, Dr Frederick Herman Verhoeff of Boston offers a Theory of Binocular Perspective with some remarks upon torsion of the eyes, the theory of the vicarious fovea, and the relation of con vergence to the perception of relief and distance

The Journal of Physiology Edited by Sir MICHAEL FOSTER, K.C.B. F R S. and J N LANGLEY, Sc.D F R.S. Vol XXVIII No 4. London C J Clay and Sons July 21st, 1902. Pp. 67 Price 4*s*.—The articles contained in this part are six in number and are as follows — 1. Dr Francis W Goodbody Dr Noel D Bardswell and Mr. J E. Chapman On Metabolism on Ordinary and Forced Diets in Normal Individuals. The experiments conducted by these observers show that an excessive diet is followed by lasting bad effects that except when extreme forced feeding is employed very little nitrogen is retained in the system, that the quantity of urine of high specific gravity is augmented and that the greatly increased quantity of nitrogen eliminated by the urine is not in the form of urea, uric acid, or ammonia. Nor was there any great increase of nitrogen in the fæces there was a great increase in the quantity of fat in the fæces With forced feeding the body-weight rapidly increased On this feeding being discontinued a rapid decrease of the body weight took place 2 W M Bayliss Further Researches on Antidromic Nerve Impulses. In addition to other conclusions which the writer of this article draws from his experiments he finds that there are no vaso-dilator fibres to the hind limb in the abdominal sympathetic chain and that there are no vaso-dilator fibres supplying the small intestine in the vagus nerve, but that such fibres are present in the posterior roots of the twelfth and thirteenth thoracic nerves 3 Sir W R. Gowers Taste and the Fifth Nerve The importance on clinical grounds of the petrosal and vidian nerves and of the spheno palatine and otic ganglia is dwelt upon in this communication, and it is pointed out that impairment of taste does not follow disease of the facial nerve in the skull or of the roots of the glosso-pharyngeal nerve 4 Mr O H. Fagge describes the innervation of the urinary passages in the dog He finds that the nerve supply to the primitive urinary ducts and to all the passages developed from the Wolffian ducts and their outgrowths, including the uterus and vagina, is derived from the sympathetic system through the hypogastric nerves On the other hand the innervation of the bladder derived from the urachus is furnished, probably later in the course of evolution, directly from the sacral portion of the spinal cord along the pelvic visceral nerves 5 Dr Charles S Myers gives the results of his observations on the visual acuity of the natives of Sarawak and finds their acuity of vision to be about one and a half times greater than the normal degree 6 Mr M Siegfried describes a new albuminoid obtained with gelatin from white connective tissue to which he has given the name of "reticulin" This number of the *Journal of Physiology* also contains the Proceedings of the Physiological Society at the meeting of July 5th, 1902.

New Inventions.

A NEW BED REST

I SEND you a sketch of a bed rest which I have devised for the purpose of keeping a patient permanently "propped-up' in the bed The difficulty of keeping anyone in this position for any length of time is well known to the medical profession and still more so to the nurses A heavy and helpless patient has to be dragged up in the bed repeatedly, both for his own comfort and it may be for vital reasons, and the tax on the strength of the nurses, to say nothing of the patient, is enormous, for it must be remembered that the heavier the patient the more rapidly he settles down in the bed, despite all the appliances hitherto used



The sketch, I think, speaks for itself, but it may be mentioned that the apparatus is intended to be placed *beneath* the mattress and that the part which supports the backs of the thighs is made of wire to give spring and therefore, comfort When placed in position this contrivance converts *any* bed practically into a Bombay lounge. Its various uses will at once occur to anyone, in fact, in every case where a bed rest has hitherto been ordered and has after a few hours' trial been discarded as useless, its convenience will be experienced Personally, I have never known a bed rest to be used for more than a day, but I have seen the above invention used for seven weeks continually in a very severe case of rheumatic fever with pericarditis and endocarditis, and as my patient has recovered with an absolutely sound heart (which fact I believe to be due to the constantly raised position) I can with a certain confidence recommend it to the profession generally In conclusion, I have to say that the bed rest is called the "Sister Doris" and that it is made by Messrs Allen and Hanbury of Wigmore street, London, W

GEORGE W ORD, M R.C S Eng , L R.C P Lond.
Richmond.

Looking Back.

FROM

THE LANCET, *SATURDAY, JULY 31*, 1824.

ROYAL ACADEMY OF MEDICINE.

Sitting of the 11*th of March*

M. BECLARD presented to the Academy, in the name of M.M DUBOIS and BELLIVIER, a fœtus which had remained seven years in the womb of the mother It was contained in a bag situated on the left side of the uterus. It appeared to be transformed into a kind of adipose substance, resembling the fat of dead persons

Sitting of the 25*th of March*

M M RICHERAND and JULES CLOQUET exhibited one of the patients from the hospital St. Louis, whose inferior extremities could be lengthened or shortened, when the man liked, to the extent of three or four inches From several pathologico-anatomical observations, it was judged that this affection arose from a destruction of the heads of the thigh bones, and from erosion of the parietes of the cotyloid cavities The patient is fifty years of age, walks with extreme difficulty, but without pain Whilst resting the body on either limb, it becomes shortened, and the trochanter major touches the crista of the ilium , but when, on the contrary, he raises it, it elongates and returns to its natural size. In this same patient there are several exostoses in different parts of the pelvis, and numerous large osseous tumours in the substance of the muscles

HYDROPHOBIA —We regret that in none of the numerous instances of hydrophobia which have lately occurred in this country, has the plan so strenuously recommended by M MAGENDIE, (injection of water into the veins) been tried The ordinary remedies, such as blood letting, opium, &c so seldom afford any relief in this dreadful disease, that we are surprised that a mode of treatment so simple as M MAGENDIE'S, and which holds out a chance of cure has not received a fair and impartial trial. From the publicity which M MAGENDIE'S case received, there can scarcely be a professional man in the country who is not acquainted with it, and we therefore entreat medical men to try the injection of water into the veins in any case of hydrophobia which may come under their notice Some blood ought to be abstracted from the arm previously to the injection of the water, and the water should be injected in a luke warm state

THE LANCET.

LONDON SATURDAY AUGUST 2, 1902

The British Medical Association The President's Address

IN bidding the British Medical Association welcome to the town in which it holds its annual meeting the President for the year usually finds an interesting topic for his opening address in the medical history of the locality acting as host to the Association Mr WALTER WHITEHEAD has done so this year and in Manchester he had a fertile and suggestive subject ready to his hand. The history of Manchester is for the most part modern history It is the history of a city bound up in the minds of men with the progress of modern manufacture modern commerce, and modern political opinion In political history Manchester is closely associated with the great struggle for financial and fiscal reform that marked the early part of the last century, and it is interesting to note that its right to Parliamentary representation dates only from 1832, the year in which the British Medical Association now its guest, was founded Before the Reform Act in that year did away with a state of things which to us, only 70 years after seems almost beyond belief the appearance of Manchester in the House of Commons had been restricted to the presence of two Members in CROMWELL'S Parliament of 1654 one of whom, CHARLES WORSLEY carried out the Protector's celebrated mandate to 'Remove that bauble We need hardly say that during the time preceding the great Reform Act Manchester was already a huge commercial centre while pocket boroughs with a dozen voters were returning Members to Parliament With the general and political history of Manchester Mr WHITEHEAD'S address naturally did not deal nor need we do more than remind our readers of the part played by Manchester politicians in developing the greatness and securing the liberty of which the nation is justly proud But we think that such a reminder is called for as without doubt the progress of medicine and civil arts has followed hard on the increased political freedom in the securing of which the politicians of the Manchester school played so vigorous a part.

The city which is associated with the names of COBDEN and BRIGHT and therefore with the preaching and practice of doctrines of peace, retrenchment, and political freedom, was not likely to be behindhand where scientific progress was concerned and where the physical welfare of a large and industrious population was also involved. In such circumstances we find without surprise that the Royal Infirmary at Manchester had its origin so far back as in the middle of the eighteenth century and that it is reckoned to be one of the oldest—possibly the oldest—of all Manchester's great public institutions It owed its foundation to the generosity and public spirit of two gentlemen named CHARLES WHITE and JOSEPH BANCROFT but soon the small house that they had fitted up proved too small; but the importance of their enterprise was appreciated by the community so that three years later in 1755, a wing was added which provided beds for 40 patients and other additions followed in due course Mr CHARLES WHITE, who was the first surgeon associated with the Infirmary, had begun his career in London and was a friend and fellow student of JOHN HUNTER. It was more than half a century later when the need for a medical school at Manchester was supplied through the energy of Mr THOMAS TURNER, who appears from Mr WHITEHEAD'S address thus to have founded the first great provincial medical school in England and to have done so at the very time at which Manchester was most agitated by the political strife and unrest associated with and exemplified by the outrage of "Peterloo" The history of medical education at Manchester its later connexion with the great modern instrument of general education in that city, the Owens College, and the growth of the importance of the latter through the union with it of the Manchester School of Medicine, can be traced by those who pursue the subject in Mr WHITEHEAD'S address as printed in our column should they not have heard him deliver it at the meeting of the British Medical Association. We must congratulate Mr WHITEHEAD on the completeness with which he has studied the interesting subject.

The most modern development with which Mr WHITEHEAD found himself confronted was no doubt the prospect of Manchester becoming in the near future the home of a university This has been its ambition for more than two and a half centuries. It petitioned the Long Parliament for a charter in 1641 and its petition was opposed successfully by York which city put forward rival claims After the Owens College had established itself upon a firm basis and the advantages had been recognised that are obtained by placing education of a high class within the grasp of those who cannot afford to go far afield to seek it, Manchester again sought a charter for a Manchester University When difficulties arose due again to rival claims of other north country town the Victoria University was founded as a compromise Birmingham has now a separate university and Mr WHITEHEAD observes that a federal university has served its turn and higher education in Manchester has reached a stage when a local university has become not only a necessity but a legitimate one" No Manchester man is likely to dissent from this view though we are not quite sure that the question of the value of local universities has received due attention from people not locally concerned. The excellent work which has been done at the Owens College and the admirable facilities for education existing in Manchester whether for training in medicine and surgery or in those other subjects which should be included in the curriculum of a university are admitted, while the foundation of a Manchester university is a fact almost accomplished.

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The British Medical Association The Address in Medicine

THE most valuable feature which reasonably may be looked for in an authoritative address upon any practical subject is a summary of what has been done with regard to that subject in the past and a deduction from this of what ought to be done in the future. Reading the Address in Medicine, which we publish on another page, with some such expectation in our mind, we may well congratulate Sir THOMAS BARLOW upon the manner in which he has demonstrated the recent advances in medicine, and still more upon the emphasis with which he points out the direction in which help is necessary if such advances are to be pushed further in the future. All the world is aware of the strides which surgery has made along the roads which modern science opened to its enterprise Every layman can preach on the changes wrought by the antiseptic principles of Lord LISTER. The advance of medicine, less striking to the ordinary individual though scarcely less radical to the cultivated mind, is apt to be overshadowed by the almost sensational progress of its sister art, and it is well, therefore, that a physician of such practical attainments as Sir THOMAS BARLOW should set himself to demonstrate the benefits which the practice of medicine reaps, and is still likely to reap, from the acquisition and application of scientific knowledge Sir THOMAS BARLOW takes as his text the thesis that "the advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease." The diseases with which he illustrates his contention are well chosen. First comes diphtheria—a complaint in which, perhaps more than in any other equally formidable, the modern science of bacteriology has rendered possible an accuracy in diagnosis and an efficiency in treatment that were wanting in all the sagacity and all the insight which a less instructed generation of practitioners was able to bring into play Bacteriological examination renders an early and positive diagnosis frequently possible, and the antitoxin treatment provides us with a remedy which, if opportunely employed, enormously reduces the fatality of diphtheria and is harmless when exercised upon doubtful cases where its use is not actively beneficial. Moreover, as Sir THOMAS BARLOW points out, in the case of diphtheria, as in other instances, a scientific knowledge of the true cause of the disease and of the manner in which it acts enables us to dispense with vigorous measures suggested by a tentative empiricism—measures which in the case of diphtheria took the form of strong local applications and were not only needless but often productive of real harm. As further examples of diseases in which scientific investigations have rendered specific remedies or adequate preventive measures either accomplished facts or matters of the highest probability Sir THOMAS BARLOW instanced rabies, small-pox, cholera, plague, and typhoid fever Later in his address he alluded to malaria and to tuberculosis. When such a list of formidable diseases is contemplated, and when the difference is appreciated between the doubtful manner in which their arrest was attempted by our predecessors and the precise manner in which this aim is to-day to a great extent attained, the most sceptical of medical men may well feel the fires of hope burning within his breast. When he touched upon nervous disorders Sir THOMAS BARLOW probably put his finger upon the inevitable counterpoise which for ever weighs on the other side against the rising scale of general freedom from disease. Medicine is engaged upon an endless combat with endless foes One disease is banished from our midst, hydra like another dread disorder rises in its place. To-day it seems as though while sanitation and bacteriology were defeating the enemies which preyed upon lung and alimentary canal the ranks of disease are to be recruited from foes whose stress falls chiefly upon the brain and upon the spinal cord. That the fight against this ever-renewed army of diseases may be vigorously and successfully carried on we need the well filled ranks of medical men whose training fits them with every weapon which science and experience have forged. Money and endeavour, private and municipal, must be forthcoming to train these soldiers and we most heartily commend to the attention of our readers the concluding portion of Sir THOMAS BARLOW'S address in which he lays stress upo need for these assistances

The Medical Officer of the Ballachulish Slate Quarries

A DISPUTE involving questions of great interest to a considerable section of the medical profession has arisen at the Ballachulish slate quarries in the West of Scotland. These quarries occupy a remote position on the sea coast of Argyllshire, an extensive county, mountainous in every part and possessing but few towns, the largest of which, Campbeltown and Dunoon, have each of them populations barely exceeding 10,000 About two years ago the Ballachulish Slate Quarries Company, which employs about 400 men, appointed Dr LACHLAN GRANT as the medical officer to the company on an agreement one of the clauses of which was to the effect that the appointment might terminate with a month's notice on either side. Dr GRANT seems to have been well liked by the quarrymen and everything appears to have gone well, so that much surprise and indignation were expressed when it became known in the neighbourhood on July 5th that the medical officer was dismissed from the service of the company without any reason being alleged or any explanation being given

The sequel, as related in the columns of the *Glasgow Herald*, the *Oban Telegraph*, and the *Highland News*, abundantly showed the esteem in which Dr GRANT was held in the district A petition for retaining his services was at once drawn up and largely signed, and a mass meeting of the men, presided over by Dr W DUNLOP ANDERSON of Ardsheal, a retired medical man and a landowner in the immediate neighbourhood, was held on July 8th At this meeting resolutions were unanimously passed expressing entire confidence in Dr GRANT and regret at the action of the directors of the company, also requesting them to reinstate Dr GRANT and urging the desirability of giving the men a voice in the election or dismissal of the medical officer These resolutions and the petitions were at once forwarded to Mr BRUCE LOW, 43, York place, Edinburgh, the company's secretary The directors met on July 11th and on July 14th it was made known that they had confirmed their former decision, thereby disregarding the petition from Ballachulish. On July 15th a second very enthusiastic mass meeting of the men was held. Dr ANDERSON, who again presided, expressed his regret at the action of the company and advised the men to reconstitute their medical committee which already existed and had been consulted by the company with regard to Dr GRANT'S appointment but not with regard to his dismissal. A medical committee of nine members was accordingly elected and the following resolution was passed a copy being at the same time sent to the company s secretary —

> The medical committee unanimously elected at a mass meeting of the employés of the Slate Quarry Company on July 15th, 1902, having learned with deep regret and surprise that the petition signed by over 400 names and the resolution of the employés in favour of Dr Grant has been ignored by the directors and that they still insist in terminating his agreement do hereby reserve to ourselves the right of appointing our own medical officer and hereby give notice, on behalf of the employés that we will allow no deductions to be made from our wages on behalf of any doctor not appointed by us.

This brings the legal aspect of the case into prominence. The directors who we are ready to believe, have acted in complete good faith but upon faulty information have no doubt, had the law on their side up to now , but everyone knows what changes of feature objects and occurrences may undergo according to the light that is thrown on them. The possibility of a fresh complication is suggested by the fact that Dr GRANT is described in the Medical Directory as being not only medical officer to the slate quarry but also Poor law medical officer of the locality Dr GRANT S agreement with the company contained the usual proviso that after quitting its service he should not practi o in the neighbourhood but Dr GRANT is now a public officer bound to practise in the neighbourhood in discharge of his official duties Will Dr GRANT be able to reconcile his obligations to the slate company with his obligations to the poor of the parish ? The point is one that he will soon have to decide and for our part we think that if the parish council wishes him to continue in office as its Poor law medical officer he will be morally right in continuing the discharge of his duties as such.

There is another aspect of the case which the community should not lose sight of and which should be brought at once if it has not been already before the directors of the slate company If Dr GRANT goes in such circumstances as those which we have narrated his successor will be hard to come by It will be our duty to warn medical men against accepting the appointment of medical officer to the Ballachulish slate quarries until Dr GRANT S dismissal is explained, and as long as the quarries have no medical officer the district will have no Poor law medical officer Of course, if Dr GRANT has forfeited his right to his position the directors are bound to discharge him, but every opportunity should be given him of answering all accusations, otherwise the position of medical officer to the quarries is clearly one that cannot be held with safety by any medical man. For no young medical man should ever take a post where it might be open to a small clique to bring charges against him in such a way as to put the stigma of dismissal on him without his even being heard in his own defence.

NEW SEWAGE WORKS —On July 24th the new sewage works for the city of Wells Somerset, were formally opened by the mayor The septic tank system has been adopted The works are situated about one and a half miles from the town and the estimated cost is about £5000.

Annotations.

"Ne quid nimis"

THE KING S HEALTH

WE are glad to be able to report that the King s health continues to be completely satisfactory In every way he has made and is making good progress. In convalescence after acute illness necessitating a serious surgical operation some unforeseen accident may always occur But the King has the best safeguards against any such unfortunate event in the unremitting attention of his medical attendants and in his own virtues as a brave and docile patient. In view of presentiments and rumours that were rife in London at the beginning of the week, and which though quite vague seem to have produced a strong impression in many quarters, we take this opportunity of stating that there need be no apprehension as to His Majesty s ability to go through the Coronation ceremony on the appointed date.

LORD KITCHENER'S DESPATCH

THE publication on July 29th last of Lord Kitchener's despatch on the South African war may be regarded as the last and concluding one of the series. The campaign has been very remarkable in many ways and it has been conducted under so many new and such exceptional conditions as to be unique in the annals of military warfare. If South Africa has been the birthplace of many reputations it has also been the graveyard of some that had been already made. Such are however and must always continue to be the fortunes of war As Lord Kitchener takes care to point out, it may be that notwithstanding all his circumspection the names of some may be omitted from his despatch who have rendered equal or even better service than those who have been mentioned. As regards the medical department it would be difficult to estimate the comprehensive, responsible, and laborious nature of its task. Taken as a whole and compared with other branches of the service can anyone deny that its work has been admirably done and that the officers of the Royal Army Medical Corps, those of the Colonial corps the civil surgeons, and, indeed, all who participated in the care of the sick and wounded throughout this long and arduous campaign are not well deserving of national gratitude and reward? This is not, however the time, nor is there really any need, to vindicate the conduct of the medical services or to point out that the medical officers in South Africa were not, and could not justly be held to be, responsible for the occurrence of diseases arising out of conditions in which they found themselves placed and over which they had no sort of control. Surgeon General Sir W D Wilson M B K C M G —as our readers are aware—has throughout the war as the principal medical officer borne a great weight of responsibility By his wise patient, and very able administration he has well earned all the respect and esteem in which he is held , and he was thoroughly well served and aided in his work by Surgeon General W H McNamara, M D C.B C.M.G But it is only a special jury as it were, of the medical profession that can appreciate the quality of such services as these it is unfortunately beyond the scope and province of any general officer however eminent, to do so in a way adequate to the occasion. We heartily congratulate all of those whose names have appeared in Lord Kitchener's despatch, extracts from which will be found in another column of THE LANCET

EGYPTIAN MEDICAL CONGRESS

THE following gentlemen have consented to join the committee in England on behalf of the Egyptian Medical

Congress which will be held at Cairo on Dec 19th–23rd next Special facilities and reduction in fares are arranged for members desiring to be present at the Congress Anyone wishing for further information should apply to any member of the committee or to the honorary secretary, 9, Manchester square, London List of the committee Sir Lauder Brunton, Mr Watson Cheyne, Sir William Church, Bart., Mr Reginald Harrison, Sir Victor Horsley, Dr Stephen Mackenzie, Sir Douglas Powell, Bart , Dr George Savage, Sir Thomas Smith, Bart , Dr James Taylor, Sir Frederick Treves, Bart., and Dr W Page May (honorary secretary)

MUNICIPAL MILK DEPOTS FOR HAND-FED INFANTS

A COMPARISON of the death rate of infants under the age of one year with that of the general population reveals the important fact that whereas the latter is steadily decreasing the former is increasing, thus comparing two decennial periods, the annual death rate per 1000 persons living, from 1881 to 1890 was 19 1 and the rate from 1891 to 1900 was 18 2, whereas the mortality rates per 1000 infants under a year old for the same periods were respectively 142 and 154 In these circumstances the great increase in the custom of feeding infants artificially instead of by the natural process of suckling requires careful consideration, especially since a very considerable proportion of deaths of infants are returned as due to gastro enteritis, marasmus, wasting, and other conditions directly or indirectly connected with the alimentary tract and digestive processes It is moreover, certain that very general ignorance prevails as to the process of ' humanising" cow's milk for infant feeding and as to the quantities necessary at different ages, not only among the poor but even among the well to-do and the very extensive and unnecessary use of patent foods for young infants is an evidence of this In France, owing to the extreme importance of this question in relation to the maintenance of the population, early attention was directed to it by hygienists and philanthropists As long ago as 1891 Dr Leon Dufour started an institution for the supply of sterilised humanised milk for infant feeding This was called " La Goutte du Lait.' Havre, Rouen, Paris, and many other French towns adopted the system with beneficial results Similar institutions have in the last three years been started in certain English towns The first was St. Helens, where Dr F Drew Harris introduced the system in the summer of 1899 Liverpool afterwards followed and now has two such milk depôts, and similar ones have been started at Ashton under-Lyne and Dukinfield. In the county of London the first depôt has been started by the Battersea Borough Council during the last two months at the suggestion of Dr G F McCleary, the medical officer of health of the borough The depôt is at 28, York road Battersea, and at present as many as 400 infants can be supplied The price charged to the parents for the full weekly supply is 1*s* 6*d* , or for one day 3*d* The milk is supplied in stoppered bottles, each containing one feed, suited to the age of the infant and the day's bottles (six, seven, or nine in number, according to the age) are fitted into wire baskets conveniently shaped for carrying Rubber teats which can easily be cleaned are supplied to fit on to the bottles and directions are given not to remove the stoppers until the bottle is required for a meal, when it is to be warmed, then opened and the teat put on. The preparation of the milk is as follows The milk (guaranteed free from chemical preservatives) is received directly from a farm in the country which is always open to inspection by the medical officer of health of the borough It is then humanised by the addition of water, cream, and lactose in the requisite proportions (these are given in a leaflet distributed from the depôt) Afterwards it is put into the bottles which have been cleaned and scalded by special apparatus, and subsequently into a steam steriliser and there kept at boiling point for 15 minutes The milk so treated shows no scum, has practically the normal taste, and is much more palatable than is boiled milk. Battersea may be congratulated on this attempt to deal with a very serious problem, and it may well be hoped that this and similar depôts may serve the wider purpose of diffusing a knowledge of the right composition of an infant's diet when for any reason hand-feeding is a necessity

"THE MIASMA OF APPREHENSION"

MR. WYNDHAM, the Chief Secretary for Ireland, in the course of a debate in the House of Commons on July 23rd, used a metaphor which is worthy of note. The sentence in which it occurs is quoted in a leading article in the *Times* as being a good description of the present condition of affairs in Ireland. "The union," said Mr Wyndham, "must become intolerable and any development of self-government must remain impossible unless and until the desolating process of social proscription with its attendant miasma of apprehension which penetrates to and paralyses every nerve centre of national life be repudiated by the good sense of the people and suppressed by the power of the Government." This peroration appears to have brought down the House, as the players have it. "Miasma of apprehension" is a little old fashioned Microbes have taken the place of miasmata. We have heard of the microbe of fatigue. Why not the microbe of apprehension? The notion that a miasm should penetrate to a nerve centre is hardly in accord with modern teaching On the other hand, the paralysis of nerve centres by microbes or their products is one for which Mr Wyndham might obtain the support of men of science The Irish Secretary has been practically guilty of a pathological anachronism, for miasmata belong to the days when atmospheric and telluric influences were supreme and a knowledge of nerve centres is modern. We ought, perhaps, to congratulate ourselves that we have a Minister who has so much as heard that there are nerve centres

QUACKS AND ABORTION

WILLIAM HOLLIS, an old man who was sent to penal servitude for life by Mr Justice Wright at Stafford on July 21st, has manifested throughout his long life an extraordinary ardour for a particularly revolting crime Convicted at Stafford 30 years ago of committing criminal abortion he was sentenced to 10 years' penal servitude Immediately upon being set free he committed a similar crime with the terrible result of death to the unfortunate girl. He was this time convicted of murder and condemned to death, the sentence being commuted to penal servitude for life On release, after serving a term of some 20 years he at once recurred to his detestable method of earning a livelihood, describing himself as a "chemist ' and the possessor of unfailing medicinal preventives of pregnancy At the advanced age of 74 years he has now returned to penal servitude for life. What a comment upon modern civilisation such a career forms! While we are on this subject we must refer, as we have frequently referred before, to the extraordinary impetus which certain newspapers seem willing to give to crime. As journalists it is distasteful to us to find ourselves criticising in an adverse manner the tactics and methods of our contemporaries, but we still regret to observe, more than occasionally, the insertion of advertisements which are a direct invitation not only to sexual immorality but to criminal abortion. Pills and potions are still advertised which "remove all obstructions," and nostrums to restore the menstrual flow are purveyed through the agency of journals with a family circulation As every medical man knows, the commonest cause of obstruction to the menstrual flow is pregnancy while it should be obvious even to laymen that the removal in such a case of obstruction to the flow means the performance of criminal abortion. We consider that the papers which insert advertisements of such ' female remedies are earning dirty money As a matter of fact, the remedies are generally inert, although occasionally death follows their use but they are bought by women in the hope that thei ecbolic action will be effective. Either the woman is helped to a crime when she buys them or she is swindled out of her money Since the publication of our series of articles in 1898 and 1899 entitled, Quacks and Abortion these advertisements have been much fewer but they still appear That the *trade in abortifacient* pretending to be emmenagogues, will altogether cease, or that no newspaper will be found ready to make a disreputable profit by advertising such wares, is, perhaps too much to expect until a prosecution has been undertaken against some journal wherein a more flagrantly outspoken advertisement than usual has appeared. If undertaken with success, such a prosecution would we believe stamp out all these invitations to crime, and with their extirpation the trade in abortifacients would be reduced to a minimum.

ORAL SEPSIS AND ITS RELATIONS TO GENERAL DISEASE

THE July issue of the *Journal of the British Dental Association* contains a paper by Mr J F Colyer dealing with this interesting subject. The writer groups together the various affections in which a relationship between oral sepsis and general disease has been traced and points out that the subject is one in which much more work, clinical bacteriological and chemical must be done before a correct idea can be formed of the exact relationship which does exist. He points out that there are but few really well recorded cases, the exact oral condition being seldom adequately described and he utters a word of warning against too hurriedly assuming that a septic mouth is the direct cau e of some remote affection merely because the remote affection disappears *on removal* of the sepsis. In discussing chronic lymphadenitis he points out that although the statistics of different investigators present wide differences in the results obtained they nevertheless *demonstrate* a close relationship between septic teeth and lymphadenitis and that it is probable that the bacillus tuberculosis may occasionally obtain entrance to the inflamed glands *viâ* the septic teeth A point of *importance to which attention is directed* is that teeth with partially formed root cau e more trouble than those with fully formed roots Some interesting cases are recorded in which gastric ulcers of long standing were cured by the treatment of the septic state of the mouth. In one case a woman, aged 29 years was admitted to the Beckenham Cottage Hospital at Christmas, 1901 under the care of Dr R. M H. Randell. She was in a moribund condition and had vomited large quantities of blood and the pulse when it could be counted, was about 120 She was placed in bed on her back and a quarter of a grain of morphia was administered hypodermically She was fed per rectum with nutrient suppositories and enemata of plasmon dissolved in water A lead and opium pill of five grains was given by the mouth twice daily At the end of three days the hæmorrhage ceased and water was given by the mouth The mouth was in a fetid state with pus oozing from the sockets of the teeth As soon as the patient had sufficiently recovered an anæsthetic was administered and the mouth was cleared of all septic teeth She made a rapid recovery and has had no recurrence of the gastric ulcer In another case a female, aged 26 years wa admitted to the Beckenham Cottage Hospital in December, 1900 with the following history For seven years she had suffered from symptoms indicating gastric ulcer, she had been in many hospitals with invariably the same result—namely, recovery for a time followed by relapse At the time of admission there was copious hæmorrhage. Her mouth was in a most septic state and all her teeth were removed. Immediate improvement resulted and there has not been the slightest return of gastric trouble. The writer of the paper points out that as *recoveries so soon followed the treatment of the mouth it* might be assumed that the gastric disturbance was the direct result of the septic mouth. In considering this question there are, he thinks three points to keep clearly in mind (1) that the *present knowledge of the* pathogenesis *of* gastric ulcer does not support the idea (2) that in many cases of undoubted gastric ulcer the conditions of the mouth are normal and (3) that in the cases which he records there is no direct evidence of cause and effect. In dealing with affections of the blood reference is made to Dr William Hunter's work on Pernicious Anæmia, and the writer remarks that in the cases recorded by that author it is very difficult to form a correct idea of the dental condition Cases of chlorosis Mr Colyer considers, are occasionally traceable to absorption of septic matter from the mouth, and he remarks that it is interesting to note that septic absorption from the mouth may be a possible factor in the production of both pernicious anæmia and chlorosis, the one a disease due to destruction of the blood the other a disease due to diminished formation of blood. Chemical and bacteriological examinations of septic saliva will very possibly show that the septic condition producing or related to, the one differs from that related to the *other* In *remote affections due to absorption* of bacterial products attention is directed to the frequent association of a condition of general malnutrition with a septic condition of the mouth and to the rapid improvement which is made by such patients after the removal of the sources of sepsis and before the adoption of artificial dentures He considers these cases of general debility are in reality cases of chronic sapræmia. The possibility of the mouth being occasionally the focus of infection in obscure conditions such as acute osteomyelitis and malignant endocarditis is discussed and reference is made to two interesting cases recorded in THE LANCET of March 22nd 1902, p. 807 by Dr Belloi. Both were cases of general infection and in both cases the probable focus of infection was the mouth. In the first case the sequence was as follows (1) a history of suppurative periodontitis and gingivitis followed by (2) a catarrh of the larynx and pharynx which subsequently assumed a suppurative type, probably by direct infection from the mouth and (3) general infection from suppuration in the middle ear In the second case the sequence was as follows (1) suppurative periodontitis and gingivitis (2) septic tonsillitis and (3) general infection

A PRIZE IN PHYSIOLOGY

Professor Joseph Seegen has written a letter to the Imperial Academy of Sciences of Vienna in which after a brief reference to the researches that have been undertaken by various observers to determine whether part of the nitrogen of ingested albuminates is eliminated in the form of gas from the system the results of which have been contradictory he states that he in coöperation with Nowak himself, attempted to solve the question but now that he is advancing in years and has had his attention directed to other subjects he does not feel tha he is competent to undertake an inquiry in which he feels the keenest interest. He therefore proposes to offer a prize under the auspices of the mathematical and natural science class of the Imperial Academy for the best answer to the following question Whether any part of the nitrogen of the albuminates which have undergone metabolism in the animal body is eliminated either by the lungs or by the skin in the gaseous form? The value of the prize so liberally offered by Professor Seegen is 6000 kronen, or about £210 The essays must be sent in before Feb 1st, 1904, and may be written in German, French, or English Here is an opportunity of distinguishing himself for one of the numerous workers at our great universities. Will no one take up the gauntlet?

EPSOM COLLEGE

FOUNDER'S Day was celebrated at Epsom College on Saturday last, the chief prizes being presented by Sir Joseph Fayrer, Bart, the chairman of the council, in the unavoidable absence of the Bishop of Winchester, the Visitor of the college, who was to have attended, but who had received a Royal summons There was a large attendance of parents and friends of the pupils, and amongst members of the council on the platform were Dr Holman (the treasurer), Mr Stamford Felce, Mr H W Kiallmark, Mr W A. Propert, and Dr Sansom In his review of the school year the head master, the Rev T N Hart Smith, drew attention to the fact that no fewer than nine old Epsomians had fallen in the South African war, in memory of whom it was proposed to place a tablet in the college chapel Amongst the distinctions gained since Founder's Day, 1901, may be mentioned an open science scholarship at Sidney Sussex College, Cambridge After the distribution of the prizes Sir Joseph Fayrer gave a short address, prefacing his remarks by observing that although during a long life he had found himself in some strange positions that was the first occasion upon which he had been asked to take the place of a bishop He laid emphasis upon the fact that Epsom College was not a "class" school and stated that boys were prepared, not only for the medical profession, but also for the army, the navy, and for commercial pursuits As to the soundness of the education provided, that was proved by the successes won by the boys after leaving the college At the conclusion of the proceedings the "Canticum Epsomiense" and the National Anthem were heartily sung, after which cheers were called by the head prefect for the council, the ladies, and the visitors.

CHOLERA IN EGYPT

ON July 16th news reached the Sanitary Department in Cairo that several suspicious cases of vomiting and diarrhœa, six of which had proved fatal, had occurred in the little village of Mousha, near Assiout, in Upper Egypt. Mr A. T White, M R.C S Eng, at once hastened there from Assiout and took all the necessary precautions in the event of the illness proving to be cholera. However, the fæcal matter which he sent to Cairo for bacteriological examination proved not to contain comma bacilli and it was at first hoped that the malady might prove to be ptomaine poisoning But Mr Graham, the acting head of the department, wisely decided to neglect no chances and sent up immediately Dr C Goodman to investigate the cases and the origin of the outbreak, and Dr Dreyer with a bacteriological outfit accompanied by pumps for providing a pure supply of drinking water Mousha possesses no resident medical man, and as it is supplied with six wells from which the inhabitants drink it looked as if there could hardly be one common cause of contamination But it is near Assiout, whence there is a caravan route from Kosseir on the Red Sea Coast, and there is no reason why cholera bacilli should not have been introduced in this way by pilgrims returning last month from the holy places It must be remembered that in all previous cholera outbreaks in Egypt the poison has been introduced directly or indirectly by returning pilgrims All necessary precautions have been taken in Mousha itself and everywhere else where cases have been discovered, for unfortunately individuals have already carried it with them to the Fayoum and to Cairo In the capital there is the usual scare among those classes of the population who possess neither courage nor self control. The English regiments have been marched out to the desert at the Pyramids and to Helwan, not because they already have cholera, but because it is quite a proper precaution to be taken in the circumstances Major-General Sir R. Talbot, Colonel W J Fawcett, R.A.M C, Principal Medical Officer of the Army of Occupation, and Sir H. H Pinching, Director-General of the Sanitary Department, have decided to return to Cairo from leave and are now on their way there. It is to be hoped that the present anxiety will not last long, for the chief ally of sanitary officers, the Nile flood, is now due both in Assiout and in Cairo, and the experience of former epidemics shows that cholera in an epidemic form does not occur after the annual rise of the Nile In 1883 cholera ended in Cairo in August, though it afterwards broke out in the neighbourhood of Alexandria, and on its last visitation in 1896 it yielded in August to the bountiful supply of fresh water Therefore, if Egypt must be visited by cholera, it is better that the outbreak should begin in July instead of in the spring months as in former epidemics

SIMULATION OF STRICTURE OF THE ŒSOPHAGUS BY ATROPHIC RETRACTION OF THE STOMACH

AT the meeting of the Société Médicale des Hôpitaux of Paris on June 27th M. Maurice Soupault called attention to the fact that in atrophic retraction of the stomach the symptoms may closely simulate those of stricture of the œsophagus The patients having suffered for months or years from gastric symptoms manifest difficulties of deglutition First solids, then semi liquid food, and, finally, liquid foods are swallowed with difficulty Food taken slowly and in small quantities may be retained but when taken rapidly or in moderate quantities it is vomited. Sometimes the vomit contains both the food which has been just swallowed and also the residue of food taken previously The patients do not complain of pain as in stricture of the œsophagus but rather of a feeling of epigastric weight. As a result of the dysphagia they rapidly waste, which confirms the supposition of organic obstruction of the œsophagus But the largest bougies can be passed. If water is introduced into the stomach by a tube it is found that the capacity of the viscus is small and when the limit is exceeded vomiting is produced and the liquid flows back through the œsophagus and mouth outside the tube. This phenomenon is characteristic. The area of gastric resonance is reduced or cannot be found. In two cases M Soupault felt in the upper part of the epigastrium a hard tumefaction—the retracted and thickened stomach The food vomited shows none of the reactions of substances which have been in the stomach some time, for the secretion of gastric juice is suppressed The anatomical condition always found was great reduction in the capacity of the stomach from retraction and thickening of its walls Of four cases examined there were infiltrating cancer in three and cicatricial sclerosis due to corrosive poisoning in one. The following case is an example. A woman, aged 56 years, entered hospital complaining of dysphagia. For four months she had had pains in the stomach which came on immediately after taking food and were sometimes followed by vomiting After the first month she could not take solid food. When she ate she felt a weight at the pit of the stomach , the food was vomited in about half an hour Liquids at first were better tolerated but in the end they were also vomited. She rapidly wasted. When she entered hospital she was greatly emaciated and refused all solid food. Liquids which were taken were vomited in small quantities. As her appetite was well preserved she constantly made attempts to take food and spent the whole day vomiting The vomit was of neutral reaction and milk was returned not curdled. Stricture of the œsophagus was suspected but a bougie could be passed into the stomach. In the epigastrium tympanitic resonance could not be obtained , a diffuse induration was felt which was attributed to muscular resistance. The patient became weaker and weaker and died after 25 days residence in the hospital. The necropsy showed that the stomach was very small and formed a mass at the upper part of the epigastrium its walls were thickened and sclerosed There was infiltrating cancer which extended through the whole viscus from the cardia to the pylorus. The œsophagus was permeable. M. Soupault related three other cases and quoted five more showing that atrophic retraction of the stomach may simulate stricture of the œsophagus The differential diagnosis can always be made by passage of a bougie.

A CRUSADE AGAINST SPITTING

THE Public Health Department of the City of London is embarking upon a crusade in which it will have the sympathy of every decent man and woman and equally it is to be hoped the active support of public bodies and large employers of labour The department has issued a circular asking for coöperation in preventing so far as possible the growing habit of spitting in the streets and other places of public resort." The objectionable nature of this practice on grounds of ordinary cleanliness need not be emphasised It becomes painfully obvious to all who travel by public conveyances and who some day or other have the misfortune to be to windward of the careless expectorator of the omnibus-top. Nor need we lay stress upon the serious import as a means of spreading tuberculous infection that indiscriminate expectoration bears in public places. Our readers are well aware that, whatever may be the result of the commission inquiring into the power of infected food to spread tubercle amongst us, there is no doubt in the mind of any authority upon the subject that the most formidable vehicle of infection of all is the sputum of tuberculous persons. The Public Health Department of the City of London very rightly draws attention to this in its circular and appeals to employers of labour to assist the corporation in attempting to remedy the nuisance by directing the attention of employés to the evils of the habit and to the importance of suppressing it The whole question is really one of educating the public. It is not essential to anybody s comfort or safety that he should expectorate freely into the air or on to the ground about him When all his fellow men and women realise this they will taboo the indiscriminate expectorator At present his performance is regarded largely as a matter of course The working man or woman by his side knows nothing of the possible danger and is not yet nice" enough to deplore the nastiness of the ca ual expectoration of a neighbour Our medical readers can more than any other class of men assist public bodies in the education of the public mind in this matter We are glad to see that the City of London is not alone in taking or even the first to take, the field against expectoration in public places. The interim report of the National Association for the Prevention of Consumption and other Forms of Tuberculosis (July 14th) shows that, in consequence of the activity of the association already both in Glasgow and in Liverpool the corporations have inserted a clause in their by laws making spitting on the municipal tramway cars a finable offence. The metropolis in many similar matters is wont only to follow instead of to lead the steps taken by other cities. It is to be hoped that it will not be long before the example of Liverpool and Glasgow in this matter is widely followed in the public conveyances of London

CONGRESS OF THE SANITARY INSTITUTE

THE nineteenth Congress of the Sanitary Institute will be held in Manchester from Sept. 9th to 13th, when the Right Hon. the Earl Egerton of Tatton will preside. From the preliminary programme which has just been issued we notice that there will be three general addresses—namely the Presidential Address the Lecture to the Congress" to be delivered by Mr W N Shaw, D Sc., and the 'Popular Lecture" to be delivered by Sir W J Collins, F R.C.S. L.C C There will be three sections meeting for two days each Section 1 Sanitary Science and Preventive Medicine, President, Sir James Crichton Browne, F R S. Section 2 Engineering and Architecture, President, Sir Alexander Binnie Section 3 Physics Chemistry and Biology President, Professor Sheridan Delépine. Conferences will be held of municipal representatives, port sanitary authorities, medical officers of health, engineers and surveyors, veterinary inspectors, sanitary inspectors, as well as conferences on Domestic Hygiene and the Hygiene of School Life. In practical illustration of the application and carrying out of the principles and methods discussed at the meetings a health exhibition of sanitary apparatus and appliances will be held and there will also be excursions to places of interest in connexion with sanitation Conversaziones and other social gatherings will also form a feature of the congress. The local arrangements are in the hands of an influential local committee, presided over by the Right Hon. the Lord Mayor of Manchester with Mr J H Reynolds Principal of the Municipal School of Technology as honorary secretary

ADIPOSIS DOLOROSA

RECENT researches have shown that adiposis dolorosa—a condition in which great accumulation of subcutaneous fat takes place and in which the fat is often aggregated into nodules or lumps which are painful to touch and to pressure—is different from simple obesity and that definite changes in the peripheral nerves are present in this malady Professor F X Dercum and Dr J McCarthy have reported in the *Philadelphia Medical Journal* of July 5th a case of this affection running a typical clinical course and terminated by erysipelas. At the necropsy the following interesting changes were discovered The pituitary gland was the seat of an adeno-carcinoma. Interstitial neuritis was present in the subcutaneous fatty tissue especially in the fatty nodules Free hæmolymph glands were present in the tissues of the body generally and the spleen was the seat of an angioma. The subcutaneous fat showed a peculiar cauliflower like arrangement." Professor Dercum and Dr McCarthy stated that in several of the cases of adiposis dolorosa in which necropsies had been made it had been found that the cerebral convolutions were atypical They regarded this as an interesting coincidence probably without significance. In the discus ion which followed the reading of the above paper at the American Neurological Association Dr Putnam remarked that patients suffering from adiposis dolorosa showed various signs of defective or anomalous development—so-called anatomical stigmata" of degeneration—as regarded their bodily organs or tissues Dr F S. Pearce agreed that neuritis was present in the nerves contained in the fatty nodules, whereas in ordinary obesity such changes were absent. Professor Dercum and Dr McCarthy stated that the pathogenesis of the disease was obscure and its treatment unsatisfactory, and that much yet remained to be discovered in these directions.

A METHOD OF PHOTOGRAPHING PLATE-CULTIVATIONS WITHOUT REPRODUCING THE SCRATCHES OF THE DISH

IN photographing plate cultivations which have been made in scratched dishes the scratches are sometimes only too faithfully reproduced, interfering very much with the photographic detail of the cultivation. In valuable cultivations this is a source of considerable annoyance. Mr. Walter A. Mitchell, of the pathological laboratory at Cambridge, avoids the photographic reproduction of the scratches on the cultivation dish by putting a drop of cedar wood oil thinned with xylol on the bottom of the dish after it has been thoroughly cleansed with swabs of wool soaked, first in hydrochloric acid and then in water. The oil is well rubbed in with the finger tips. It is important that the oil should not be too thick and that it should be well rubbed in so that no scratches are visible. The best result is obtained when the oiling is done 20 minutes or so before the photograph is taken. We have received for inspection (1) a photograph of a gelatin culture in a dish which was purposely badly scratched and then thoroughly cleansed in the way indicated, and (2) a photograph of the same dish taken with the same lens, with the same stop exposure and lighting arrangement but with one-half of the dish oiled. The advantage of this simple method is obvious from the latter photograph, the scratches being quite eliminated. Every bacteriologist knows how easily cultivation dishes are scratched, and in research with mixed cultures it is impossible, as Mr. Mitchell points out, to duplicate a plate should it be scratched and a photograph of it be desired.

THE TREATMENT OF RELAPSING PLEURAL EFFUSIONS BY GASEOUS INJECTIONS

AT the meeting of the Société Médicale des Hopitaux of Paris on May 23rd M. Vaquez and M. Quiserne called attention to the value of gaseous injections in the treatment of recurring pleural effusions. Their method is directly derived from that of the late Professor Potain. It consists in producing an artificial pneumothorax which checks the incessant reproduction of fluid observed in certain cases of chronic pleurisy. They suppose that the mode of action is purely mechanical. The choice of the gas used depends on its greater or less absorbability rather than on any antiseptic power. The following case is an example. In January, 1902, a man had been under treatment for left tuberculous pleurisy since May, 1901. Paracentesis had been performed 12 times, 1000 to 1500 grammes of fluid being removed on each occasion and the effusion being reproduced in from three to five weeks. The general condition of the patient was not bad; he had no fever and took food well. He could go about except during the eight or ten days preceding paracentesis when increasing dyspnœa kept him in bed. On Jan. 7th a litre of serous fluid was removed. On the 21st the effusion was reproduced and a litre of fluid was again removed, and with the apparatus devised by Professor Potain about three quarters of a litre of air were injected. The pleura was evidently very thick and hard, for it offered great resistance to the passage of the trocar. An hour later the temperature was elevated to 104° F. and the patient felt ill, but in the evening the temperature returned to normal. Immediately after the injection all the signs of hydro-pneumothorax were present. Pneumothorax persisted until April 28th—more than three months. Only a small quantity of fluid at the base of the lung could be demonstrated. Further intervention does not seem to be necessary. In another case a man had tuberculous pleurisy which began in October, 1901. In March, 1902, paracentesis had been performed five times. On March 27th paracentesis was performed and three quarters of a litre of sterilised air were injected. No reaction followed. Signs of pneumothorax lasted for two weeks. At the end of April the patient left the hospital greatly improved. For the injection of gas into the pleura a trocar connected with a Y shaped indiarubber tube is required. One branch of the tube is connected with a Potain's syphon, the other remains free and is provided with an ampulla of glass filled with sterilised cotton wool. Before use the tubes are carefully boiled. The free branch of the Y is clamped with an artery forceps while the paracentesis thoracis is performed. Then the forceps is transferred to the other arm of the Y and an air pump is connected with the free arm. Air is injected slowly into the pleural cavity and is sterilised in passing through the cotton-wool. If it is desired to inject any other gas that can be easily done from a bag filled with it. The quantity of gas to be injected depends on the amount of fluid withdrawn; in most cases half a litre is sufficient. The capacity of the pump being known the number of strokes of the piston shows the quantity injected. As to the question of the gas to be injected air appears to answer very well in the majority of cases. As shown in the first case it is slowly absorbed. But if the effusion is rapidly reproduced nitrogen, which is very slowly absorbed, may be used. It has been ascertained that after air is injected into a serous cavity only carbonic acid and nitrogen remain. The impermeability of the pleura to nitrogen is shown by a case of relapsing staphylococcic pleurisy under the care of M. Widal. After the injection of air the pneumothorax lasted only 10 days; after the injection of nitrogen, at least 25 days. M. Vaquez and M. Quiserne suggest that the injection of air into the pleural cavity may prevent by its mechanical action certain untoward complications of paracentesis thoracis, such as rapid extension of tuberculosis in the compressed lung after it is released from pressure.[1]

MENTAL DISEASE IN ARMIES

IN a recent issue of the *Allgemeine Zeitschrift für Psychiatrie* (Heft 4, 1902) Dr. Ewald Stier furnishes interesting facts and statistics concerning the graver forms of nervous and mental disease in armies. In military statistics, writes Dr. Stier, a history of lues is almost invariably found to have preceded cases of tabes dorsalis and of general paralysis of the insane in officers. This is especially shown as regards the armies of France, Germany, and Great Britain. The observations of Dr. Stier regarding the almost invariable association of syphilis with general paralysis confirm the conclusions already arrived at by Rieger of Würzburg, and in this country by Dr. W. J. Mickle, concerning the not infrequent occurrence of these associated affections in military officers. In many, but not in all cases, adds Dr. Stier, other causes may also be found—viz., alcoholism and, to a less extent, trauma. Hysteria in males was a rare occurrence in the armies of Europe a quarter of a century ago, but now it is not uncommon, especially, according to Dr. Stier in the armies of central Europe. The traumatic psychoses are found to reach a high proportion only during wars, the chief causes being cranial and other injuries caused by shot or shell, accidents, and shocks sustained in moments of intense cerebral excitement. Thus, in the course of the Franco-German war (1870–1871) the proportion of cases of traumatic psychosis in the German army reached to 13 per cent. of the total number of soldiers engaged in fighting. Medical statistics as regards armies are, in Dr. Stier's opinion, as yet very inadequately drawn up, but this defect will it is hoped be soon removed, as a knowledge of nervous and mental disease and the passing of an examination in the same are now compulsory in the German army

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[1] Gaillard: Semaine Médicale, 1897.

THE BENEFITS OF THE BICYCLE TO MEDICAL MEN

MEDICAL men who have experienced the benefits of the bicycle may be glad to be reminded of the movement which has been started for the establishment of a memorial to the late Mr J K. Starley who introduced the safety" bicycle in 1885 and who died last October The secretary to the fund is Mr R. T Lang of 27 Chancery lane W C. and any medical men who would like to express their appreciation of those benefits in a practical form are invited to communicate with that gentleman Donations have been received from several notable persons including the Prime Minister the Right Hon A. J Balfour M P The fund now amounts to about £200 There is no doubt that the bicycle is especially useful to the country practitioner whose patients reside miles apart It is swift and inexpensive occasions but little trouble, and has many advantages in these respects over the horse and carriage with their inevitable appurtenances The modern medical man is enabled to carry a dispensary and surgery outfit within the compass of a bicycle knapsack. The medical man who needs a bicycle needs one which is thoroughly trustworthy respectable, and reasonably priced The bright parts should if possible be untarnishable, in order to thwart the small boy who never loses an opportunity or a pretext to hail the rider of a machine which fails to come up to his critical standard of refulgency with the epithet of 'old iron

WE have been informed of the army medical arrangements in connexion with the postponed Coronation of their Majesties on Saturday next August 9th and they do not differ greatly from those which we described as having been made for the Coronation at the original date (see THE LANCET June 21st p 1789) The number of ambulance stations had been reduced from 18 to 12, of dressing stations from six to five and of field hospitals from 10 to six, while only four general hospitals—viz. St George's Charing Cross St Thomas's and Westminster—are reserving beds for casualties of a severe nature among the troops The abandonment of the second procession with its extended route accounts for all the changes

Mr M. H Taylor J P L.R.C P L.R.C S. Edin. deputy coroner for the Kingston district of Surrey has been appointed coroner in place of the late Mr A. Braxton Hicks and Mr R Henslowe Wellington L R.C P Lond M R C S Eng has been appointed deputy coroner for the City and Liberty of Westminster and for the south western district of London under the London County Council.

DR. A E. SANSOM having resigned the post of physician to the London Hospital has been appointed consulting physician and has been unanimously elected by his colleagues a member of the London Hospital Medical Council

THE KING has been pleased to appoint Sir Frederick Treves Bart. K.C V O C.B F R.C.S. Eng one of His Majesty's Honorary Serjeant Surgeons to be a Serjeant Surgeon in-Ordinary to His Majesty

WE are asked to state that medical men are required for plague duty in India. Application for appointments should be made to the Secretary Revenue and Statistics Department, India Office

THE ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1901

PART I REPORTS

THIRD AND CONCLUDING NOTICE.[1]

LEAD is not only the mineral poison which causes the greatest mortality amongst those engaged in factories and workshops but there can be little doubt that of all metals it causes the greatest number of deaths amongst mankind in general Plumbers and lead painters who do not work in factories do not come under the care of the Home Office, and there are no trustworthy data to go upon to render it possible to make even an approximate estimate of the number of those who are slowly killed by the insidious action of lead. It is nevertheless, certain that the records of the metropolitan hospitals show clearly enough that a very large proportion of the cases of gout and of granular kidney occur in painters and plumbers The house-painter pleases himself as to whether he shall wash his hands before taking his meals and it is the business of no one to provide him with soap or with a nail brush. In the case of the industries which necessitate working in lead in a factory or workshop the employés are under supervision. Of these industries a few words may be said. The smelting of lead has been found to be a particularly injurious occupation At some small works near Dublin of 12 men seven showed a blue line on the gum five were anæmic five had suffered some more than once from colic, three had weakness of the wrists and in two of these cases loss of power ' amounted to definite paralysis " Printers are usually mentioned as men particularly liable to suffer from plumbism, but it does not appear that the number of cases occurring amongst them is very great In the year 1899 the number of reported cases amounted to 26. in 1900 there were 18, and in 1901 there were 23 cases. In the case of compositors more than one of the assigned causes of poisoning are removeable. It is said that some compositors put type in their mouths This is not a commendable habit. It is stated also that when the type is getting low—that is to say when there is little left in the type box—there exists a practice amongst compositors of shaking up the type and that this causes a fine dust of metal to be raised and inhaled It is also stated that in some printing works no washing conveniences are provided and that to quote the words of a report ' cleansing of the hands before meals is not done. File cutters suffer from inhalation of lead dust. Tinners and enamellers have suffered much in the past but it may be hoped that in the future fewer cases of plumbism will occur amongst them. In a case quoted in the report a manufacturer was using an enamel powder which contained no less than 67 per cent of lead oxide. The work people were evidently injured in health by its use. The manufacturer refused to alter his process. The inspector applied for a closing order—that is to say an order from the magistrate that the whole business should be discontinued An adjournment was applied for and granted and in the course of a few days an enamel free from lead and from arsenic was substituted for the injurious compound which had been previously used

Workers in white lead have always been prominent amongst the sufferers from plumbism but it is pleasing to note that the number of the cases is diminishing to a marked extent The number of reported cases for the years 1898 1899 1900 and 1901 was respectively 332 399 358, and 189 This rapid diminution in the number of cases cannot be expected to progress at the same rate for the lessened incidence of the reported cases for the last of these years is chiefly due to improvements in the arrangements of two large factories in which during the previous year there had been an enormous number of cases. During the year 1900 these two firms had amongst their workpeople 111 and 62 cases respectively and during the year 1901 the numbers were reduced to 56 and 16 respectively

A considerable decrease has taken place in the number of cases of lead poisoning which have occurred in workers in the china and earthenware trades. The number of reported cases for each of the four years from 1898 to 1901 inclusive has been 457, 249, 200, and 106 respectively The medical inspector in his special report insists that no diminution in the cases of plumbism occurring in dippers, ware cleaners, and glost placers can be expected unless and until glaze of low solubility is used in the factories, nor can any improvement be hoped for in the case of ware cleaners until efficient fans are introduced to remove the metallic particles which are necessarily given off in the course of the cleansing process

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[1] The first and second notices were published in THE LANCET of July 19th (p. 172) and 26th (p 238) 1902.

Glass-cutting is an industry in which the workers are subject to plumbism The trade is not a large one and very considerable improvements in the conditions under which the work is carried on have of late taken place. There has been a great increase in the number of cases of poisoning amongst the makers of electrical accumulators—secondary batteries which serve for the storage of electricity This is, of course, practically a new industry In the year 1895 the number of workers was a little over 400, in 1896 it amounted to nearly 550, in 1897 it was 751, and in 1899 it was 1089 Unfortunately no statistics of later date are available. Dr T M Legge, the medical inspector of factories, gives a very full and clear account of the process of manufacture of electric accumulators, of the special regulations in force in Germany in factories where these instruments are made, and recommendations as to rules which he suggests should be put in force in this country There can be no doubt that the stringent regulation of this trade demands immediate attention The number of reported cases of plumbism which have occurred amongst the operatives has greatly increased and in this particular case the experience acquired in Germany may very advantageously be utilised in this country

It may seem at first sight rather curious that workers at factories of paints and colours do not suffer more than they do from lead poisoning and it is rather surprising to learn that there are only 25 such factories in the country During the year 1901 49 cases were reported and of these no less than 35 occurred in men engaged in mixing and grinding the pigments Coach making, it appears, still causes many cases of plumbism, 65 cases were reported during the year and 28 cases occurred in ship builders The medical inspector gives a table of the fatal cases A somewhat similar table was published in the report for the year 1901 and it was then pointed out in THE LANCET that the table was "not sufficiently complete to make it of any clinical value"[2] It was hoped that so gently expressed a criticism might have been sufficient. The table given in the report for 1902, however, shows no improvement. It is incomplete and it cannot truthfully be called useful. The information which the table professedly gives in the case of each patient is as follows sex, age, symptoms, duration of employment, and remarks There were 33 fatal cases Of these the duration of employment is in eight cases very roughly given as "many years," and in 10 other cases it is not given at all Thus, in more than half the cases no definite information is given as to the length of time during which the patient worked in lead There are some curious entries under the heading "Symptoms" For example, in one case the only information is "lead convulsions" in another "lead-poisoning," and in a third "plumbism, phthisis." Phthisis is a disease, not a symptom. Here again is an example of remarkable "symptoms" "violent syncope induced by appendicitis and accelerated by acute lead-poisoning"

The Chief Inspector's general report deals in some detail with the arbitration which was lately held in regard to the special rules drawn up by the Home Office to regulate the earthenware and china factories Reports of this case have already been given and it is not necessary here to recapitulate the history of the proceedings, an account of which may be found on pages vii and viii. of the report. The only point to which we need direct attention is the anomalous state of things which has been brought about in the regulation of this industry as a result of the administration of the Factory Acts. The facts briefly are these. 1. Under the award of Lord James of Hereford, the umpire in the arbitration case, the amended rules in regard to the trades are now in force in the works of 345 occupiers who appointed an arbitrator 2. Another award in respect to 36 out of a total number of 46 manufacturers who objected to the rules but did not name an arbitrator was made in March, the award then made was in effect the same as that of Lord James In regard to the 10 other cases no decision has been arrived at. 3 153 manufacturers either did not object to the amended rules or withdrew their objections In the case of these 153 firms the draft rules of February, 1901, are therefore legally in force 4 There are 95 businesses in which rough ware is made under conditions different from those in use in the manufacture of ordinary pottery On these firms the notices were not served and therefore, as Dr B A. Whitelegge, who apparently for once uses what may be called the "official gloss" has it, "these firms remain for further consideration." The report, however, shows in a most convincing manner that the officers of the Home Office are doing their utmost to place these dangerous trades under proper regulations and the fact that there has been some delay in doing so is no fault of theirs It must also be pointed out that reforms of too radical a character often defeat their own ends and that the chief hope for lasting improvement is to be found in progressive improvements in the processes of manufacture Such improvements are fittingly recognised by the Home Office and exemption from some of the general rules in force are granted in certain cases on condition that only materials free from lead are used in the factories

A brief reference has already been made to Mr C R Pendock's report on the fencing of machinery at the Paris Exhibition, 1900, but there are one or two points in regard to it which seem to demand further consideration In his introductory remarks Mr Pendock points out that the date of his visit was not altogether favourable to his mission, the most interesting exhibits were besieged by crowds, the regulations of the Exhibition prohibited the taking of notes and the making of sketches, and, further, the time chosen for the visit was so late that many of the principals of the firms of manufacturers had gone home. It is well known that the greatest courtesy and attention were bestowed by the French Government on foreign visitors, and it is certainly a matter for regret that the Board of Trade should not have sent its representative at an earlier period or made some special effort to ensure that he should have all possible facilities for seeing all that he wished to see Another point is of more practical value, inasmuch as it has reference to the future Mr Pendock's report clearly shows that in the case of newly invented machinery English manufacturers as a rule neglect to provide proper fencing until its necessity is insisted upon by the factory inspectors. This fact is so thoroughly proved that we are decidedly of opinion that the Board of Trade should without delay issue a circular to the chief manufacturers of machinery calling their attention to the matter This is the first step which should be taken and it would undoubtedly be effective in many cases and would lead to the prevention of some of the more obviously unnecessary injuries and losses of life.

Attention has already been called to a most iniquitous illegality which is practised by cotton manufacturers. It is the custom of many of them to make their people work for a longer period than that allowed by the law The time of the men is stolen and not paid for The practice is called "time cribbing" Mr Richmond the chief inspector for the north western division of England, shows that the custom is deliberate and systematic and that "scouts" are placed to give warning by signals of the approach of any stranger who is suspected to be a factory inspector Many prosecutions took place during the year 1901—438 in the north western division—but although there was a conviction in each case the fines inflicted amounted to no more than £180 12*s*, an average of about 8*s* 3*d* each These fines are absurdly small and cotton capitalists must laugh at them One of the Manchester inspectors, Mr Sidney Smith, says that many firms think nothing of running their machinery illegally three, four, five, or more minutes at each starting and stopping time, and then he goes on to show the actual gain to the manufacturers by this piece of dishonesty "Five minutes cribbed at each starting and stopping time amount to a total of 14 days of 10 hours per annum and this amount is practically stolen from those workers who are paid weekly wages" Mr Crabtree of Oldham says that the majority of cotton mills crib time in that way and he adds "the scandalous part of it is that directors, managers, and overlookers all know of it." It appears to us that the chief inspector might very usefully publish each year a list of those firms which are convicted If the statements made by the inspectors are accurate—and we have not the slightest reason to doubt their absolute accuracy—the directors of these cotton firms would be more fitly punished by imprisonment than by fine.

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[2] THE LANCET Oct 12th 1901 p 1000

Felt-hat factories have been placed under special regulation as a result of an explosion in the Denton hat factory which killed 14 and injured 50 other people—a fact which convinced the manufacturers that their trade might not improperly be called dangerous

The local sanitary authorities in many places still flagrantly neglect to carry out the duties with which they are entrusted For example at Nantwich where a large clothing trade exists, not only are the sanitary conveniences inadequate and unsatisfactory but it has been conclusively proved also that it has been quite a common thing for clothing to be made up in houses in which some of the inmates have been suffering from scarlet fever Mr. Sidney Smith of Manchester also reports that the sanitary conveniences in some of the cotton mills are a disgrace to the community' They appear in fact, to resemble those in use in English castles in the Norman period A common system, he says appears to be an ordinary brick tower extending from the top of the mill to the bottom, the conveniences are entered from the door opening directly into the workrooms and are so situated that the excreta can fall down the tower into a large open midden placed at the bottom Many examples of this style of jakes—(Mr Smith calls them closets but this is evidently a misnomer)—have recently been found at Stalybridge Hythe, Dukinfield and Macclesfield

A very remarkable example of money lending in the North of Ireland has been brought to light by Mr Snape The cashier of a flax spinning company was accustomed to lend to workmen the sum of 10*s* on a certain date and on the next following pay-day (about 14 days after) he deducted from the workman's wages 12*s*. 6*d* the additional 2*s* 6*d* being for interest. The rate of interest charged therefore, was about 650 per cent per annum an amount which would usually be considered somewhat excessive. This case appears worthy of the investigation of the senior Member for Northampton. The duty of seeing that the Truck Act is rendered operative must be no light one and the duty of aiding voluble and incoherent female operatives" might perhaps with advantage be left as much as possible to the women inspectors

The report on the work of the women inspectors is provided with a table of contents" which serves as a sufficient index. The most interesting part is perhaps, the account given of egg factories as they are called places in which foreign eggs are selected pickled and kept, and finally packed for distribution Broken eggs we find, are deprived of their shells and put into tins and sold to confectioners under the name of *mélange*. Broken eggs of more than doubtful character are mixed with salt and sold to leather dressers. The lady who reports on this absorbing subject states that in the winter season bad eggs are seldom met with" and this is perhaps not what may be called a matter of common knowledge nor is it a matter of universal experience. Many of the reports of the women inspectors are much marred by the terms in which they are written and the plethora of adjectives

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 6658 births and 3976 deaths were registered during the week ending July 26th. The annual rate of mortality in these towns which had been 14 3 and 14 5 per 1000 in the two preceding weeks, declined again last week to 13 9 per 1000 In London the death rate was equal to 14 3 per 1000 while it averaged 13 8 in the 75 other large towns. The lowest death rates in these towns were 3 2 in Hastings 4 1 in Hornsey 4 8 in Grimsby 7 3 in Smethwick, 7 8 in Tottenham and in Preston 8 1 in Leyton and 8 3 in Newport (Mon.) the highest rates were 18 4 in Hanley 19 2 in Great Yarmouth 19 5 in Birkenhead 20 0 in Merthyr Tydfil, 20 2 in South Shields 21 5 in Liverpool and 24 4 in Bootle. The 3976 death in these towns last week included 552 which were referred to the principal infectious diseases against 533 and 558 in the two preceding weeks, of these 552 deaths 138 resulted from diarrhœa, 118 from measles 112 from whooping-cough 83 from diphtheria, 53 from scarlet fever 42 from fever (principally enteric) and seven from small pox. No death from any of these diseases was registered last week in Croydon Hastings Brighton Great Yarmouth Smethwick, Grimsby Stockport St. Helens, Halifax York or Stockton-on Tees while they caused the highest death rates in Portsmouth, Hanley Burton on Trent Bootle Burnley Gateshead, Rhondda and Merthyr Tydfil The greatest proportional mortality from measles was recorded in Portsmouth, Plymouth, Devonport, Bristol, Burton on Trent, Derby, Rochdale Gateshead and Rhondda from scarlet fever in Burnley from diphtheria in Bury Middlesbrough Rhondda and Merthyr Tydfil from whooping-cough in Portsmouth Norwich Hanley and Barrow in Furness, and from diarrhœa in Norwich, Liverpool Bootle, Gateshead and Merthyr Tydfil. Of the fatal cases of small pox registered last week four belonged to London and one each to Tottenham, Birmingham and Swansea, but not one to any other of the large towns. The Metropolitan Asylums hospitals contained 369 small pox patients on Saturday July 26th against numbers decreasing from 1515 to 459 on the 13 preceding Saturdays 23 new cases were admitted during the week, against 58 51 and 48 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital which had been 2432, 2352, and 2377 at the end of the three preceding weeks had further risen to 2486 at the end of last week 397 new cases were admitted during the week, against 255 272, and 333 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London which had declined from 194 to 155 in the four preceding weeks further decreased last week to 128 and were 43 below the corrected average number The causes of 38, or 1 0 per cent. of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford Leeds, Sheffield Newcastle, and in 51 other smaller towns, the largest proportions of uncertified deaths were registered in Birmingham, Liverpool Rotherham Hull South Shields and Gateshead

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had been 16 3 16 2 and 14 7 per 1000 in the three preceding weeks rose again to 15 8 per 1000 during the week ending July 26th and exceeded by 1 9 per 1000 the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 8 3 in Paisley and 10 9 in Aberdeen to 17 3 in Dundee and 18 1 in Glasgow The 512 deaths in these towns included 21 from diarrhœa, 13 from whooping-cough 10 from measles, six from scarlet fever, four from diphtheria, and one from fever" but not one from small pox In all 55 deaths resulted from these principal infectious diseases last week, against 62 and 44 in the two preceding weeks. These 55 deaths were equal to an annual rate of 1 8 per 1000 which was slightly below the mean rate last week from the same diseases in the 76 large English towns The fatal cases of diarrhœa, which had been 15 and 13 in the two preceding weeks, rose again last week to 21 of which 13 occurred in Glasgow and six in Dundee The deaths from whooping cough, which had been 14 and 15 in the two preceding weeks, declined again to 13 last week, and included seven in Glasgow and three in Edinburgh The fatal cases of measles, which had been 22 and 15 in the two preceding weeks further decreased last week to 10 of which seven were registered in Edinburgh and two in Dundee. The deaths from scarlet fever which had been five two and one in the three preceding weeks, rose again to six last week and included five in Glasgow, where two of the four fatal case of diphtheria were also registered The deaths referred to diseases of the respiratory organ in these towns which had been 87 74 and 62 in the three preceding weeks, rose again last week to 80 and were 24 in excess of the number in the corresponding period of last year The causes of 17 or more than 3 per cent. of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin which had been 18 9 16 9 and 20 9 per 1000 in the three preceding weeks was again 20 9 per 1000 during the week ending July 26th During the past four weeks the death rate has averaged 19 0 per 1000 the rates during the same period being 14 5 in London and 16 4 in Edinburgh The 147 deaths of persons belonging to Dublin corresponded with the number in the preceding week and included 15 which were referred to the principal infectious diseases, against 11, 17, and 14 in the three preceding weeks, of these, eight resulted from measles, three from diarrhœa, one from scarlet fever, one from diphtheria, one from whooping cough, and one from "fever" These 15 deaths were equal to an annual rate of 2 1 per 1000, the death-rates last week from the same diseases being 2 2 in London and 3 9 in Edinburgh The fatal cases of measles, which had been six, six, and eight in the three preceding weeks, were again eight last week The deaths from diarrhœa, which had been two, four, and one in the three preceding weeks, rose again last week to three. The 147 deaths in Dublin last week included 28 of children under one year of age and 42 of persons aged upwards of 60 years, the deaths both of infants and of elderly persons considerably exceeded the numbers recorded in the preceding week. Three inquest cases and two deaths from violence were registered, and 57, or more than a third, of the deaths occurred in public institutions The causes of nine, or more than 6 per cent of the deaths registered in Dublin last week were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

THE following notice is to be substituted for that dated July 16th, 1902, which appeared in the *London Gazette* of July 18th, 1902 —

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon Arthur Alexander Joseph McNabb has been allowed to withdraw from His Majesty's Naval Service with a gratuity

The following appointments are notified —Fleet Surgeon G S Smith to Deptford Victualling Yard. Staff Surgeon F Fedarb to the *President*, additional, for Survey of Stores at Deptford.

ROYAL ARMY MEDICAL CORPS.

Major W Horrocks, R.A M C, is to retain his appointment as Assistant Professor of Military Hygiene at the Army Medical School, Netley, for a further period of six months from September 1st Major R H Firth, Professor of Military Hygiene at Netley, and Professor A. E Wright, Professor of Pathology, are to go to London with their assistants about August 11th for duty at the Army Medical School, London

IMPERIAL YEOMANRY

The undermentioned officer resigns his commission and receives a new commission subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority, viz —

Surgeon Lieutenant G W Trouton, West Kent (Queen's Own)

ROYAL ARMY MEDICAL CORPS (MILITIA)

Supernumerary Captain J Clerke to be Captain on the Establishment.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers) 1st Argyll and Bute The undermentioned Surgeon Lieutenants resign their commissions —J W W Penney and H. Sinclair 1st Ayrshire and Galloway Surgeon Captain D Lawrie resign his commission

Rifle 2nd Volunteer Battalion Royal Fusiliers (City of London Regiment), Surgeon Lieutenant M G Foster to be Surgeon Captain 2nd Volunteer Battalion the Royal Scots Fusiliers Surgeon Captain W J Lawrie to be Surgeon-Major 2nd (Earl of Chester's) Volunteer Battalion the Cheshire Regiment Andrew MacLennan to be Surgeon Lieutenant. 3rd Volunteer Battalion the Cheshire Regiment Surgeon Captain T Fennell to be Surgeon Major 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders) Surgeon Lieutenant T W Parkinson resigns his commission 5th (Perthshire Highland) Volunteer Battalion the Black Watch (Royal Highlanders) D M Macdonald to be Surgeon Lieutenant 2nd Volunteer Battalion the York and Lancaster Regiment Surgeon Lieutenant J P Shine resigns his commission. 1st Dumbartonshire Archibald Gilchrist Hay to be Surgeon Lieutenant. 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry Brigade Surgeon Lieutenant-Colonel D Cowie is seconded whilst holding the appointment of Senior Medical Officer to the Highland Light Infantry Volunteer Brigade, Surgeon Lieutenant J McKie to be Surgeon Captain.

MENTIONED IN DESPATCHES

In despatches from Lord Kitchener to the Secretary of State for War, dated Cape Town, June 23rd, and published in the *London Gazette* of July 29th, the following names, among others, are mentioned —

Surgeon General Sir W D Wilson, K C M G, who "has given me satisfaction as regards his supervision of his own department, as well as the advice he has given me on sanitary matters"

Imperial Yeomanry, 3rd Battalion —Surgeon Captain R Cattley

Coldstream Guards — Surgeon Major W R Crooke Lawless

Royal Army Medical Corps —Surgeon-General W H. McNamara, C B, C M G, Lieutenant-Colonel H H. Johnston, Lieutenant Colonel H J R Moberley, Lieutenant-Colonel F W Trevor, Lieutenant-Colonel S H Carter, Lieutenant Colonel G E Twiss, Lieutenant-Colonel C Todd, Lieutenant-Colonel G T Goggin, Lieutenant-Colonel R. Jennings, Lieutenant-Colonel J M Irwin, Lieutenant-Colonel G W Brazier Creagh, C M G, Major S Hickson, Major C Birt, Major M P C Holt, Major M W Russell, Major C H. Burtchaell, Major F W C Jones, Major J R. Mallins, Surgeon Major J F Bateson (Coldstream Guards), Major T G Lavie, Captain W W O Beveridge, Captain A. F Tyrell, Captain J C Jameson, Captain G St C Thom, Captain W E Hardy, Lieutenant T C MacKenzie, Lieutenant W A Woodside, Lieutenant L W Harrison, Quartermaster and Hon Captain J H W Beach, Quartermaster and Hon Lieutenant J Tandy, Quartermaster and Hon Lieutenant A. Bruce, Quartermaster and Hon Lieutenant G H. Painton, Quartermaster and Hon Lieutenant A. J Pilgrim

Warrant Officers, Non Commissioned Officers, and Men.—Serjeant Major J J Saunders, Serjeant-Major E W Newland, 1st Class Staff Serjeant J Ritchie 2nd Class Staff Serjeant G Fells, 2nd Class Staff Serjeant H Lattemore, 2nd Class Staff Serjeant J Wilton, Serjeant E Haymes, Serjeant T D Cameron, Lance Serjeant G Darling, Lance Serjeant T H V Coad Lance-Serjeant E A. Hawkey, Corporal S Cowan, Corporal J W Elliott, Lance Corporal W Boutwood, Private H Ebbs, Private J Keefe, Private J Meason, Private A. Holloman, Private F Thomas, Private H D White. Private G W Barfoot, Private A Bass, and Private W W Polla[illegible]

Royal Army Medical Corps (Militia) —Captain A. H. Benson and Corporal R. E Kelly

St John Ambulance Brigade —1st Class Superintending Officer C W Baker and Orderly C Pyewell

Civil Surgeons —Civil Surgeon W F Tyndale, Civil Surgeon E Langley Hunt, Civil Surgeon J Prentice, Civil Surgeon R. Wilbond, Civil Surgeon F Stableford, Civil Surgeon C B Howse Civil Surgeon A. W May, Civil Surgeon P W James Civil Surgeon H. J Crossley, and Surgeon Captain T Moir, Imperial Yeomanry

Army Nursing Service —Superintending Sister Mrs J A. Gray, Superintending Sister Miss M Russell, Sister Miss M. C S Knox, Sister Miss C H. Keer, Sister Miss H L. Neale, Sister Miss E J Martin, Sister Miss G E Saunder, Sister Miss A. A Murphy, Sister Miss A. C L Anderson, Sister Miss A. R. Rose Innes, and Sister Miss A. E Tait.

Army Nursing Service Reserve —Sister H. C Luckie, Sister L. Mitchell, Sister G Black, Sister A F Bedwell, Sister J Creighton, Sister C M. Jones, Sister G Roberts, Sister E M. Monck Mason, and Sister J Halliday

Nursing Sisters (*various colonies*) —Superintendent M Rawson (Victorian), Sister Isobel Ivey (Victorian), Sister M S Bidsmead (Australian), Sister D Peiper (New Zealand), and Sister A. V Pocock (New South Wales)

In one of the earlier paragraphs of the despatches Lord Kitchener says ' I well understand that the accompanying list, which is in continuation of the other lists submitted periodically by me, of departmental, staff, and regimental officers who have in my opinion rendered exceptionally good service during the campaign is incomplete, and that notwithstanding all my care there must necessarily be a proportion of officers omitted who have rendered equal, or even better, service than those who have been mentioned. This, however, is the fortune of war and will, I am sure, be well understood by the army I have been so proud to command."

THE LATE WAR.

We notice elsewhere the last of Lord Kitchener's despatches on the war in South Africa to which probably many medical officers among other people, will turn to see if their names are mentioned in it. We do not think that officers of the Royal Army Medical Corps will be disposed to think considering the duration and all the difficulties of the late war that praise and rewards have been bestowed too lavishly upon their branch of the service

Now that the war is a thing of the past the Boer generals and others are free to speak and they have touched upon some interesting points in the course of their speeches. General Meyer for instance has stated that the Boers never had more than 50 000 men under arms in the field at one time. It is very noteworthy considering the amount of enteric fever that prevailed among the British troops, that the Boers practically speaking escaped that disease According to what General Meyer is reported to have said, they had relatively little sickness of any sort and as far as his knowledge and experience extended, no enteric fever whilst on the veldt. They seem for the most part to have been without ambulances and to have had recourse when sick to some simple vegetable drugs called veldt medicines It is not at all uncommon, of course, for the native population of a country to have a relative immunity from the sickness—typhoid fever for example—affecting new-comers or an invading army Still, General Meyer's statements are interesting and instructive in their way Dr Johann Reinecke, who acted as surgeon to the Boers during the war made his surgical experiences in South Africa the text of his dissertation on the occasion of the degree of M.D being recently conferred upon him by the University of Berlin His dissertation although practical and interesting did not teach anything particularly new to military surgeons. It inculcated the advantages of the *noli me tangere* principle and the application of antisepsis to gun hot wounds and gave illustrations of the stoical fortitude of the Boers which made them the best of surgical patients.

ROYAL ARMY MEDICAL CORPS EXAMINATION

The following is a list of successful candidates at the recent examination in London —

Names	Marks	Names.	Marks.
A. B Smallman	626	C A J A. Balck	540
P Davidson	623	G W Smith	540
W F Tyndale	621	J M H. Conway	538
W P Ellis	609	S. M. W Meadows	535
J McKenzie	603	J W S Seccombe	534
A H. Hayes	590	H. V Bagshawe	529
H J Crossley	587	C V B Stanley	520
N D Walker	584	D S Skelton	519
W B B Taylor	573	H G S Webb	516
R. Storrs	569	W W Browne	510
G T Collins	568	F L. Henderson	510
F A. H. Clarke	554	N E J Harding	500
G A K H. Reed	548	W D C Kelly	500
R L. V Foster	547	R Rutherford	499
B B. Ainsworth	542	W C Rivers	493

CIVIL SURGEONS AND THE WAR GRATUITY

We have been asked by several correspondents whether the war gratuity will be given to Civil Surgeons who have served with the troops in South Africa. Civil Surgeons do not come within the category of those for whom the war gratuity is provided in Army Order 5 1901 and they are therefore not entitled to the gratuity It should be remembered however that all Civil Surgeons employed under contract are entitled to a gratuity of two months pay for a year's service, with an additional gratuity for each completed period of three months service beyond the year

MEMORIAL TO OFFICERS AND MEN WHO FELL IN THE LATE WAR.

On July 27th a mural tablet in coloured alabaster bearing the names of officers and men belonging to Guildford and neighbourhood who have fallen in the late war was unveiled in Holy Trinity Church, Guildford, by Mr Brodrick Secretary of State for War The list includes the names of Captain M L. Hughes, R.A.M.C killed at Colenso mentioned in despatches and Surgeon Lieutenant-Colonel W Wellington Lake, in charge of Hospital at Bloemfontein where he died.

THE MAHSUD WAZIRI DESPATCHES.

The following members of the Indian Medical Service are mentioned for services in the Mahsud Waziri campaign Major Ker, Captain Cox, Lieutenant Pelle and Lieutenant Fry

Her Majesty the Queen will distribute the medals to the members of the staffs of the Imperial Yeomanry Hospitals who served during the late war in the gardens of Devonshire House, Piccadilly on Monday August 11th, at 4 P.M.

The prizes won by the surgeons on probation who were successful at both the London and Netley examinations were presented on July 29th by Lord Roberts at the Royal Victoria Hospital Netley

Correspondence.

"Audi alteram partem."

DIPHTHERIA AND ITS TREATMENT AT COLCHESTER.

To the Editors of THE LANCET

SIRS,—In your issue of July 26th, p. 246 some statements are made by Mr H. Whitby reflecting on myself and in a letter in your issue of July 19th, p 182, there is a letter from Dr G Brown on the same subject—diphtheria at Colchester—which calls for some remarks. Mr Whitby states that three of a family were attacked with sore throat and exhibiting all the signs of diphtheria, that the medical officer of health took swabs from two of the family and declared the results to be negative. I have looked through my list for this year and the only case which tallies with the description in any way is that of a family where four swabs were taken where diphtheria germs were found in three out of the four These cases were notified accordingly and admitted to the infectious diseases hospital. The only other case where more than one swab from a family were examined for him occurred in April, when I had two swabs marked Mrs. J and Mrs or Miss J I could not make out which. No diphtheria germs were found in either of those, but they were swabs taken by Mr Whitby and sent with no comment whatever and so can hardly be the swabs referred to. Since March 22nd I have examined swabs for Mr Whitby from six not four houses, in not one of these have diphtheria germs been found. What the symptoms were I know not, as help of that sort is never given by him but in one case at least the patient, when visited by the sanitary inspector on the day of notification was up and about and opened the door for him. Mr Whitby seems to object to the discovery that none of these cases were cases of diphtheria, using the word in the restricted sense in which it is now usually employed. *A priori*, one would have thought he would have been only too glad to find that this was the case. No subsequent case of diphtheria arose in connexion with any of these cases and I take it none of them developed later any of the characteristic sequelæ which otherwise would surely have been noted. With regard to the comments on antitoxin it would be interesting to know who it is who praises the remedy as infallible, since anybody who knows anything at all about the matter must be well aware that it is far from such having of course, no curative power whatever after a certain period. It would also be interesting to have full clinical details of the two cases—of albuminuria, and of albuminuria and bronchitis, with the reasons if any for connecting the symptoms with antitoxin. I may state that the majority of the cases arising here have been treated at the infectious hospital, and that since I have had charge of the patients there not a single person has ever left with even a trace of albumin present. Mr Whitby finally thinks that it is grave that he should not be permitted to have an opinion other than that manufactured for" him, but surely it is a much graver matter for his patients not to have the benefit of the treatment which has been shown to result in the least percentage mortality to them

Coming now to Dr Brown's letter he states that in July 1901 and subsequently diphtheria in Colchester assumed a less virulent form. I am not for a moment prepared to accept this statement. True, I did not see many of the cases before the middle of July but in the same way Dr Brown did not see many of the cases after that date. He certainly never examined *any* of them. For a time he used to in London and 16 4 in Edinburgh The 147 deaths of persons belonging to Dublin corresponded with the number in the preceding week and included 15 which were referred to the principal infectious diseases, against 11, 17, and 14 in the three preceding weeks, of these, eight resulted from measles, three from diarrhœa, one from scarlet fever, one from diphtheria, one from whooping cough, and one from "fever" These 15 deaths were equal to an annual rate of 2 1 per 1000, the death-rates last week from the same diseases being 2 2 in London and 3 9 in Edinburgh The fatal cases of measles, which had been six, six, and eight in the three preceding weeks, were again eight last week The deaths from diarrhœa, which had been two, four, and one in the three preceding weeks, rose again last week to three The 147 deaths in Dublin last week included 28 of children under one year of age and 42 of persons aged upwards of 60 years, the deaths both of infants and of elderly persons considerably exceeded the numbers recorded in the preceding week. Three inquest cases and two deaths from violence were registered, and 57, or more than a third, of the deaths occurred in public institutions The causes of nine, or more than 6 per cent, of the deaths registered in Dublin last week were not certified.

THE SERVICES

Royal Navy Medical Service

The following notice is to be substituted for that dated July 16th, 1902, which appeared in the *London Gazette* of July 18th, 1902 —

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon Arthur Alexander Joseph McNabb has been allowed to withdraw from His Majesty's Naval Service with a gratuity

The following appointments are notified —Fleet Surgeon G S Smith to Deptford Victualling Yard. Staff Surgeon F Fedarb to the *President*, additional, for Survey of Stores at Deptford.

Royal Army Medical Corps.

Major W Horrocks, R.A M C, is to retain his appointment as Assistant Professor of Military Hygiene at the Army Medical School, Netley, for a further period of six months from September 1st Major R H Firth, Professor of Military Hygiene at Netley, and Professor A. E Wright, Professor of Pathology, are to go to London with their assistants about August 11th for duty at the Army Medical School, London

Imperial Yeomanry

The undermentioned officer resigns his commission and receives a new commission subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority, viz —

Surgeon Lieutenant G W Trouton, West Kent (Queen's Own)

Royal Army Medical Corps (Militia)

Supernumerary Captain J Clerke to be Captain on the Establishment.

Volunteer Corps.

Royal Garrison Artillery (Volunteers) 1st Argyll and Bute The undermentioned Surgeon Lieutenants resign their commissions —J W W Penney and H Sinclair 1st Ayrshire and Galloway Surgeon Captain D Lawrie resign his commission

Rifle 2nd Volunteer Battalion Royal Fusiliers (City of London Regiment), Surgeon Lieutenant M G Foster to be Surgeon Captain 2nd Volunteer Battalion the Royal Scots Fusiliers Surgeon Captain W J Lawrie to be Surgeon-Major 2nd (Earl of Chester's) Volunteer Battalion the Cheshire Regiment Andrew MacLennan to be Surgeon Lieutenant. 3rd Volunteer Battalion the Cheshire Regiment Surgeon Captain T Fennell to be Surgeon Major 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders) Surgeon-Lieutenant T W Parkinson resigns his commission 5th (Perthshire Highland) Volunteer Battalion the Black Watch (Royal Highlanders) D M Macdonald to be Surgeon Lieutenant. 2nd Volunteer Battalion the York and Lancaster Regiment Surgeon Lieutenant J P Shine resigns his commission. 1st Dumbartonshire Archibald Gilchrist Hay to be Surgeon Lieutenant 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry Brigade Surgeon Lieutenant-Colonel D Cowie is seconded whilst holding the appointment of Senior Medical Officer to the Highland Light Infantry Volunteer Brigade, Surgeon Lieutenant J McKie to be Surgeon Captain

Mentioned in Despatches.

In despatches from Lord Kitchener to the Secretary of State for War, dated Cape Town, June 23rd, and published in the *London Gazette* of July 29th, the following names, among others, are mentioned —

Surgeon General Sir W D Wilson, K.C M.G, who "has given me satisfaction as regards his supervision of his own department, as well as the advice he has given me on sanitary matters"

Imperial Yeomanry, 3rd Battalion —Surgeon Captain R. Cattley

Coldstream Guards — Surgeon Major W R Crooke-Lawless

Royal Army Medical Corps —Surgeon General W H. McNamara, C B, C M G, Lieutenant-Colonel H H. Johnston, Lieutenant-Colonel H J R. Moberley, Lieutenant-Colonel F W Trevor, Lieutenant-Colonel S H Carter, Lieutenant Colonel G E Twiss, Lieutenant-Colonel C Todd, Lieutenant-Colonel G T Goggin, Lieutenant-Colonel R. Jennings, Lieutenant-Colonel J M Irwin, Lieutenant-Colonel G W Brazier Creagh, C M G, Major S Hickson, Major C Birt, Major M P C Holt, Major M W Russell, Major C H. Burtchaell, Major F W C Jones, Major J R. Mallins, Surgeon Major J F Bateson (Coldstream Guards), Major T G Lavie, Captain W W O Beveridge, Captain A. F Tyrell, Captain J C Jameson, Captain G St C Thom Captain W E Hardy, Lieutenant T C MacKenzie, Lieutenant W A Woodside, Lieutenant L W Harrison, Quartermaster and Hon Captain J H. W Beach, Quartermaster and Hon Lieutenant J Tandy, Quartermaster and Hon Lieutenant A. Bruce, Quartermaster and Hon Lieutenant G H. Painton, Quartermaster and Hon Lieutenant A. J Pilgrim

Warrant Officers, Non Commissioned Officers, and Men —Serjeant-Major J J Saunders, Serjeant-Major E W Newland, 1st Class Staff Serjeant J Ritchie 2nd Class Staff-Serjeant G Fells, 2nd Class Staff Serjeant H Lattemore, 2nd Class Staff Serjeant J Wilton, Serjeant E Haymes, Serjeant T D Cameron, Lance Serjeant G Darling, Lance Serjeant T H. V Coad Lance Serjeant E A. Hawkey, Corporal S Cowan, Corporal J W Elliott, Lance Corporal W Boutwood, Private H Ebbs, Private J Keefe, Private J Meason, Private A. Holloman, Private F Thomas, Private H D White Private G W Barfoot, Private A Bass, and Private W W Pollard

Royal Army Medical Corps (Militia) —Captain A. H. Benson and Corporal R. E Kelly

St John Ambulance Brigade —1st Class Superintending Officer C W Baker and Orderly C Pyewell.

Civil Surgeons —Civil Surgeon W F Tyndale, Civil Surgeon E Langley Hunt, Civil Surgeon J Prentice, Civil Surgeon R. Wilbond, Civil Surgeon F Stableford, Civil Surgeon C B Howse Civil Surgeon A. W May, Civil Surgeon P W James Civil Surgeon H. J Crossley, and Surgeon Captain T Moir, Imperial Yeomanry

Army Nursing Service —Superintending Sister Mrs J A. Gray, Superintending Sister Miss M Russell, Sister Miss M. C S Knox, Sister Miss C H. Keer, Sister Miss H L. Neale, Sister Miss E J Martin, Sister Miss G E Saunder, Sister Miss A. A Murphy, Sister Miss A. C L Anderson, Sister Miss A. R. Rose Innes, and Sister Miss A. E Tait.

Army Nursing Service Reserve —Sister H. C Luckie, Sister L Mitchell, Sister G Black, Sister A F Bedwell, Sister J Creighton, Sister C M Jones, Sister G Roberts, Sister E M. Monck Mason, and Sister J Halliday

Nursing Sisters (various colonies) —Superintendent M Rawson (Victorian), Sister Isobel Ivey (Victorian), Sister M S Bidsmead (Australian), Sister D Peiper (New Zealand), and Sister A. V Pocock (New South Wales)

In one of the earlier paragraphs of the despatches Lord Kitchener says 'I well understand that the accompanying list, which is in continuation of the other lists submitted periodically by me, of departmental, staff, and regimental officers who have in my opinion rendered exceptionally good service during the campaign is incomplete, and that notwithstanding all my care there must necessarily be a proportion of officers omitted who have rendered equal, or even better service than those who have been mentioned. This, however, is the fortune of war and will, I am sure, be well understood by the army I have been so proud to command.

THE LATE WAR.

We notice elsewhere the last of Lord Kitchener's despatches on the war in South Africa to which probably many medical officers among other people, will turn to see if their names are mentioned in it. We do not think that officers of the Royal Army Medical Corps will be disposed to think, considering the duration and all the difficulties of the late war that praise and rewards have been bestowed too lavishly upon their branch of the service.

Now that the war is a thing of the past the Boer generals and others are free to speak and they have touched upon some interesting points in the course of their speeches. General Meyer for instance has stated that the Boers never had more than 50 000 men under arms in the field at one time. It is very noteworthy, considering the amount of enteric fever that prevailed among the British troops that the Boers, practically speaking escaped that disease According to what General Meyer is reported to have said they had relatively little sickness of any sort and as far as his knowledge and experience extended, no enteric fever whilst on the veldt. They seem for the most part to have been without ambulances and to have had recourse when sick to some simple vegetable drugs called veldt medicines It is not at all uncommon, of course for the native population of a country to have a relative immunity from the sickness—typhoid fever for example—affecting new-comers or an invading army Still General Meyer's statements are interesting and instructive in their way Dr Johann Reinecke who acted as surgeon to the Boers during the war made his surgical experiences in South Africa the text of his dissertation on the occasion of the degree of M.D being recently conferred upon him by the University of Berlin His dissertation although practical and interesting did not teach anything particularly new to military surgeons. It inculcated the advantages of the *noli me tangere* principle and the application of antisepsis to gun-shot wounds and gave illustrations of the stoical fortitude of the Boers which made them the best of surgical patients.

ROYAL ARMY MEDICAL CORPS EXAMINATION

The following is a list of successful candidates at the recent examination in London —

Names.	Marks	Names	Marks
A. B Smallman	626	C. A. J A Balck	540
P Davidson	623	G W Smith	540
W F Tyndale	621	J M H Conway	536
W F Ellis	609	S. M. W Meadows	535
J McKenzie	602	J W S Seccombe	534
A H. Hayes	590	H. V Bagshawe	529
H J Crossley	587	C. V B Stanley	520
N D Walker	584	D S Skelton	519
W B B. Taylor	573	H G S Webb	516
R. Storrs	568	W W Browne	510
G T Collins	556	F L. Henderson	510
F A. H Clarke	554	N E. J Harding	500
G A. K. H Reed	548	W D C. Kelly	500
R L. V Foster	547	R Rutherford	499
R. B Ainsworth	542	W C. Rivers	493

CIVIL SURGEONS AND THE WAR GRATUITY

We have been asked by several correspondents whether the war gratuity will be given to Civil Surgeons who have served with the troops in South Africa. Civil Surgeons do not come within the category of those for whom the war gratuity is provided in Army Order 5 1901 and they are therefore not entitled to the gratuity It should be remembered however that all Civil Surgeons employed under contract are entitled to a gratuity of two months pay for a year's service, with an additional gratuity for each completed period of three months service beyond the year

MEMORIAL TO OFFICERS AND MEN WHO FELL IN THE LATE WAR.

On July 27th a mural tablet in coloured alabaster bearing the names of officers and men belonging to Guildford and neighbourhood who have fallen in the late war was unveiled in Holy Trinity Church Guildford, by Mr Brodrick Secretary of State for War The list includes the names of Captain M. L Hughes R.A.M.C killed at Colenso mentioned in despatches and Surgeon Lieutenant-Colonel W Wellington Lake, in charge of Hospital at Bloemfontein, where he died.

THE MAHMED WAZIRI DESPATCHES.

The following members of the Indian Medical Service are mentioned for services in the Mahmed Waziri campaign Major Ker Captain Cox, Lieutenant Pelle and Lieutenant Fry

Her Majesty the Queen will distribute the medals to the members of the staffs of the Imperial Yeomanry Hospitals who served during the late war in the gardens of Devonshire House, Piccadilly on Monday August 11th at 4 P M

The prizes won by the surgeons on probation who were successful at both the London and Netley examinations were presented on July 29th by Lord Roberts at the Royal Victoria Hospital, Netley

Correspondence

Audi alteram partem.

DIPHTHERIA AND ITS TREATMENT AT COLCHESTER.

To the Editors of THE LANCET

SIRS,—In your issue of July 26th p. 246 some statements are made by Mr H. Whitby reflecting on myself and in a letter in your issue of July 19th, p 182, there is a letter from Dr G Brown on the same subject—diphtheria at Colchester—which calls for some remarks. Mr Whitby states that three of a family were attacked with sore throat and exhibiting all the signs of diphtheria, that the medical officer of health took swabs from two of the family and declared the results to be negative. *I have looked through* my list for this year and the only case which tallies with the description in any way is that of a family where four swabs were taken where diphtheria germs were found in three out of the four These cases were notified accordingly and admitted to the infectious diseases hospital. The only other case where more than one swab from a family were examined for him occurred in April when I had two swabs marked Mrs. J and Mrs' or 'Miss J " I could not make out which. No diphtheria germs were found in either of those, but they were swabs taken by Mr. Whitby and sent with no comment whatever and so can hardly be the swabs referred to Since March 22nd I have examined swabs for Mr Whitby from six, not four houses in not one of these have diphtheria germs been found. What the symptoms were I know not, as help of that sort is never given by him but in one case at least the patient, when visited by the sanitary inspector on the day of notification, was up and about and opened the door for him. Mr Whitby seems to object to the discovery that none of these cases were cases of diphtheria, using the word in the restricted sense in which it is now usually employed. *A priori* one would have thought he would have been only too glad to find that this was the case No subsequent case of diphtheria arose in connexion with any of these cases and I take it none of them developed later any of the characteristic sequelæ which otherwise would surely have been noted With regard to the comments on antitoxin it would be interesting to know who it is who praises the remedy as infallible since anybody who knows anything at all about the matter must be well aware that it is far from such having of course no curative power whatever after a certain period. It would also be interesting to have full clinical details of the two cases—of albuminuria, and of albuminuria and bronchitis, with the reasons, if any for connecting the symptoms with antitoxin. I may state that the majority of the cases arising here have been treated at the infectious hospital, and that since I have had charge of the patients there not a single person has ever left with even a trace of albumin present. Mr Whitby finally thinks that it is grave that he should not be permitted to have an opinion other than that manufactured *for* him but surely it is a much graver matter for his patients not to have the benefit of the treatment which has been shown to result in the least percentage mortality to them

Coming now to Dr Brown's letter he states that in July 1901, and subsequently diphtheria in Colchester assumed a less virulent form I am not for a moment prepared to accept this statement. True I did not see many of the cases before the middle of July, but in the same way Dr Brown did not see many of the cases after that date. He certainly never examined *any* of them. For a time he used to accompany me when visiting the hospital after July 17th when I took charge of the treatment of the patients Such patients as he saw at a distance then had *often* already been treated, 24 hours or more, previously with antitoxin Before long he gave up coming to the hospital at all. I cannot see how he can have divined the condition of the patients after this—patients whom he never saw at all There certainly were a number of bad cases among them and quite a sprinkling of exceedingly serious cases The most conclusive evidence on this point is afforded by the case mortality of patients treated outside the hospital. Before July 16th there were 37 cases with a percentage mortality of 10 8 per cent., after, 48 cases with a percentage mortality of 14·5 per cent., during which time the disease is said to have grown milder I cannot quite make out the meaning of some figures which follow, but the broad fact which *to me seems to stand out conclusively* is this Before July 17th antitoxin was given to some cases by Dr Brown—not to others It seemed to me that he used it for the bad cases, and he certainly did not seem to be cognisant of the fact that to be of any use it must be employed early, since he did not use it on admission but at some period, even as late as 10 days, after Reliance was placed chiefly on the use of a spray of dilute lactic acid Now, as Dr Graham Smith has pointed out in the *Journal of Hygiene* for April of this year, the mortality in the first half of the year among cases so treated was 25 9 per cent. In the latter half of the year, when antitoxin was systematically used on admission, the percentage mortality was 5 8 per cent. If the cases for this year be added the total up to date (including four cases which arose and were treated in the isolation home) amounts to 190, the mortality being 6 3 per cent All the cases which have died since I have had charge of the patients have been late cases I have not yet seen an early case treated with antitoxin become worse and die Several of the cases which died were moribund on admission, one case dying within an hour of admission. The statement as to ciliated epithelium has already been commented on, and the deduction founded on it, *re* nurses catching the disease, therefore falls to the ground As epidemics did not occur in the previous years, a large staff of nurses was not employed and there was naturally less chance of a number becoming infected The first nurse was attacked just before I commenced visiting the hospital. Dr Brown states that [illegible] of diphtheria later caught scarlet fever and that many [illegible] died Personally, I have only had one such case [illegible] a statement also that it was remarked that the [illegible] would be extirpated in six weeks from Sept 1st when [illegible] laboratory had been set up I do not know [illegible] of this statement but I well remember that [illegible] who was directing the arrangements, told Dr [illegible] myself at our first interview together that the [illegible] be wanted, at any rate, till Christmas [illegible] to remark on the value of bacteriological [illegible] and isolation of infected contacts which Dr [illegible] of little or no avail.

[illegible] the laboratory was got into working order the [illegible] reopened, though diphtheria was rife and the [illegible] was at hand. In spite of this the number [illegible] diminished through the autumn Secondly, [illegible] a girl was brought to me because she had a [illegible], she went to the Central School for Girls [illegible] germs were found in this case The school mistress [illegible] asked then to give me the names and addresses of every child away from school on any pretext every morning All these cases (except such as accidents, &c.) were visited and where it seemed requisite swabs taken and examined. In all six definite cases (and one doubtful one) were found in which diphtheria germs were present Of these cases five showed some further symptoms or signs of diphtheria and were actually notified, four by myself and one by another practitioner Of course, all these patients were kept from school with their brothers and sisters and as many as possible were removed to the home. No further case up to the present has arisen in this school Thirdly, a short time before July 8th I heard of a case of diphtheria in a family some of the members of which attended at Shrubend school, in a village about a mile outside the town The house was outside the borough boundary but I had a swab sent to me and found plenty of diphtheria bacilli present, a second case arose close to this one and was fatal. I asked the schoolmaster to let me know once of any case of sore throat among his pupils in my district On the 8th there was such a case reported which turned out to be a well marked case of diphtheria. I now *started visiting the school myself every morning* The school was kept open, every child who failed to put in an appearance at school-time was visited, and if ill in any way swabbed During the next four days 11 cases of diphtheria were thus discovered. By the means employed the infected children were eliminated from the school, together with others of their family, and no child was ill for as long as 24 hours without being injected with antitoxin, except in one case where on account of the parents I was obliged to delay, but was allowed to use antitoxin in the evening No further death occurred, though four at least of the cases started in a virulent fashion—in two the nose as well as the throat being affected After July 12th no further case arose which could be connected *with the school* bar *one*, which *might* have been *contracted* at school, though I fancy it was not so Besides these cases there were a few children outside the borough attacked and a good many children infected, but not ill, were discovered and as far as possible isolated In the houses discovered at first to be infected six other cases subsequently arose, but no new centres have come to light, the last case notified being on July 22nd. Fourthly, the examination of patients bacteriologically before discharge from hospital was very effectual in preventing "return" cases In about six weeks, of which I have record, before the system was employed there were four such cases In the whole period from that date till to-day I know of only two doubtful cases. Finally, I should like to note a case which Dr Graham Smith has commented on at length in the *Journal of Hygiene* for April, 1902 This patient suffered from a bad sore throat, she was seen later by Dr Brown, who did not consider that she was infectious and took no swab Subsequently, 15 cases arose which can apparently be traced to this case, and several of these cases proved fatal.

I am, Sirs, yours faithfully,
ED CHICHESTER, M B Lond.,
Acting Medical Officer of Health of Colchester
Colchester, July 28th 1902

To the Editors of THE LANCET

SIRS,—I am surprised that Mr E C Bousfield should feel a difficulty in believing that Dr G Brown of Colchester is in earnest when he expresses doubts as to whether the antitoxin treatment is the best treatment for diphtheria and that you, Sirs, should apologise for allowing your columns to be used by persons who, to use Dr Brown's expression, "do not bow the knee to Baal." The way in which the antitoxin treatment has been praised, idolised, and worshipped certainly justifies the comparison, and it makes the comparison still more suitable if the priests of "Baal" proceed to lash themselves into a fury because the divinity of their idol is
challenged You say, Sirs, that the treatmen[illegible] been
accepted by practically the whole medical worl[illegible] ble,
and no doubt that is so But was not the tuberc[illegible] ent
so accepted within the shortest memory? Be[illegible]
advocates of the [illegible] n treatment are n[illegible] h
claiming that it i[illegible] le treatment [illegible] a
"cure" for diph[illegible] edy which [illegible] to
cure," as Mr B[illegible] it. Now, [illegible] a
statement is so r[illegible] of actual
a fact. I hav[illegible] in saying
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new treatment to prove its efficacy Therefore if Mr Bousfield will undertake to maintain the title of diphtheria antitoxin to canonisation as a ' cure,' I will, for the sake of argument, take the part of 'devil's advocate" and dispute its right to the title

I am Sirs, yours faithfully
HUGH WOODS
Highgate N July 27th 1902.

To the Editors of THE LANCET.

SIRS,—In my last letter I left Dr G Brown's statistics alone, having no materials for criticism these have now been supplied me. In 1901 (up to July 16th) 89 patients suffering from diphtheria were removed to the infectious diseases hospital at Colchester of these 18 had antitoxin before admission and one death occurred among them. Of the remaining 71 no less than 22 succumbed. Comment seems unnecessary Moreover the statistics given by Dr Brown make it abundantly clear that in many of the cases said by him to have been treated with antitoxin the remedy was used as a last resort, and figures based on such cases are absolutely worthless.

I am, Sirs yours faithfully
EDWARD O BOUSFIELD
Old Kent-road S.E. July 29th 1902.

THE MEDICAL SERVICE OF THE MERCANTILE MARINE

To the Editors of THE LANCET

SIRS,—I have not seen the previous correspondence on this subject, but the letter of Dr A. B Blair in your issue of July 12th, p. 111 rather surprises me. He thinks that these medical officers are well off because they get £10 a month in pay are well fed, see much of the world, and are not too hard worked. He says that the position is never in danger of being lowered. £10 a month! This is the pay of the second officer the third engineer and the second steward. All these men are as well fed as the surgeon they have the same chance of seeing the world and are not too hard worked Does Dr Blair mean to say that a medical man who is paid at the same rate as these subordinate officials is paid in accordance with his position? If he does, I do not agree with him for I have a much higher opinion of the value of medical services.

In my opinion the surgeon holds the most responsible position of any on board If anything very serious occurs he must depend on his own knowledge alone, whereas the captain and engineer have their mates to consult with, and these are generally as well able to meet the emergency as their chief But the surgeon has no one to consult with. And that very serious cases do occur at times I know by experience. Socially the surgeon is nowhere. When the executive officers mess in the saloon they take the head of the tables, the surgeon and purser being placed at the foot. If the surgeon gives an order to a sailor or a steward to move a deck-chair he may be told by the man that he takes his orders from the mate or the steward. In many vessels his state-room is also his consulting room and his dispensary and this room is no larger than the state room allotted to other officers. In one ship I sailed in this was the case It was placed in the alley way beside the engine-room and next to the water closet. As the bulkhead between the room and the water-closet was not water tight the floor was constantly wet and so I condemned it. After a struggle I got a room in the saloon but though there were plenty of empty rooms the one I got was the worst, right over the propeller Yet the captain of this ship had two fine rooms and the chief steward had a room in the saloon vastly superior to the one I got, and, indeed it was only by threatening to bring the matter before the Board of Trade that I got another room. Dr Blair says that the position is never in danger of being lowered in the eyes of the passengers or crew Does he mean because it is so low already for it is a fact that passengers and officers look with more or less of scorn on the ship's surgeon firstly because he is considered as nobody on board and, secondly because he takes tips. It is this taking of tips which is so disreputable so degrading in the eyes of the people and which makes the position of the surgeon appear so contemptible in the eyes of all. For a steward to take a tip is nothing he is only a servant-man, but a surgeon is supposed to occupy the position of a gentleman—that is, of the man who tips. Yet I have met many surgeons who could see no harm in it and who gladly took the tips and tried to call them fees. But they are not fees any more than are the tips to the steward fees, for the passengers know that these men are paid for their services and that to tip them is optional I certainly have noticed that many of the steamship doctors are an abject class. I believe it is due to the fact that they are afraid of losing their tip Probably the same men would be abject on land also but, then very many medical men are very abject creatures before their good-class patients.

Dr Blair says that £10 a month is sufficient pay but is he aware that some of the lines only pay £6 a month and those in steamers crossing the Atlantic in winter as well as others? And in THE LANCET of last week is an advertisement offering a surgeon £5 a month to go to Australia and back I think that the profession could alter all this if it would act. If the schools would strongly impress on young men to avoid these steamers unless the conditions were suitable the steam ship companies would soon consent, as they must have surgeons. And the conditions I would insist on are these (1) that the surgeon be paid a minimum salary of £10 a month for which he will attend the crew and steerage passengers (2) that he be at liberty to charge fees for attendance on first- and second-class passengers, and (3) that he have a state room in a suitable place for himself quite distinct from a consulting room or dispensary These conditions would put no strain on the steamship companies and they would put the surgeon in a right position on board in the eyes of all.

I am Sirs, yours faithfully
J OGILVIE
July 23rd 1902.

INSANITY AND THE DEATH PENALTY

To the Editors of THE LANCET

SIRS,—I have read with interest Sir W T Gairdner's letter in your issue of July 26th, p. 242, but I cannot agree with him that any idea of vengeance is present in the punishment meted out to the criminal by the State. Vengeance is entirely a personal emotion but the State knows no such passions being impersonal and in a strictly impartial manner enforces by suitable punishments the laws it has enacted If the punishments do not have the desired deterrent effect they may be useless, but I submit that they cannot be regarded as State vengeance on the criminal. It is true that the poet speaks of the wild justice of revenge," because the act of the vengeful man and that of the State may equally deter from crime but the motives of the act in the two cases are altogether different. With regard to verdicts, Guilty but insane, they would be contradictory under the present law If a criminal is insane in the legal sense he cannot be guilty in the eyes of the law That the legal definition of insanity in McNaughton's case is by no means in accordance with our present knowledge of mental disease may be readily admitted, but none the less I am one of those who do not think that the public safety will gain by modern views of mental pathology being permitted further to diminish criminal responsibility

I am, Sirs, yours faithfully
M. GREENWOOD
Hackney-road N.E., July 26th, 1902.

OBSERVATIONS ON DIET

To the Editors of THE LANCET

SIRS,—I feel I owe Dr Forbes Ross an acknowledgment for his admission that he would not insist upon a full and generous diet in the case of every aged patient likewise for giving me an opportunity of saying that for some old people I would regard such a diet as suitable.

Dr R. H. Perks's earnest letter I have read with great interest. He who eschews animal food for ethical reasons cannot but command the admiration of all serious men. In seeking after truth we must not, however allow our vision to be blurred by our feelings, humane or otherwise but endeavour to look at facts as they are, however repugnant those facts may seem to us.

1. I have not contended as Dr Perks appears to assume, that man is by nature purely carnivorous but simply that he is largely so. Dr Perks cites authorities who maintain on anatomical grounds that man is essentially frugivorous, but others equally eminent contend that the anatomy of his digestive system proclaims him in large degree carnivorous. I will therefore waive the anatomical argument—although

to my mind it is all in favour of this latter view—and appeal to another line of reasoning If it can be shown that from the time man emerged from an ape like being down to the agricultural era—that is to say, during an immense period of his evolutionary career, for from the standpoint of evolution the *period of agriculture began but* as yesterday—he subsisted largely on animal food, we may safely conclude that he is naturally to a large extent carnivorous And this, I believe, can be shown It is known that the man like apes are not purely vegetarian, but that they eat birds, eggs, and insects of all sorts Now if these creatures supplement their vegetable diet in this way the strong presumption is that man's ape like ancestor did so likewise, and that from this anthropoid period of his evolution down to the agricultural era he was largely an animal feeder is as certain as anything can well be, for how otherwise could he obtain the necessary supply of proteid? Certain it is that the most primitive type of man now living is wholly unable to maintain himself on a diet derived solely from the uncultivated vegetable kingdom, those tribes which do not cultivate plants for food are compelled to resort largely to animal food So far as my researches go—and I have taken pains to get at the truth in this matter—there is no part of the world where man can subsist entirely on wild uncultivated plants The view that there are certain luxuriant regions where unaided nature yields man an abundance of nutritious food all sufficing for his needs is altogether erroneous Not only do wheat maize, potatoes, yams, carrots, peas, beans, lentils, and the like need assiduous cultivation if they are to yield a copious supply of nourishment (which, moreover, is only available after cooking, an art which is, phylogenetically considered, of quite recent date), but the like is equally true of the fig, date, banana, cocoa nut, to say nothing of the sugar cane, sago, palm, and a host of other nutritious plants belonging to the tropics

2 Dr Perks does not make it clear whether the flesh abstainers to whom he refers abstain also from milk, butter, cheese, and eggs If they do not, then I must repeat my charge that they are accessory to the slaughter of animals Dr Perks refers to this as a minor difficulty in the way of those who are desirous of abolishing or lessening the slaughter of animals for food. I protest that this is no minor but a major difficulty Farmers cannot sell eggs and milk at a profit unless they slaughter the bull calves and cockerels and sell them or use them for food. To be consistent, therefore he who abstains from flesh for ethical reasons should abstain also from milk, butter, cheese, and eggs, unless he can be assured that the producers of these articles do not allow the bulls and cockerels to be slain for human consumption.

3. While I contend that man, having evolved from the anthropoid on a diet that has been largely an animal one, is therefore by nature in large measure carnivorous, I must not be understood to imply that he is for ever doomed to remain so The great difficulty in regard to a strictly vegetarian diet is its deficiency in proteid, and, as I pointed out in the last of my four articles,[1] the consistent vegetarian should aim at extracting from the vegetable world suitable proteids, so as to be able to fortify his vegetable foods with them and thus make good that deficiency If he proceeds on these lines I see no reason why his humane dream should not be realised I am, Sirs, yours faithfully,

Wimpole street, July 27th 1902 HARRY CAMPBELL

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[1] THE LANCET June 28th 1902, p 1850

THE MIDWIVES BILL

To the Editors of THE LANCET

SIRS—Although it may appear late in the day to discuss the Midwives Bill with public utility, seeing it has become law, nevertheless the letter signed by the President and chairman of the Association for Promoting Compulsory Registration of Midwives did not appear until the day on which the measure was passed—too late, I presume, to influence the debate in the House of Lords I must beg of you therefore, not to allow such a letter to remain unchallenged—'Audi alterum partem' Although it is difficult amidst the chaos of voluminous printed matter extending over years to place one's finger on chapter and verse, I venture to state and am open to correction, that the promoters of registration until within a very recent period distinctly gave out that the object of their measure was simply to ensure for the poor a class of trained midwives amenable to law and hence to prevent any save those registered from calling themselves midwives, but that they did not desire to prevent the poor helping one another in *cases of emergency, or need I say that this was the original* purport of the scheme and this they asked and nothing more? It began, however, to dawn upon the promoters under more mature consideration that a measure of this kind would be more or less futile, as was clearly pointed out in the earlier stages of the discussion, because it is evident that the Gamps being regardless of the title "midwife" would be at liberty to pursue their craft as heretofore and consequently the promoters have now been driven to adopt the "neck or nothing" system of discovering the quickest means of exterminating the Gamps from the face of the earth, and that is by rendering it illegal for any but registered midwives to attend for the purpose of gain It will be interesting, therefore, to watch what the poor in agricultural districts will do cut off from their succour and supply of Gamps, because, after all said this much maligned class have borne the heat and burden of the day for generations and have occupied a position on the obstetric field that no frantic parent, sister, or emotional neighbour could act as a substitute, in spite of what the President and chairman of the association in question say, or to quote their words "It is often forgotten that the word 'habitually' in the clause leaves a wide margin for freedom of action in cases of emergency or for the individual preference of patients" Pray, Sirs, what is the use of leaving a wide margin after the Gamps are exterminated and there is nobody to act?

Both the Lord Chancellor and Home Secretary appeared to take the view I now enunciate and it is difficult to follow the reasoning of the President and chairman of the association when they advocate in reply to the Lord Chancellor's suggestion "that those who drew up the Bill had in their minds large centres of population and had not considered the case of thinly populated districts where trained assistance would be hard to get," and yet they argue this as a reason for registration, but who can support a midwife located in a lonely country village? There is an old saying that the Lord preserves babies and drunkards, and to these might be added parturient women, because it is certain that in the process of nature accidents *rarely* occur through the attendance of an unskilled midwife—at least this is my observation after many years—and I venture to state that the loss the poor will sustain from the extermination of the Gamps will far exceed anything that may accrue from registration.

I am, Sirs, yours faithfully

Peckham, S E, July 29th, 1902. CLEMENT H SERS.

INTESTINAL SAND

To the Editors of THE LANCET

SIRS,—Dr C H. Bedford in his Note on a Case of "True" Intestinal Sand in your issue of July 26th, 1902, p 215, alludes to the three cases of intestinal sand mentioned by me in the discussion which followed the reading of the paper by Sir Dyce Duckworth and Dr A. E. Garrod[1] as having occurred during my 10 years' tenure of the appointment of surgeon superintendent of the European General Hospital, Calcutta, and regrets that there is nothing to show that these were genuine examples of "true" intestinal sand, "as apparently there was no chemico microscopical examination made in any of them."

My object in making my observations on the subject was not to prove that mine were genuine cases of "true" intestinal sand (that, I hoped, would have been accepted without question), else I would have stated, as I do now, that the samples were subjected to frequent microscopical examination by myself and the other members of the staff of the hospital, that one specimen was examined chemically by the then professor of chemistry of the Medical College, Calcutta, and that another was examined by the late Mr Wood Mason superintendent of the Indian Museum, Calcutta. The specimens were identical with those submitted to the Royal Medical and Chirurgical Society by Sir Dyce Duckworth and Dr Garrod Dr Bedford may therefore be satisfied that the three cases noted by me were genuine examples of true intestinal sand. I did not mean it to be inferred that the affection was commoner in India than in England because I had met with three cases in ten years. What I said was that it was probably more commonly *observed* in India than in England because of the routine practice in Indian hospitals of washing the stools in all intestinal cases. This will naturally lead to the more frequent discovery of sand in cases in which its existence is not suspected Of this I had an example during the present month in a case of pernicious anæmia in the person of an Armenian who had spent all his life in Calcutta whom I had an opportunity of seeing with Mr C. Andrews of West Kensington and Dr E. Lawrie lately of Hyderabad. Each of his motions when washed betrayed the presence of true intestinal sand in small quantity There were no symptoms referable to the sand and its existence would not have been suspected or discovered by a casual observation of the stools without washing This patient had been for many months on a diet consisting largely of milk and exclusive of vegetables and fruit except grapes, and therefore conforms with Dr Bedford's suggestion as to the probable cause of true intestinal sand but I find in an old case book that one of my Calcutta patients who consulted me privately before going into hospital had been living an ordinary life on mixed diet. His dietary is detailed in my notes and I find it specially stated that he had not eaten tinned Californian fruits for three months which will show Dr Bedford that I was well aware of the conditions under which false intestinal sand is most commonly formed pears not being usually available in India except in that form. I am Sirs, yours faithfully

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[1] THE LANCET, March 2nd 1901, p 623

A. CROMBIE, M.D Edin.

Blckenhall mansions W July 26th, 1902.

CIDER AND GOUT

To the Editors of THE LANCET

SIRS,—Under this heading the question is asked in THE LANCET of July 19th p. 182, by Dr T Dobson Should the gouty drink cider? My answer unhesitatingly is, Yes but he must be careful what cider he drinks Unfortunately the public has a preference for sweet bottled cider and this taste has been fostered by makers and dealers generally and the result is that at the present time there is hardly any bottled cider in the market that is wholesome and fit to drink more especially by those who have a tendency to gout or to rheumatism. The bottled ciders (and by cider I include perry) are all filtered and faked up for the market and I would warn anyone not to drink very freely or regularly of them. If he has any tendency to gout or to rheumatism it will be certain to develop an attack and if he has none already it will probably cause it.

Irrespectively of the different sorts of cider some being better for certain constitutions than are others all ciders when made should be unfiltered and allowed to pass through the full process of fermentation This is the essential point, and the bottled ciders now to be bought from the very best makers are all filtered and their fermentation interrupted. In this way a sweeter and more brilliant looking fluid is the result. If fermentation is allowed to go on and no filtering carried out a pure, wholesome beverage of a dry nature and bright enough in appearance for most people is obtained. The sugar is thus got rid of and if the cider be kept in the cask undisturbed from its sediment it will in three or four months be as bright and clear as a spirit and should be bottled if necessary about the time that the trees bloom in the following spring Cider treated in this way may be drunk with great benefit by gouty or rheumatic people and it is, I think, one of the very best beverages for them.

I am, Sirs, yours faithfully

Winchcombe, Gloucestershire July 25th, 1902. WILLIAM COX.

MEDICAL PRACTITIONERS AND THE HOME OFFICE

To the Editors of THE LANCET

SIRS,—I desire to call special attention to the actions of the magistrates and medical practitioners of Bungay as narrated and commented upon in your columns in connexion with your remarks on the attendance of the members of the British Medical Association when the reconstitution scheme was under consideration.

Mr Ritchie has no doubt recently been primed with Obstetrical Society literature in connexion with the Midwives Bill His remarks on the question of the propriety of the conduct of the practitioners of Bungay can be explained quite easily if The History of the Work of the Obstetrical Society in Relation to Midwives Registration " (published 1895) be read. No one reading this without a full knowledge of all the facts of the case could fail to believe that the ordinary general practitioner is certified as a scurvy fellow by those who claim that they are considered generally to be the most qualified to form an opinion Mr Ritchie only repeats what can be found in the pamphlet to which I allude. The mischief which has been done to the great mass of the profession by the Obstetrical Society will manifest itself for years quite outside the result of its achievement in legislation that legislation will do no harm The conduct and the utterances of those who ought to know better have weakened the profession and have shown up the weakness in its organisation to the world at large. Who can blame a politician for using the weapon placed in his hands by members of the medical profession against that profession? The remedy which I have for years advocated is the manufacture of a sufficient political organisation The British Medical Association now possesses a framework for such Will its members consent to apply business principles in the use of the frame?

In the first place the members have to raise their courage to spend both money and time and to use each one his own powers of business if a successful campaign is to be fought. It is most devoutly to be hoped that every practitioner will cease to regard medical politics as a subject derogatory to the dignity of the profession. That position is the cult of the mere Brahmin If medical practitioners will realise once and for all that the interests of the mass are his own personal interests then progress will be made The Brahminical cult will then be a thing of the past. So long as each practitioner belongs to a sect which looks askance at other sects the position of affairs is hopeless and must remain so I am Sirs, yours faithfully

Ha field July 29th 1902. LOVELL DRAGE.

PERITYPHLITIS

To the Editors of THE LANCET

SIRS,—Dr W J Tyson has in his letter referred to an operation performed by me at Guy's Hospital some years ago As the question of priority is of interest to your readers it might be well to give you exact dates In doing so I in no way wish to detract from the merit which belongs to Sir Frederick Treves. The case is fully recorded in the Transactions of the Clinical Society for the year 1885 vol. xviii. p 285, where it will be found that the operation was performed on August 24th, 1883, the account being read on May 8th 1885. As stated in that paper whatever credit is due for having suggested at this date an operation for the relief of recurring attacks of pain in the cæcal region must be due to Dr Mahomed. He was impressed with the great fatality caused by delay in opening the abdomen and when we were together appointed to the staff of Guy's Hospital in January 1882, we decided to operate early in acute obstruction and allied conditions The frequency with which cases of peritonitis and other cases resembling obstruction proved to be due to sloughing of the appendix led us to study the diseases of this body

Those who remember Dr Mahomed will appreciate the following story In order to gain a fuller knowledge of the subject I went through the post-mortem records of cases of typhlitis These had been made by Wilks Moxon and Fagge The admirable drawings of Moxon illustrated the whole pathology of acute appendicitis and one thought one had gained a point or two in diagnosis and treatment. Mahomed one day bursting in upon my retreat in his well known energetic way said Come along Symonds if you study these cases any longer you will become like —— [a now well known baronet] and not make a diagnosis at all I have a case of acute obstruction and want you to operate at once." However the case seemed to me very clearly one of acute appendicitis with general peritonitis operation confirmed this view and served to redouble Mahomed's enthusiasm. Soon after this the case Dr Tyson referred to occurred. It was that of a young man who had had many attack of colic in the iliac region where a hard rounded nodule was to be felt in the position of the appendix. Mahomed called me to the case and suggested that there was a concretion in the appendix and that it might be removed. In planning the operation we differed as to method. Mahomed wished that an incision similar to that for ligaturing the external iliac artery should be made and the peritoneum raised up, he expected the appendix would be shut off by adhesions and might therefore be opened from behind without entering the general cavity Personally I advocated an incision from the front and removal of the appendix. Mahomed's plan was successfully carried out and the concretion, covered with a laminated capsule of carbonate of lime, removed. As a matter of fact, subsequent experience has shown that concretions having a calcareous capsule lie outside the appendix, having escaped in some acute attack. There will be found an excellent water-colour drawing of this—the first concretion ever removed—in the Transactions referred to, and in the same paper the question of operation is discussed and other interesting points When Fagge lay ill, though engaged on his book, I took this concretion for him to see and related the case. He examined it with interest and, handing it back, said, as he looked in that pleasant quizzical way he had, "Yes, Symonds, it is interesting, but I don't suppose it will ever be done again" Unfortunately, poor Mahomed—a veritable pioneer—died in 1884, and it was long before another opportunity occurred to me of dealing with an appendix in the quiet period as there were few in those early days so ready to advance as was Mahomed.

I am, Sirs, yours faithfully,
CHARTERS J SYMONDS

Portland place, W, July 29th, 1902.

THE ANTI-MEDICAL BIAS

To the Editors of THE LANCET

SIRS,—Without wishing to disagree with the main drift of your annotation, "The Anti Medical Bias,"[1] may I be allowed to take exception to its penultimate sentence? Dr Veressaief is certainly not a heterodox practitioner Throughout his work, "Les Mémoires d'un Médecin," he repeatedly asserts his respect for his art and for its professors In one place he even advocates an increase in the practice of vivisection and can only be called an antivivisectionist in the sense that he condemns those long ago discredited experiments on living people common in the "eighties" of last century His book is brilliant, full of pathos and observation, and manifestly sincere, but the publication of *ad captandum* confessions which are sure to fall into the hands of the nervous and the wrong headed, is manifestly indiscreet

I am Sirs, yours faithfully,
FIAT JUSTITIA.

July 28th, 1902.

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

Birmingham University

THE second degree congregation of the university was held in the Town Hall on July 19th. A large gathering witnessed the imposing ceremony, although general regret was felt at the absence of the Chancellor, the Right Hon Joseph Chamberlain, M P, whose place was taken by the Vice-Chancellor, Mr Charles Beale, who conferred the degrees upon the recipients An interesting address was given by the principal, Sir Oliver Lodge, D Sc., F R S, who directed attention to the rapid growth and development of the university, and in well chosen words alluded to the great services rendered by the Chancellor, which he described as the main factor in the progress which had been made. The statement that the university was thriving and showed every sign of vigorous health and the allusion to the formation of a representative council inaugurated by the students were received with acclamation Considerable interest was taken in the principal's remarks on the formation of the Faculty of Commerce the first dean of which is Professor Ashley The relative importance of this new departure in the teaching of the university will have to be decided by experience The Birmingham City Council has materially aided this portion of the scheme, the halfpenny rate yielding some £5000 a year to the university, while foundation scholarships should give a good start to such an important change in educational methods The bestowal of the degrees in Science and Arts and those of Doctors and Bachelors in Medicine was celebrated with enthusiasm. The school of medicine has reason to look with pride and hope upon the medical portion of the university teaching

The General Dispensary

Some important and valuable changes have been made recently in the staff of the General Dispensary, an institution conducting an extensive practice over a wide area. At a meeting of the governors held on July 21st the committee brought forward a scheme by which the scope of the consulting staff was considerably widened. Four physicians, four surgeons, two gynæcological consultants, and one ophthalmic consultant are recommended for appointment instead of the former plan of one consulting physician and one consulting surgeon The new officers are to receive fees for their services, in place of an honorarium annually given to the former staff of two officers It is considered that the alteration will bring the institution into closer touch with the hospitals of the city, and will enable the resident surgeons to select a consultant known to be an expert in the particular department of medicine or surgery covering the case in hand. If carried at the annual general meeting in February next the scheme will come into operation

Heavy Sentences for Illegal Practices

At the Birmingham assizes a druggist was charged with illegal practices in procuring abortion in a case which nearly terminated fatally It was shown in evidence that for a considerable length of time he had been in the habit of using instruments and administering noxious drugs to women who applied to him for assistance. A sentence of seven years' penal servitude was passed. This should certainly serve as a preventive of such practices which are common in large centres and which often result in disastrous effects to health. A remarkable case of the same kind where the offender was a druggist was tried at the Staffordshire assizes held this term The prisoner had been convicted 20 years previously of a similar offence which resulted in the death of a girl, for which he was sentenced to be hanged The sentence was commuted to penal servitude for life On being let out of prison he committed another similar crime He has just been sentenced to penal servitude for life again, and as his age is 74 years he will probably have no further chance to pursue the evil bent of an ill balanced mind

July 29th

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

The Meeting of the British Medical Association.

THE meeting of the British Medical Association promises to be very successful so far as numbers go, and the Manchester medical men, who have a good character for hospitality, are doing all they can to make the gathering agreeable Breakfasts, luncheons, garden parties, and receptions will keep the members of the Association industriously occupied while the intellectual food provided is abundant and suited for all degrees of mental digestion So far as a brief visit to the Owens College can indicate the arrangements are very complete and well organised, but upon this point and all others connected with the meeting your various special correspondents will no doubt inform you The weather is somewhat unsettled, but there is a fervent hope that it will redeem Manchester from its popular character not always deserved, of being a wet place

The Manchester Infirmary

The *City News*, a weekly local paper, in its issue of Saturday last begins an article as follows "After a quarter of a century of considering and re considering the important question of the rebuilding of the Manchester Royal Infirmary is just where it was at the beginning" This is the result of the rejection of the scheme put forward by the infirmary board at the meeting of the trustees held on July 21st The majority against the scheme was about three to one, but a poll of the whole of the trustees is to be taken by voting papers which were issued on July 26th and must be returned by

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[1] THE LANCET July 26th 1902, p 234

August 2nd when the question of rebuilding on the present site will be decided one way or the other But the more the plans are considered the worse seems the case for rebuilding No fault is to be found with the architects who have shown considerable ingenuity in attempting an impossible task. The plans show lofty five- or six storeyed buildings with far too little space between them, so that they would darken each other leaving most gloomy and insufficient intervals. The open space round the present building is encroached upon appreciably, while part of the area almost inclosed by buildings is counted as open space although pretty well hidden and the air in it well boxed up. All this would bear fruit in the future in the unwholesome condition of many of the wards There was a strong feeling at the meeting in favour of the Stanley grove site, which 'is a quiet place, close to Whitworth Park, well removed from the thoroughfare and may be had for the asking' Although the Convalescent Hospital at Cheadle relieves the infirmary when the patients are fit for removal it is a great disadvantage that practically they are debarred at Piccadilly from ever sitting out of doors as some of them might do while at Stanley grove this would be quite possible and it would be in fresher air One member of the staff, in his earnest advocacy of retention of the infirmary on the present site, stated that Stanley grove was the foggiest place in Manchester but that statement may safely be taken as rhetoric. No doubt Manchester and indeed the district round is more subject to fogs in winter than is desirable, but they are as a rule quite as bad in the centre as in the suburbs and distinctly more pungent. But it ought not to be necessary to argue that air comparatively pure is better than the smoke laden dust-laden air of Piccadilly If the scheme for rebuilding is carried the limits of the institution will be fixed irrevocably No further extension can be made as the needs of the city grow, for grow they will while it would be quite possible on the larger site In to-day s papers a strong appeal is issued against the rebuilding scheme and in favour of the Stanley grove site, ' so generously offered by the Whitworth legatees if a better and cheaper site is not available, signed by Earl Egerton of Tatton, Mr R. D Darbyshire His Honour Judge Parry Sir Bosden T Leach Sir Anthony Marshall both ex Lord Mayors of Manchester and 12 leading firms of Manchester We can scarcely expect a better and certainly not a cheaper site than Stanley grove. The war of sites seemed to be almost over but perhaps it is only beginning

Hospital Sunday and Saturday Fund

It has been decided by the General Committee of the Manchester and Salford Sunday and Saturday Hospital Fund to distribute £7300 out of this year s collections among the 20 participating charities. The Royal Infirmary as the largest, receives £1301 and the Children s Hospital £919 The remainder is apportioned according to the provision made for the sick. Two homœopathic institutions receive £40 between them.

Accommodation for Lunatics

The asylum difficulty which is not a new one, came up again at the meeting of the Manchester board of guardians on July 23rd. In a letter to the Crumpsall Workhouse Committee Dr L. R. Lempriere, the assistant medical officer called attention to seven cases of lunatics in the wards which had been certified and ordered by justices for removal to an asylum, but on application being made at the asylums to receive them the answer was that there was no room. The chairman said it was thought that when the Winwick Asylum was opened *their troubles* with dangerous lunatics would be at an end. The clerk stated that another case had occurred and the patient was taken to the Prestwich Asylum but was refused admission for want of room. It appears that there are about 1200 cases at Winwick and there is room for more but they are only taken from other asylums and not from boards of guardians It was decided to send a memorial to the Asylum Board calling attention to the difficulty in which they are placed and requesting that steps should be taken to supply the deficiency It was stated that one patient who had recently died had been an inmate of the Whittingham Asylum for 65 years showing the care that was bestowed upon them and the healthiness of their surroundings." Some arrangement ought to be made to relieve the workhouses of their dangerous lunatics and to place them where they can be more safely housed

The Leech Memorial Fund Report of the Committee

The committee of this fund has presented its final report to the subscribers. The total amount received was £1305 3*s* 6*d* from 157 subscribers. The main object of the fund was to provide for the immediate endowment of the Leech Professorship of Materia Medica and Therapeutics in the Owens College and this was achieved by the payment of the sum of £1000 to the college The council of the college gratefully accepted the donation on the conditions in which it was offered and requested the treasurer to convey to the subscribers to the fund its sincere thanks for their gift. Part of the fund was expended in placing with Mr George Harcourt of London a commission to paint a portrait in oils of the late Dr Leech, also for presentation to the Owens College The artist has been successful in producing an excellent likeness and the portrait, which now hangs in the Christie Library has given general satisfaction. A large and artistic photograph of the portrait can be obtained at a cost of 4*s* by subscribers on making application to the honorary secretary of the fund Dr E M. Brockbank.

The Owens College

The address at the opening of the winter session at the Owens College will be delivered on Oct. 1st by Sir Dyce Duckworth.

July 29th

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS)

Small-pox

DURING the week ending July 26th there were notified four cases of small pox in Swansea. The tradesmen of the borough met on July 24th to consider the best means to remedy the evil that has been occasioned by the absurd and exaggerated reports of the health of Swansea. The meeting was a private one and the steps which it was decided to take have not been made known but the most useful would be to make public the fact that the inhabitants are protected by revaccination. To quote the words of Dr Wilfred W E Fletcher when he visited the town on behalf of the Local Government Board there are two kinds of scares—a scare which might do serious harm to a town is undesirable but a scare that might lead people to become so frightened of small pox that they would get revaccinated is very desirable.'

Health of Newport (Mon.).

In the annual report on the health of the county borough of Newport which has just been issued by Dr J Howard Jones the birth rate in 1901 is stated to have been 32 6 per 1000 the death rate from all causes 17 1 per 1000 and the infantile mortality rate 15 5 per 1000 births. More than 11 per cent of the deaths of infants were due to diarrhœa, a disease which of late years has been exceptionally prevalent and fatal in Newport, and in consequence of which Dr Howard-Jones has recommended the appointment of a female health visitor who should visit the homes of the poor and advice as to the feeding and care of young children Unfortunately this recommendation has not yet met with the approval of the corporation. It appears from information obtained that 75 female inspectors are already employed in 24 towns in England and Wales. During the five and a half years in which the Newport fever hospital has been in use 1207 cases of scarlet fever have occurred in the borough compared with 2280 notified during the five and a half years prior to the establishment of the hospital. In 1901 there were removed to the hospital 57 per cent. of the cases of scarlet fever 34 per cent. of those of diphtheria, and 85 per cent of those of typhoid fever The staff of three inspectors appears to be quite inadequate to the needs of a town with a population of 67 000 persons and it is not surprising to find that house-to house inspection has had to be almost entirely discontinued. In the 170 houses which were so inspected no fewer than 307 nuisances were discovered the necessity for the work is therefore apparent

Sanitary Inspectors Association

Although the Sanitary Inspectors Association of South Wales and Monmouthshire was only established in 1898 it has already accomplished a great deal of useful work. Three or four times a year the members of the association meet together in different parts of their district and discuss subjects connected with their special work They met last at Newcastle Emlyn in Carmarthenshire on July 25th and 26th, when Mr Joshua Powell, M.R.C S Eng, the medical officer of health for Llandyssul rural district gave an interesting address upon rural sanitation A paper by Mr D J Thomas, D P H, the medical officer of health of Merthyr Tydvil, was also read. Mr Thomas dealt more particularly with the difficulties attending the work of sanitary officials in Wales and especially in connexion with the precautionary measures necessary to prevent the spread of infectious disease owing to the doctrine of fatalism which was accepted by so many of the Welsh people. There is no doubt a great deal of truth in his contention, for there are few if any medical practitioners outside the large towns of the principality who when advising the separation of an infected patient from the rest of the household have not been met with the interrogation, "What is the use? if they are to have it they will have it." Ministers of religion, if they would, might do a great deal in the way of combating this doctrine and thus be of service in lessening the amount of disease in the country

A proposed Clearing House for Meat Inspection

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The sixty-third annual report of this institution which has just been issued states that at the end of May, 1902, the total number of orphans was 1659, an increase of 224 as compared with the corresponding date of 1901 The financial statement shows that the expenditure amounted to £24,463 and that a favourable balance remains

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July 28th.

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

A Memorable Graduation Day at Edinburgh University

SATURDAY July 26th, was a memorable day for the annals of the Edinburgh University It was a brilliant inspiration that led the university authorities to offer their highest honour to the galaxy of distinguished men who received the LL.D degree on Saturday Six colonial Prime Ministers and four governers added to the tale of honorary alumni is probably a unique record for any university and whoever the inspired instigator may have been he deserves the gratitude both of the university and of the city The weather was a bad sample of an ungenial season in the morning when people had to find their way to the McEwan Hall it rained with a volume of water not common in our climate Notwithstanding that, the hall was promptly filled shortly after the doors were opened and it never presented a brighter and more impressive appearance The Vice Chancellor, Sir William Muir, presided, and he was supported by the university authorities and professors and by representatives of the two Royal Colleges and of the Town Council. The Dean of the Faculty of Divinity opened the proceedings with prayer Thereafter the Dean of the Faculty of Law, Sir Ludovic Grant, presented the following for the honorary degree of Doctor of Laws — General the Right Hon Lord Grenfell, G C B, G C M G, Governor and Commander in Chief Malta, the Right Hon. Sir Joseph West Ridgeway, G C M G, K.C B, K.C S.I, Governor of Ceylon, the Right Hon Sir Wilfrid Laurier, G C M G, Prime Minister of the Dominion of Canada, the Right Hon Sir Edmund Barton, K.C, G C M G, Prime Minister of the Commonwealth of Australia, the Right Hon. Richard John Seddon, Prime Minister of New Zealand, Lieutenant-Colonel the Right Hon Sir Albert Henry Hime, R.E, K.C M.G, Prime Minister of Natal, the Right Hon Sir Robert Bond, K.C M G, Prime Minister of Newfound land, Sir Walter Joseph Sendall, G C M G, lately Governor of British Guiana, Sir William McGregor, M D, K.C M G, C B, Governor of Lagos, and the Right Hon Sir John Gordon Sprigg, K.C M G, Prime Minister of Cape Colony (*in absentiâ*) Sir Ludovic Grant is a master of the particular art required for such a ceremonial and he never acquitted himself more admirably than on this occasion Each one of this distinguished group of men as he was presented received a flattering ovation from the crowded hall After signing the roll book of honorary graduates each was led to a chair in front of the platform where he was face to face with the occupants of the hall and was in a position to see the stately proportions and rich adornment of the hall to great advantage The ceremonial and the spectacle could not fail to make an indelible impression upon the men who guide the empire across the seas, and no one present in the hall is likely to forget it. While the granting of the honorary degrees was of exceptional interest on this particular occasion, the occasion was also the main one for the conferring of medical degrees. The number of men taking the doctorate in medicine was unprecedentedly large, there being 67, while 150 students took the Bachelor degree Five gold medals were awarded for theses, and of the five students who graduated with first-class honours two were women. After the graduation ceremonial the colonial premiers and governors were entertained to luncheon at the Students' Union In the afternoon the premiers had the freedom of the city conferred upon them and in the evening they were entertained at a banquet. At the close of the graduation ceremonial in the morning Professor E A. Schäfer, F R.S, addressed the graduates, dealing with the advantages of the medical profession, the changes in medical problems within recent years, and the altered methods of attacking disease He then proceeded to point out the need that Edinburgh had for a chair of chemical physiology the holder of the chair to be a chemist in the first place.

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The Carnegie trustees have published a letter which they have sent to the secretaries of the University Courts of the four Scottish universities dealing with the allotment of the money at their disposal for the four universities. The letter embodying the plan adopted by the trustees is too long to deal with in detail here but it may be said that the general plan is characterised by great ability and a statesmanlike grasp and treatment of a problem which to many minds appeared extremely intricate The trustees retain complete control of the £50 000 per annum, which is the sum available The sums allocated to the universities are as follows Glasgow gets for five years £8000 for buildings and permanent equipment, £2000 for teaching but £1500 of this are annually set aside for an endowment fund for a specified chair, and £1000 for the library This makes a total grant of £11,000 per annum and so of £55 000 in five years Aberdeen gets £45,000 on the same lines St Andrews £42 000, and Edinburgh £57,500 As regards Edinburgh, £8000 a year are allowed for buildings and permanent equipment, and under this head are included (1) natural philosophy and engineering (2) strong room and alterations in library (3) apparatus (4) pathological bacteriology and (5) catalogue of anatomical museum, £2500 a year are given for teaching and it is indicated that this sum is for the endowment of modern languages or some other purpose approved by the committee, and £1000 are allocated annually to the library By the allotment of £2500 per annum for teaching on the lines indicated by the trustees a professorship or lectureship can be at once instituted with £500 a year for its maintenance for five years, while at the end of that period there will be an endowment of £10 000 with accumulations of interest. At the end of the period of five years the trustees keep themselves free to rearrange the allotment of their funds as they think fit. The above disposes of £200 000 in five years which leaves £10 000 still in the hands of the trustees and they indicate that this sum will to a considerable extent be devoted to the aid of post graduate research and to the foundation of scholarships designed to stimulate original work in special directions It is needless to dwell upon the enormous boon that these arrangements afford to the Scottish universities I have no means of knowing if the universities like being supervised in this way by an outside body even though they be Carnegie trustees but so far as I have been able to gather the scheme has appealed to persons outside the university for its breadth and powers, and it may be that the university authorities are thankful to have such an outside tribunal to determine which amongst conflicting claims is the most urgent. The trustees are certainly to be congratulated on the remarkable skill shown in this scheme

July 29th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

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THE Senate of the Royal University met on July 24th when a motion expressive of sympathy and congratulation was unanimously adopted and forwarded to His Majesty the King The following were appointed as extra examiners for the autumn examinations 1902 —In surgery Mr Charles Stonham C M.G in midwifery Dr Henry Jellett, in pathology Dr Ale ander C. O Sullivan and in ophthalmology Dr William G Sym On the motion of Dr Cox seconded by Dr W A. McKeown Sir Christopher Nixon was unanimously reappointed representative of the University on the General Medical Council for the ensuing five years

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An epidemic of typhus fever prevails at present at Clifden on the west coast of Galway Trained nurses were summoned from Dublin and of those sent down from the Mater Misericordiæ Hospital two were attacked by the disease One of them Miss Tyrrell was invalided and sent back only however to die as the result of the conscientious discharge of her dangerous duties The other nurse who was infected is now happily convalescent It is interesting to note that there is at present no typhus fever along that part of the west coast which includes Burton Port and the Arran Islands Mr Henry E. Earnley L.R.C P & S Irel, came from Manchester some months ago to undertake the position of local medical officer in succession to the late Mr William Smyth and is there now doing courageously the work which proved fatal to the heroic Mr Smyth whose name is familiar to all readers of THE LANCET He reports that there is no fever there at present, and that it does not usually appear until later in the year when the harvesters come from Scotland He remarks that a sick call to one of the islands generally means two hours on the sea. He does not, however complain but seems rather to prefer his life in that wild and desolate region with all its dangers from typhus fever shipwreck, and exposure to the daily drudgery of a general practitioner working in the streets of a great city

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THE Centenary of Bichat was celebrated on July 22nd, under the auspices of the French Society of the History of Medicine. The programme gone through was as follows At 10 A M the members paid a visit to the tomb of Bichat in Père Lachaise where Professor Blanchard delivered an address. At 4 P M a meeting was held at 14 Rue de la Chanoinesse, the house where Bichat lived and died and to which a commemorative plaque has been fixed At 5 P M a meeting was held at the Faculty of Medicine where Professor Tillaux gave an address and Dr Albert Prieur delivered an eulogium of Bichat. Finally a marble plaque was affixed to the walls of the Hôtel Dieu on which was inscribed the text of the testimony to the memory of Bichat which Bonaparte wrote with his own hand A medal bearing the effigy of Bichat has been struck in memory of the centenary and every subscriber has received one. Two descendants of Bichat are alive at the present day—namely a grandson and a great niece.

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A Paris physician Dr Ordenstein a German by birth has just been mysteriously assassinated. He was travelling in a first-class carriage to Versailles and when close to Becon les-Bruyères he was stabbed several times with a knife by a young man employed in the Post Office, by name Chalmnoix who refused any explanation of his conduct but said that he had been poisoned Dr Ordenstein was taken to the Beaujon Hospital in a dying condition and he expired on the following day He had a severe abdominal wound Dr Ordenstein was about 60 years of age He had lived in Paris for more than 20 years and was a bachelor His medical studies had been carried on in Paris and he wrote his thesis on paralysis agitans and disseminated sclerosis the materials for which had been collected at the Salpêtrière under Charcot.

The Chair of Anatomy at the Faculty of Medicine

The Council of the Faculty of Medicine devoted the whole of its last meeting to the question of the chair of Anatomy A proposal was made that the professor of anatomy should be precluded from also holding an appointment as hospital surgeon in which case the duties of demonstrator (*chef des travaux anatomiques*) and professor could have been combined in the same individual who would thereby have had an income of about £1000 a year This proposal however was rejected and it was decided (1) that no additional conditions should be imposed on the professor of anatomy and (2) that the demonstrator should not in future be chosen by competition but should be nominated by the council of the Faculty who would select him from among the *agrégés* When the period of service of Dr Rieffel the present demonstrator expires by lapse of time the appointment of demonstrator will be annual and renewable. One result of this will be that the professor of anatomy will be supreme in that department whereas previously the demonstrator had undivided authority at the École Pratique

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Mention has recently been made in these columns[1] of the scandals which have arisen in connexion with the competitions for nomination as hospital physician or surgeon The commission appointed by the Hospitals Medical Society to consider the modifications required in these competitions, conformably with the resolutions agreed to at the meeting held on June 18th, has now presented its preliminary recommendations The chief objects which the commission had in view were to guarantee that the competitions would be impartial, to reduce their inordinate length, and to lighten the task both of the candidates and of the examiners. Some of the questions proposed for its consideration appeared to present so many difficulties that the commission preferred to reserve its opinion until further experience should have been gained The commission recommends in the first place that the examinations for nomination as hospital physician or surgeon should be divided into two competitions—namely, a preliminary stage (*concours d'admissibilite*) and a final stage (*concours d'admission*) It is further recommended that the present method of voting should be abandoned and that the jury should give its votes at the end of each sitting and after discussion of the results of the examinations and that the decisions should be made known as soon as they are arrived at. The *concours d admissibilité* would be decided by a jury of 10 It would commence with a written examination in pathological anatomy and in symptomatology or semeiology, these two subjects being dealt with quite separately, each as a paper by itself For the reading of these two papers the jury would be divided into two sections of five each, determined by drawing lots, one section to decide as regards pathological anatomy and the other as regards symptomatology The maximum number of marks of each subject would be 15 After this first examination the number of candidates would be reduced to 30 at most, who would then proceed to the clinical examination of a patient, 15 minutes being allowed for the actual examination, five minutes for consideration, and 15 minutes for the candidates to state their opinions orally to the jury The maximum number of marks here would be 20 After this second examination the number of candidates would be reduced to 20, who would then proceed to deliver a discourse (*leçon orale*) on a question in pathology, either internal or general, 20 minutes being allowed for preliminary consideration of the discourse and the same length of time for its delivery The maximum number of marks here would be 20 This examination, as well as the previous one, would be adjudicated on by the whole of the jury After this examination 12 candidates would be declared "admissible" The final competition will be the *concours d'admission* As only three candidates can be placed by a competition, there will be two competitions for the nomination of six hospital physicians or surgeons. A jury of nine members will be formed, none of whom must have either taken part in the *concours d'admissibilité* or drawn lots rendering them eligible to take part in it The *concours d'admission* will consist of two parts (1) a written opinion on a case, a quarter of an hour being allowed for the examination of the patient and three-quarters of an hour for the writing of the opinion, with a maximum of 20 marks attainable, and (2) a clinical lecture on a patient, half an hour being allowed for the examination of the patient and the consideration of the case the interview with the patient not to exceed 20 minutes, and a maximum of 30 marks being attainable.

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[1] THE LANCET May 31st (p [illegible]) and July 5th (p [illegible]) 1902.

July 29th

NEW YORK

(FROM OUR OWN CORRESPONDENT)

Transportation of Mosquitoes by Vessels

DR. SOUCHON, President of the Louisiana State Board of Health, in view of the fact that the presence or absence of mosquitoes on board of vessels may be considered as a basis for quarantine regulations, caused observations to be made by the marine medical inspectors whom the board of health of that State places aboard of vessels coming from the fruit ports of Central America carrying passengers or trading with infected ports or with such as are specially dangerous Six of the inspectors found no mosquitoes aboard but two of these considered that rough weather was the probable cause of the absence of the insect. Four inspectors reported mosquitoes throughout the entire voyage from Limon, occupying five and a half days. The final inspection ha to be made just before the vessel enters the Mississippi river quarantine station, for mosquitoes always invade ships at this point.

Uniform of the Medical Department of the United States Army

According to the *New York Medical Record* a change is shortly to be made with regard to the insignia of the United States Army Medical Department and hospital corps Instead of a cross a caduceus is to be worn The board of officers which is now engaged in revising the uniform of the army also proposes to change the distinctive colour of the medical department from green to magenta. This is in conformance with the custom of most countries, for dark red, magenta, or maroon is the distinctive colour not only of the medical department of the United States navy but also of those of 13 of the most important armies of the world, including those of England, France, Germany, Austria, and Russia.

Army Nurses

The army corps of nurses was established by a Bill passed by Congress in February, 1901, and the War Department has issued orders relative to the duties, pay, status, and quarters of the corps Army nurses are to be assigned to duty at military hospitals, and at hospitals where more than one nurse is serving one of the nurses will be assigned to duty as chief The tour of duty outside the United States will generally be at least two years Nurses are appointed for three years and must be graduates of a hospital training school and pass satisfactory professional, moral, mental, and physical examinations Application for service is made to the surgeon general, and after appointment the nurse is expected to serve at least three months in the United States, during which term she will receive special instruction in army nursing A nurse who has served faithfully and satisfactorily for at least six months and received an honourable discharge will be placed on the reserve list. A nurse will be dropped from the reserve list upon reaching the age of 45 years, or if she ceases for five years to practise her profession, or if she becomes permanently incapacitated owing to illness or other good or sufficient reasons

Immigration and Disease

Immigration to the United States at the present time presents many serious problems The type of immigrant has completely changed within the past 30 years and the incoming passenger steamers are crowded now with the inhabitants of Southern Europe, of the Orient, and of Russia. A great number of these people are undesirable in many ways, not the least so from the standpoint of health. According to Mr T V Powderley, Commissioner General of Immigration, persons afflicted with favus and trachoma are numerous To prevent the incoming of such individuals regulations, of which the following forms part, were framed by Mr Powderley and approved by the Secretary of State "In view of the prevalence among arriving immigrants of favus, a loathsome contagious disease, you are hereby instructed to make a careful examination in order to insure the detection of all such cases and their immediate return to the country whence they came, if possible by the steamship upon which they arrive, otherwise as soon as practicable by a steamship of the same line at the expense of said line If the certificate of the examining physician in this country indicates that the disease existed at the time of alien's embarkation, or that symptoms had developed at that time which the transportation company's physician might with reasonable care have detected, steps should be taken for the prosecution of such company, as provided by Section 6 of the Act of March 3rd, 1891"

Contagious Disease Hospitals in New York City

The conditions of the hospital accommodation in New York city for those suffering from contagious diseases are notoriously bad and have been made recently the object of much vituperation on the part of the lay press The first step in the direction of improvement was made a short time ago when a sum of $37,000 (£7400) was set aside by the board of estimate and apportionment for the specified purpose ' of the care and maintenance of patients suffering from contagious diseases" Of course such an amount as the above is miserably inadequate and will be employed to patch up the old buildings which are used as small pox hospitals on North Brother Island. There is pressing need in New York of better isolation hospitals for contagious cases

July 19th.

THE BRITISH MEDICAL ASSOCIATION

MEETING AT MANCHESTER.

THE meeting of the British Medical Association at Manchester this year marks its seventieth anniversary and it is the fourth occasion on which the Association has assembled in that city Its first meeting was as long ago as 1835 before the Association was known by its present name the second was in 1854, the third in 1877 when slightly under 1000 members were present

The critics who not infrequently assert that the annual meetings of the Association have lost their scientific value and have developed into gatherings of the picnic order will this year at least acquit the executive of choosing a meeting place the attractions of which are calculated to draw members away from the serious business of the occasion for a more unlovely place than Manchester for anything of a picnic character it would be difficult to choose.

Tradition has it that it always rains in Cottonopolis certainly it is always dirty and tradition is not belying the character of the city on the present occasion, as the weather is very unsettled and showers of rain are frequent. The noise occasioned by street traffic in Manchester is continuous and distressing There is no such thing as smooth roadways in the city no asphalte or wood blocks, while rubber tyred vehicles are an exception. Moreover the setts are badly laid, quite big gaps occurring here and there. The consequence is a continuous clatter which defies description and creates considerable distraction and confusion At no time is this infliction on the ear to any extent abated. It is as the noise of a car rattling o'er the stony street,' in Byron's Waterloo only multiplied ten thousand times.

On Monday evening Mr Walter Whitehead entertained at dinner the presidents of sections, local secretaries, the members of the council, vice-presidents and various other guests Among the latter were the Dean of Manchester the Rev Mr Brown of the Roman Catholic Church of the Holy Name the Lord Mayor of Manchester the Mayor of Salford the Hon. G Rockwood, member of council (Colombo) and Dr H P Cholmeley (representing THE LANCET) The dinner was held at the Albion Hotel. Dr Rockwood who is a pure Tamil graduated in medicine in Madras in 1872 and 12 years later became M R.C S. Eng M.R.C P Lond He is consulting surgeon to the General Hospital at Colombo, with which institution he has been connected for a quarter of a century and was appointed in 1898 to be an unofficial member of the Legislative Council of Ceylon. The toasts were The King and the Queen " proposed by Mr Walter Whitehead (President elect) The President-elect, by the Lord Mayor of Manchester The Lord Mayor of Manchester by the President-elect and The Mayor of Salford by the Dean of Manchester

A striking work commemorative of the meeting of 1902 has been written by Dr William Stirling and produced at the joint expense of himself and Mr Whitehead. The work has been privately printed and issued at the Owens College Laboratory of Histology It is entitled Some Apostles of Physiology" and consists of short biographical notices of leaders in physiology from Vesalius to Huxley The work is most sumptuously illustrated with reproductions of cuts from the works of the various masters in physiology and with photogravure reproductions of portraits of themselves We hope in a future issue to give an extended review of this book, which is worthy in every way of the great men commemorated therein, of the distinguished physiologist who has written it, and of the able surgeon with whose presidency of the British Medical Association its issue coincides

As at Edinburgh and at Cheltenham all the sections this year are housed under one roof—namely in the Owens College The reception room and the various executive offices are also in the same group of buildings. The advantages of this arrangement are obvious, but of course, only towns having a large educational establishment possess the necessary accommodation for thus housing a scientific meeting

The annual service in the Cathedral on Tuesday morning suffered in point of attendance in consequence of a heavy fall of rain just prior to the time appointed for the commencement of the service. The musical portion of the Office was well rendered by the Cathedral choir and Bishop Thornton, vicar of Blackburn preached an eloquent sermon on the text, Neither shall there be any more pain for the former things are passed away " (Rev xxi. 4). The alms were, as usual, divided between Epsom College and the British Medical Benevolent Fund. There was also a service for Roman Catholic members of the Association at the Church of the Holy Name, High Mass being celebrated by the Rev Mr Brown and a sermon preached by the Rev Mr Coupe, S J

The annual exhibit of drugs surgical and sanitary appliances, and special foods was held in the drill hall in Burlington-street, a somewhat squalid neighbourhood within five minutes walk of the Owens College. Most of the stalls were ready for the opening ceremony which was held on Monday evening at 7 30 the Lord Mayor of Manchester declaring the exhibit open in a few brief sentences having first been introduced by Dr S. Woodcock the chairman of the Exhibits Sub-committee A programme of music was provided by the Euterpean Orchestra.

The exhibits were thoroughly representative of all that pertains to the healing art, features this year being a sanitary section and a motor car section As special space was allotted to this class of exhibit ample room remained for pharmacological exhibits, sanitary appliances, and special foods. The drill hall did not, however afford the same facility for making the general presentation of the stalls artistic as did the Winter Garden at Cheltenham last year Like most drill halls the building is strictly rectangular and the passages between the stalls served to cut the space into squares Nevertheless the stalls for the most part were attractively arranged and very general interest was taken in the exhibits by the visitors and the attendance was good despite the wet weather and the remoteness of the drill hall from the neighbourhood of the leading hotels

The buildings in Manchester give striking evidences on all sides of the continuous bombardment of the smoke-laden air Columns of brick and stone seem as though they had been held in a smoky flame. The sooty deposit appears to be quite thick in places. Where so much steam power is in request as in an extremely busy manufacturing centre like Manchester this befoulment by smoke is looked upon as inevitable. But why cannot Manchester prevent smoke as Nottingham has done? Perhaps however cotton goods are not so easily spoilt by smoke as is lace otherwise it may reasonably be supposed that the manufacturers in Manchester would soon find a remedy

As is well known Manchester has attacked many sanitary problems courageously and with success notably the supply of pure water to the city and the disposal of sewage Is the smoke question less in importance than these? It is doubtful.

The water supply is derived from Lake Thirlmere in Cumberland, and is, of course, remarkably soft—a fact readily noticed by the visitor who is accustomed to hard water On account of immense industrial waste the sewage problem in Manchester has been very difficult to deal with At a quite recent meeting, however, of the Mersey and Irwell Joint Committee it was reported that where land was available perfectly trustworthy results with tanks and filters were obtained so long as the land, tanks, and filters were not overdosed and their bacterial purifying agencies choked Special steps are also taken to utilise refuse other than sewage with decidedly satisfactory results

The first general meeting was held on Tuesday afternoon at 2 P M in the Whitworth Hall, Owens College, and was adjourned until the evening when Mr Whitehead delivered the interesting presidential address which will be found in our columns.

The address in Medicine, which we also publish this week, was delivered to the assembled Association in the Whitworth Hall by Sir Thomas Barlow on Wednesday evening Previously to the delivery of the address the President read a telegram from His Majesty the King expressing his thanks for the message of congratulation which had been sent by the Association on the preceding day

At this meeting Mr Andrew Clark, treasurer of the Association, stated that the meeting of 1903 would be held at Swansea and that Dr T D Griffiths would be the President Dr Griffiths expressed his thanks and then Dr Roberts Thomson, chairman of the Council of the Association, announced that the council had accepted with great regret the resignation of Mr Francis Fowke, the general secretary, who was unanimously elected an honorary member of the Association.

The news of the resignation of Mr Francis Fowke, the general secretary of the Association for the past 31 years, will be received by all members of the medical profession with feelings of concern Mr Fowke's period of office covers stormy times in the history of the Association, for which he has zealously laboured, and he will convey with him on his retirement the hearty good wishes of his very many friends For ourselves, we congratulate him on his well earned rest and assure him of our sympathy in the severance of ties of so long standing We also take the opportunity of thanking him for the courtesy invariably extended by him to our representatives on so many occasions

Mr George Brown, one of the Direct Representatives for England and Wales on the General Medical Council, desires us to state that the death of a near relative prevented him from taking part in the discussions in the Ethical Section of the Manchester meeting of the British Medical Association.

THE GENERAL MEETINGS

THE FIRST GENERAL MEETING

The First General Meeting of the Association was held in the Whitworth Hall, Owens College, at 2 P M, on July 29th There was a fair attendance of members.

The minutes of the last annual meeting were, on the ion of Dr G B **FERGUSON**, the retiring President, con ed and adopted. Dr Ferguson then, after a short well speech, vacated the chair in favour of his successor, Mr Walter Whitehead, F R C S Edin, consulting surgeon to the Manchester Royal Infirmary

Mr **WHITEHEAD**, after thanking the Association for electing him, gave notice that he would move that a telegram should be sent to His Majesty King Edward VII congratulating him on his recovery This motion being duly adopted the Presidential badge was presented to Mr Whitehead by Mr J W Smith on behalf of the Executive Committee

Dr R **THOMSON** then proposed, and Dr **HENRY BARNES** seconded, a vote of thanks to the retiring President. This was carried unanimously and Dr **FERGUSON** then replied in a few well chosen words

The **TREASURER** (Mr Andrew Clark) then proposed —

> That the financial statement for the year ending Dec. 31st 1901, together with the estimate for revenue and expenditure for 1903, be received and adopted

This was duly seconded and then Dr J **BRASSEY BRIERLEY** spoke a few words of warning He contended that the estimated increase due to an increased subscription—namely, £7200—would not be attained because many subscriptions would be dropped. Mr **ANDREW CLARK** replied and the motion was carried.

The next business was the vote of thanks to Mr Andrew Clark whose term of office had come to an end. This was carried unanimously The auditors, Messrs Price, Waterhouse, and Co, were then appointed in accordance with the statute and the meeting passed to the election of a new treasurer

Mr **GEORGE EASTES** proposed for this office Dr Edward Markham Skerritt of Clifton

This was seconded by Mr **JOSEPH COLLIER**, and on the motion being put to the meeting Dr Skerritt was unanimously elected.

The meeting then adjourned.

THE (ADJOURNED) FIRST GENERAL MEETING

The adjourned first general meeting assembled in Whitworth Hall at 8 30 P M, and was reinforced by a large number of ladies who came to assist at the conversazione which was to follow Indeed, the great hall was quite filled and the academic robes rivalled in their startling scarlet the brilliancy of the ladies' evening dresses After an organ *recital by Dr Kendrick Pyne, organist of the Cathedral*, the **LORD MAYOR** opened the proceedings with a few appropriate words of welcome He insisted that the people of Manchester fully recognised how much they owed to the medical profession and moved a vote of thanks to those who had come from all parts and some from great distances to take part in the proceedings This proposal was carried by acclamation Mr W Coates, honorary secretary to the Executive Committee, then introduced the colonial visitors and delegates. He read out a long list of names, and those who were present responded to their names by mounting the platform where they were received each with a round of applause. The first name was that of Professor Baginsky (Berlin), then followed Professor von Noorden (Frankfurt), Professor Musser (Baltimore), Dr Jules Comby (Paris), Professor Onodi (Budapest), Dr Widmark (Stockholm), Professor Oscar Liebreich (Berlin), Dr L Grünwald (Munich), Dr T Röhrer (Zürich), Professor G Killian (Freiburg-in-Baden), Dr the Hon W G Rockwood (Ceylon), Dr J Hyslop, D S O (Pietermaritzburg), Mr H. H McWilliams (West Australia), Mr James Grant (Ottowa), and others.

Mr **WALTER WHITEHEAD** then delivered his Presidential Address, which we publish in full on p 261.

At the conclusion of the address a vote of thanks to the President was moved by Mr **THOMAS BRYANT** and carried by acclamation.

As the sections broke up early on Wednesday afternoon members were surprised to find a notice posted up stating that the general meetings announced for Wednesday, Thursday and Friday would not take place. The reason given was that all the business had been concluded. This, however, only removes the question a stage further back, for it is natural to inquire why there was so little business The explanation will be found in the new constitution which is now in force and which stipulates that the meeting of delegates must precede the general meetings. It was, however, impossible to organise the election of delegates in time for the present annual meeting, so there had been *no* delegate meeting to prepare questions for the general meeting to decide, and hence according to the new rules there could be no further business to transact

THE SECTIONS

MEDICINE.

WEDNESDAY JULY 30TH

Dilatation of the Stomach.

Professor CLIFFORD ALLBUTT (Cambridge) opened a discussion on the *Causes* Diagnosis, and *Principles of* Treatment of Dilatation of the Stomach He commenced by offering on behalf of the section a tribute to the memory of *Professor Kussmaul, who died full of years* and honours on May 28th 1902, and to whose clinical studies from 1865 onwards on dilatation of the stomach he himself and the *profession* at large *were deeply indebted.* In entering upon the subject of the day he proposed that the discussion should run chiefly upon the atonic or non obstructive dilatations of the stomach, as the *obstructive* dilatations were, comparatively speaking well understood. Atony and atonic dilatation had not received the attention they deserved, atonic dilatation, *indeed, being neglected* by some physicians and by a few even denied. Dealing with the *causes* he was disposed to attribute acute dilatation of the stomach to *compression of* the *gut by* the distended viscus itself about the junction of the duodenum and jejunum. ‘ The stomach," he said, is supported more firmly at the *cardiac* than at *the pyloric end* , and in any case its mean position is more vertical than is generally supposed, especially when empty In estimating atonic dilatation, especially in its *lesser degrees* the area of the cardiac moiety is therefore to be carefully observed The stomach may drop as a whole into the mid-abdomen or hypogastrium and this *independently of more general* enteroptosis. Gastroptosis is not necessarily attended with dilatation. In this case the stomach assumes a wallet shape, the cardiac and pyloric orifices *approaching each other* or if the pyloric end slip more than the cardiac the position of the organ is more vertical and to the left. In this latter case the more muscular pyloric moiety *is apt to become dilated* by the gravitation of retained contents. The relation of gastritis to dilatation of the stomach is little understood. It would seem that excess of hydrochloric acid *is not necessarily* or perhaps usually in its earlier stages a consequence of gastritis it may rather be the cause of it. During life the presence or extent of gastritis is often assumed on *very slender* grounds and even our post-mortem knowledge of it leaves much to be desired. Relaxation of the stomach due primarily to muscular failure, and therefore appearing first in the pouch and fundus, may depend upon toxic causes or mere atony Such gastric distension, advancing to dilatation, not uncommonly retards convalescence from such diseases as typhoid fever and rheumatic fever When the condition follows slow digestion with fermentation anæmia, or mere inanition the muscular failure is primary That spasm of the pylorus may cause dilatation of the stomach, as, for example, in ulcer hyperchlorhydria or lumpy contents of the stomach, seems not improbable. Such morbid action is consistent with what we know of other sphincters but atonic dilatations rarely seem big enough to be due to a permanent spasmodic contraction of the pylorus, nor is the muscular coat, as we should expect, hypertrophied. In atonic dilatation peristalsis does not become visible That the nervous system may be concerned in paresis of the stomach seems likely enough from cases which have been observed. Not only may continuously depressing causes act in this way but sudden and grave mental shock may be quickly followed by considerable atonic dilatation of the organ. Alcohol may act directly as a poison to the muscular fibre or indirectly by extension of inflammation outwards, and thus be a cause of dilatation. Atonic dilatation of the stomach is no rare consequence of exhaustion by excessive *athletic* exertion *or* mental stress, especially in young people of delicate constitution Dilatation of the stomach is far from being rare in little children and infants in *whom it often comes on acutely* , but if the condition be understood it is readily relieved by an emetic or the tube The *symptoms* of atonic dilatation, to an observer not forewarned, are often indefinite if not *misleading* There may be little or no loss of appetite or dyspepsia in an early stage of the disorder food often relieves a sense of sinking Vertigo sleeplessness heaviness lassitude and fatigue and mental depression may divert attention to the nervous *system. Flatulence, indeed, is rarely absent, but the* tongue may be clean, vomiting slight or absent, the bowels constipated or the stools occasionally lienteric. The *heart is apt to flutter or to intermit and the abdominal* aorta to throb. In extremer cases the pulse falls in volume and pressure the hands become chilly the nails *livid and the face thin drawn, and sallow* By physical signs we may determine the size and position of the stomach. In thin persons gastroptosis is not difficult to *ascertain (in well nourished persons it never seems to occur)* and it is for the most part curable by rest, massage and better nutrition. When as is usual the dilated stomach *occupies (approximately) its normal position detection of the* disorder by physical signs will generally speaking be easy Under ordinary circumstances peristalsis is never visible as *in obstructive dilatation and the signs of distension are* chiefly notable to the left of the middle line and under the lower ribs the ballooned stomach is apt to push up the *diaphragm and to encroach upon the thorax.* The area of resonance may rise to the fifth or fourth rib and may extend to the posterior axillary line. Such a stomach often accompanies *diseases of the heart and plays a large part in the* patient's distress Physical examination must be made at various periods of digestion and when the stomach ought to be empty *In health the stomach after a meal should contract* upon its contents, when an area of dulness rather than of resonance will become apparent. Even in acute indigestion *there is a considerable grip of these contents*, a grip often attended with stomach ache, but in atony with or without static dilatation an area of resonance at the cardiac end will be *found almost immediately after a meal* even four or five hours after a meal the vault remains high and, behaving capriciously under gaseous influences, at no *time does it contract in any regular periods. Thus the* pyloric moiety, in its turn unable to withstand the gravitation of its contents increases from its comparatively small trans*verse diameter until the stomach as a whole may assume a* uniform thick sausage shape, the upper outline of which may include the nipple and the lower the navel. Strangulation *by sharp flexure of the pyloro-duodenal portion may occur in* particular cases but such cases are not so common as we suppose. Dropped kidney is often rather in association with *atonic dilatation or gastroptosis than a cause of them* though Sir William Bennett and Mr Bidwell have incidentally relieved dilatation by fixation of a right kidney *Dilated colon may be mistaken for a dilated stomach and in* rare cases the error may be unavoidable but in the vast majority of instances by discriminating percussion even without intubation these two organs may be distinguished. The stomach may no doubt be wholly concealed by the colon, but ordinarily some narrow area of stomach resonance can be obtained, when a difference of percussion note either in pitch or clang can be made out. In difficult cases syphonage or insufflation may help us Von Ziemssen recommended in such cases alternate inflation of colon and stomach. The tuning fork auscultо-percussion and coin tapping in my experience, add little or nothing to what careful percussion can reveal. In a healthy stomach no "squelchy" sounds should be obtainable they are usually obtainable in atonic dilatation but rarely amount to the succussion splash of obstructive dilatation. If before breakfast squelching can be obtained after the drinking of a tumbler or two of water we have to deal with a flabby and extended stomach. The use of the tube is of cardinal importance for diagnosis if not for treatment, but among private patients in England this method is resented and makes but little way The normal fasting stomach contains at least from 20 to 30 cubic centimetres of residual fluid and may hold even 100 but quantities above 100 cubic centimetres are morbid. In the normal state this residuum should not contain any particles recognisable as remnants of food seeds, grit, or fibre in vomit or stool should be carefully noted and the date when they were swallowed ascertained The larger the residuum and the more obvious the relics of food the worse the case A considerable admixture of mucus may indicate the presence of gastritis In atonic dilatation sarcinæ and torulæ are not usually found lactic acid but rarely and in small quantity The quantity of water accepted by the stomach gives us little information individual *tolerance is very variable but in atonic dilatation the* return of it is very feeble, or perhaps is obtained only by expression or syphonage. Illumination of the stomach from *within is of* little service. From radiography we may hope for some more information Chemical tests for the delay of ingesta, such as salol or potassium iodide, may corroborate but cannot dictate a diagnosis The *treatment* of atonic dilatation must largely depend upon the causation of the individual cases, particular symptoms will often indicate the means of their own palliation Vertigo often very severe, and lassitude after meals often depend upon distension of the stomach and may be quickly relieved by careful regulation of diet and restriction of fluid at meals to the lowest quantity In sleepless cases, besides these measures, hydrotherapy expertly carried out is often the more useful as it takes the patient away from work and care into a bracing climate In heart disease, after much disappointment in the use of specific remedies, the cure or relief of an atonic dilatation of the stomach may be attended with remarkably good effects. Such patients, under the guise of a light diet, will consume quantities of farinaceous puddings, often well sugared, which disengage gases readily Thirty years ago I traced a state of anæmia and debility apt to appear in colliers and others engaged in similar work to dilatation of the stomach, a dilatation due to want of home meals and to the consumption of large quantities of liquid with heavy food rich in carbohydrates Mastication must be carefully provided for and papain I have found to be a very useful aid in digestion The abuse of corsets and belts must not be overlooked In these cases rest not only after but also before meals is of importance In some emaciated persons the full Weir Mitchell system may be necessary, especially in gastroptosis, in all a long rest and change of air are of the first importance, nor should such persons on returning to their ordinary occupations expose themselves again to excessive stresses and other causes of exhaustion "

Dr N BARDSWELL (Banchory) made a communication on the subject of Dilatation of the Stomach in Cases of Pulmonary Tuberculosis As the result of his inquiries he had arrived at three conclusions 1 In cases of early disease of from three to six months' duration the stomach was normal in size and in these cases generous ordinary diet could safely be given 2 There was a tendency for prolonged over feeding to cause dilatation, and this dilatation might exist without any symptoms of dyspepsia. In the event of a relapse, however, this condition as a probable precursor of atonic dyspepsia, would certainly be a cause of anxiety Clinical experience suggested that, other things being equal, the longer such patients were kept at absolute rest (and such treatment usually implied the existence of fever) the greater the tendency to atony and dilatation. 3 Tuberculosis cases admitted with acute extensive disease would probably be some three to six months before losing their fever and consequently would require to be at rest for that period, and would run greater risks of developing atonic dyspepsia and later dilatation of the stomach than any other type of consumptive The prolonged administration of huge ordinary diets to consumptives of this clinical type, especially after the development of symptoms characteristic of atonic dyspepsia, was, in his opinion, absolutely unnecessary and unjustifiable in view of the serious prognosis which must be given when active pulmonary tuberculosis was associated with dilatation of the stomach During the past two years he had had under care eight patients (originally of the acute type of pulmonary tuberculosis now under consideration) who had previously been some six months in sanatoriums where excessive feeding was practised. In five of these patients there was definite enlargement of the stomach, and in each case this was associated with marked anorexia, dyspepsia, vomiting of yellow fluid before breakfast, and general malaise

SIR WILLIAM BROADBENT (London) remarked that his experience confirmed that of Professor Clifford Allbutt as to the frequency of the occurrences of gastric dilatation and atony It was associated in a very large number of cases with symptoms which many would regard as simple "dyspepsia" In acute rheumatism and in pneumonia he had met with a severe degree of dilatation In women who starved themselves the condition was also often met with As to the symptoms of atonic dilatation they were, in his experience largely nervous He had seen enormous degrees of dilatation atonic in origin, confirmed at an operation which had been previously overlooked because during the day the stomach [illegible]ntied itself Among the symptoms which were not [illegible] [illegible]used anginoid pains should be mentioned Th[illegible] [illegible]gina unlike true angina, was apt to come on [illegible] rest or after meals instead of after exercise [illegible] Palpitation and vertigo also resulted from dilatation The vertigo was rather an unsteadiness or feeling of loss of balance, and very often eructation of wind relieved it. Attacks of asthma at night and nocturnal symptoms of other kinds were, in his belief, usually due to dilated stomach and were probably of mechanical origin Among the proofs of the mechanical explanation was the fact that some cases got better of these symptoms when the stomach dropped Tetany might be associated with gastric dilatation and reference was made to a case in illustration. He had found that auscultο percussion and the echo of the heart sounds, especially the second sound, afforded valuable confirmatory evidence of gastric dilatation Reference was made to a case of hæmorrhage from a dilated stomach the condition having been confirmed at subsequent operation. Turning next to the question of treatment, he had been in the habit of relying on lavage of the organ with sulphocarbolate solution This should be done last thing at night in preference to the morning, for a large proportion of the symptoms arose from decomposition within the stomach at night

Professor MUSSER (Baltimore) wished to confirm in general terms the remarks which had been made by Professor Clifford Allbutt in opening the debate. He drew a distinction between atonic dilatation of the stomach with and without ptosis Cases associated with ptosis and hyperchlorhydria were often toxic or neurotic in origin, and were met with in persons of an artistic temperament and other neurotic subjects Similar cases occurred in association with sexual defects and perversions of various kinds, with which he believed gastric atony had a direct causal relation. Among the toxic conditions tobacco, tea, and various septic conditions might be mentioned. In some cases of gastric atony there might be no symptoms at all, others presented all the symptoms of neurasthenia. As a means of diagnosis he was accustomed to rely on inflation by means of a tube, but care must be taken not to distend the stomach too much. This method, combined with percussion, he had very often found trustworthy In the treatment there were many factors—the social condition, the environment, and the work of the patient—which had to be taken into consideration, and the best results were obtainable by attacking the causes

Dr T D SAVILL (London) said that he would confine his remarks to that form of gastric dilatation (gastric atony) which arose independently of organic disease, malignant or benign The diagnosis of this condition was undoubtedly very difficult, and the modern methods to which reference had been made, though difficult of application, were undoubtedly of great value The occurrence of splashing several hours after a meal when the stomach should be empty was suggestive He had found that giving the patient a draught of effervescing mineral water was a valuable aid to percussion or auscultο-percussion, and this obviated the use of the tube to which patients so strongly objected. The condition was undoubtedly more frequent than was generally suspected. He had often found it associated with neurasthenic symptoms which remained unrelieved until the gastric atony was attacked As regards the treatment he attached considerable value to two means The first was what was known as the Salisbury diet which consisted of meat only—that is to say, nutrition in a dry, concentrated and easily digestible form, without fluid at meals There were four important principles embodied in this treatment it gave the organ comparative rest, it diminished the bulk of the food considerably, and enabled the enfeebled muscular wall to regain its tone, it introduced a principle of relativity, for it was a considerable alteration in the patient's ordinary diet, and lastly, it prevented the decomposition which was so apt to take place in farinaceous food, and the consequent absorption of a quantity of fermentative toxic substances which so damaged the patient's general health Dr Savill attached great importance to the use of the galvanic current, both to the stomach and the pneumogastric nerves With, and even without, diet he had seen very marked and valuable effects produced in this way and he referred to cases by way of illustration. Drugs did not seem to be of much use, but the administration of amylaceous ferments, such as taka diastase, was undoubtedly a useful aid to other methods

Dr HARRY CAMPBELL (London) remarked that the essential cause of dilatation of the stomach was gaseous distension He pointed out that solids and liquids could not exert a pressure greater than their own weight, but that intra gastric gaseous pressure might be much greater than this, indirectly however solids and liquids might augment gaseous pressure by diminishing the space in the stomach available for gas. Hence in treating gastric dilatation a non flatulent diet should be given, and it should be as concentrated as possible. He would not inflate the stomach for diagnostic purposes if there was any cardiac failure, but he thought that the stomach might in most cases safely be blown up by bicarbonate of soda and tartaric acid and in this connexion it was useful to remember that 53 grains of the former and 45 grains of the latter yielded at the temperature of the body one litre of the gas. Dr Campbell found simple percussion a trustworthy means in a large number of cases of determining the lower gastric border auscultatory percussion had not yielded such satisfactory results in his experience. The splashing sound he did not regard as diagnostic unless it occurred from four to six hours after a meal The depression of spirits which occurred in dilatation might not be due merely to toxæmia, it might result from mechanical causes for the most profound depression would sometimes disappear suddenly upon the eructation of gas.

Dr Alfred R. Parsons (Dublin) wished to draw attention to the hydrochloric acid test as a means of detecting the presence or absence of malignant disease, and he referred to a case in which the presence of hydrochloric acid enabled him with other symptoms to exclude malignant disease as a cause of gastric dilatation. The absence of hydrochloric acid was not of itself distinctive of cancer for it might occur in Addison s and other diseases. Splashing four to six hours after a meal was a valuable aid to diagnosis of gastric atony He made reference to two cases of tetany associated with gastric dilatation. One of these cases raised the question of the value of operation in some cases of gastric dilatation

Dr A. Mantle (Halifax) made reference to the neurovascular supply of the stomach and expressed the opinion that a study of the anatomy of this region might explain many of the symptoms. These patients often complained of coldness of the extremities. He thought that tobacco-smoking might be included among the causes. Rest was an all important factor in the treatment and he referred to a patient in the Halifax Infirmary

Dr W Calwell (Belfast) thought that it was very difficult to distinguish minute refinements of differences in the size of the stomach. He referred to bolting of food as a cause of dilatation and mentioned a case in point. Most cases of gastroptosis were associated with some change in the secretion of hydrochloric acid. Dr Calwell attached considerable importance to the estimation of the hydrochloric acid. If there were excess of free hydrochloric acid it pointed strongly to gastric ulcer If it were absent when examined on two or more occasions the case was probably malignant. He had found less difficulty in the use of the tube than had some of the other speakers, and he regarded its use as a very valuable adjunct to the diagnosis

Dr W Page May (London) showed some lantern slides of Tracings obtained in an Investigation on the Movements and Innervation of the Stomach carried out last year in the physiological laboratory of University College, London chiefly on anæsthetised dogs and monkeys. The tracings showed that the gastric tone and movements were largely dependent on the extrinsic nerves of the stomach—notably the vagi and splanchnic nerves. Stimulation of the vagus produced diminution of the gastric tone and movements followed by an increase. Anæmia artificially produced by blocking the thoracic aorta effected a diminution of the gastric tone and movement. Stimulation of a sensory nerve, as shown by previous observers, produced a similar effect. Therefore it was natural to conclude that disorder of the extrinsic nerves of the stomach must influence and in many cases favour the production of atony or dilatation of the stomach.

Sir W Mitchell Banks (Liverpool) read a paper on a successful Case of Gastroplication of the Stomach. The patient was a man, aged 36 years who was admitted to the Liverpool Royal Infirmary in October 1899 He had been a cavalry soldier and had drunk hard while in the army For three and a half years previously to admission he had suffered from a very aggravated degree of symptoms referable to the stomach which no treatment would alleviate. Dietetic treatment and systematic lavage were tried without effect and on Nov 10th, 1899 Sir W Mitchell Banks removed a strip from the anterior wall of the stomach six inches long by three inches broad. The patient made an excellent recovery he had been seen at frequent intervals since and had derived very great benefit from the operation. All his old symptoms had disappeared It was of great importance to watch these cases after operation before deciding the verdict as to cure and that was why this case had not been published before Such operations were generally described as operations of complaisance"—i e., were not necessary to save life. But in this case the patient would probably have died without the operation. Sir W Mitchell Banks concluded by giving an outline of the history of the operation and discussing the relative merits of the different methods, and he again emphasised the necessity of prolonged observation before coming to a conclusion as to the result.

Professor Carl von Noorden (Frankfort-on Main) read a paper on the Dietetic Treatment of Chronic Granular Kidney giving a preliminary report on his investigations on the excretory power of the diseased kidneys. He did not consider that the administration of such drugs as iodide or salicylic acid gave a true test of the excretory power of the kidneys, nor was the hypodermic injection of phloridzin of use in this respects for none of these substances gave a true index of the power of kidneys to secrete urea and the natural constituents of the urine. The functional power of the kidneys could only be measured by an exhaustive chemical examination of the urine. As a result of his inquiries he had come to the conclusion that although nitrogenous substances should be given in only limited quantities in acute renal disease a fairly liberal amount might be allowed in chronic renal disease. The amount of water allowed to be taken might be one and a half litres per diem but more than this was not desirable More fluid than this threw too much work on the heart, which was always damaged in these cases. In regard to the nature of the solid food he had not found red meat any more harmful than the white flesh of rabbits and chicken. Marienbad and Carlsbad treatment was distinctly unsuitable for cases of chronic Bright s disease. His investigations went to show that these cases wanted plenty of strengthening food, not a lowering diet, and such patients did much better under immediate medical supervision in hospitals or sanatoriums

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SURGERY

Wednesday July 30th

After a few opening remarks by the President of the Section Mr James Hardie (Manchester) a

Discussion on the Treatment of Inoperable Cancer

was opened by'

Mr Henry Morris (London) who first defined what he meant by cancer and the term inoperable. There were for practical purposes four groups of inoperable cases (1) primary cancer affecting inaccessible parts or vital organs (2) primary cancer which, although at first removeable, had advanced beyond the limits within which a local operation was prudent and complete removal possible (3) certain cases of acute diffuse carcinoma and very rapidly growing or widely infiltrating new growths of exceptionally virulent character and (4) recurrent carcinoma where the disease had recurred in many places or in parts where it was impossible to reach it. He described the treatment employed for these cases criticising the methods under the two following heads (*a*) the employment of remedies and methods other than the knife to cure, to ameliorate, or to retard the disease as well as to prevent relapses after its removal, or (*b*) the employment of the knife to give relief from pain to prolong life to restore function and otherwise to make the patient's condition more tolerable. Comparisons were drawn between the results of treatment with Coley's fluid and Beatson s treatment and then the modern physical methods of treatment were fully considered. First, Finsen s light treatment for rodent ulcer second the treatment of malignant disease by the high frequency currents third the treatment of rodent ulcer with the x rays and fourth the treatment of sarcoma and carcinoma with the x rays. After a careful review of these methods he arrived at the following conclusions. 1. That the serum treatment of malignant disease is not of the slightest use in carcinoma that not one-half of the cases of spindle celled sarcoma disappear under treatment with Coley s fluid that in cases of sarcoma, other than the spindle-celled Coley s fluid is not of value, and that the treatment by Coley s fluid has many dangers and should never be employed except in absolutely inoperable cases. 2. That Beatson s treatment is limited in its action to cases of mammary carcinoma, and the local and glandular recurrences after mammary carcinoma, and that even in these cases only a small proportion are influenced by the treatment, whilst neither as a cure nor as a palliative can it be relied upon in any given case 3 That rodent ulcer has in Finsen's light and in the x rays its most successful treatment, so far as we know at present, and that this is true not only of cases otherwise inoperable, but also of operable cases, because of their excellent cosmetic results and of their effect upon insidious and non-evident foci There are, nevertheless, cases of rodent ulcer which resist the light and the x rays treatment, and some of these cases are successfully treated by excision and caustics 4 That sarcoma, epithelioma, and the other forms of carcinoma are best treated, whenever possible, by early excision, and that all forms of treatment hitherto tried in inoperable cancers of these kinds are uncertain and inconstant in their effects and untrustworthy as to the durability of the results they produce In the vast majority of cases they are quite without palliative influence of any kind, except possibly in relieving pain. 5 That the boundary line between what are considered operable and inoperable cases needs revision from time to time, that the tendency to extend the limits of operable cases needs in some instances to be restricted, and in others possibly there may prove room for fuller extension 6 That it is open to question whether some of the operations performed for relief or prolongation of life in inoperable cases of malignant disease should not be abandoned and whether in other cases palliative operation ought not to be more often performed 7 That investigations into both the cause and the nature of cancer are of the first importance as being more likely to lead ultimately to the cure than excision 7 That with few exceptions the attempts to cure cancer by means other than early and free operations have been hitherto almost invariably futile 9 The complete ignorance as to the cause, nature, and curative treatment of cancer has long pointed to the necessity of instituting a comprehensive collaborative, and coöperating inquiry into the whole question of malignant disease, and that it was a source of great satisfaction to know that at last, though with great difficulty sufficient funds have been raised to enable the two Royal Colleges to make, at any rate, a beginning in this wide reaching and unspeakably important subject It was devoutly to be hoped, albeit it may be too sanguine to expect, that the result of these researches may be to discover, not only the cause and curative treatment of cancer, but the means of its prevention as well

Dr G T **BEATSON** (Glasgow) said there were two points upon which emphasis should be laid in dealing with the question one was the capriciousness of carcinoma and the other that there was such a thing as a spontaneous cure of cancer In spite of these facts, early, bold, and free removal of the disease was the only primary treatment that could be recommended But by such cases of spontaneous cure an element of hope is introduced The non operative treatment of carcinoma naturally falls under two headings—the general and the special The general treatment is to ward off the common causes of death in such cases, to alleviate pain, &c. In connexion with the latter he had had much success with the administration of phenacetin in doses of from 10 to 15 grains thrice daily There were no bad effects from it and he thought morphia should therefore be avoided. With regard to special methods in the treatment of inoperable carcinoma he considered a generous diet as essential, that thyroid extract was the drug which seemed to have the most marked effect, altering, he believed, the relation between epithelium and the lymphatic system, the thyroid stimulating the latter It must be given in suitable doses. He had tried up to 250 grains daily, but considered small doses of from three to five grains three or four times daily as the best. With regard to x rays, they had to be very carefully handled With care undoubtedly good results had been seen but harm may develop on account of the reaction which may be induced He alluded to some cases in which after x ray treatment sudden œdema and other serious symptoms occurred The method of oöphorectomy he was anxious should be judged entirely on its merits He had never mentioned ' cure" in relation to it, but the treatment was placed before the profession because he felt that they should review its effect themselves After watching the matter closely now for several years he had come to these conclusions At present oöphorectomy was only applicable in carcinoma originating in the mamma, it was not contra-indicated after the menopause, but the best results seemed to occur after 40 years of age. It was impossible to say in what cases the benefit would arise, but slow-growing cancer yielded most readily Further, large as well as small nodules would disappear in favourable cases, but visceral and bony deposits remained unaltered while lymphatic glandular growths underwent retrogressive changes. These almost invariably gave relief from pain and improvement of general health That in some instances there was only a transient benefit and fresh nodules appeared while in others relief has been obtained from four to five years. Oöphorectomy was certainly not to be used as a substitute for free local removal, but he believed that it had done no harm in its performance, and it does give some evidence of the lines on which to work and to investigate'

Mr **THOMAS BRYANT** (London) dwelt chiefly upon the effects of x rays, with which he had had some happy experience He considered that they should be employed in all cases of inoperable carcinoma but not to take the place of the knife in those suitable for operation The rays alleviate pain and cause the disappearance of nodules and ulceration He related cases of pure recurrent carcinoma of the mamma which had been greatly benefited In one case a cystic change had occurred in the nodules, the spaces containing a mucoid material indicating metabolic changes in the cancer cells. In another, distant lymphatic gland swellings had vanished with only a local application of the rays to the recurrent growth itself He had had good results in a case of carcinoma of the rectum and another of cancer of the uterus in which the rays were applied, but without the aid of a speculum. Such results should not be stated as a cure

Professor R. B **WILD** (Manchester) spoke from the point of view of a physician with an experience of 10 years, in which he had seen undoubted cases of spontaneous disappearance of cancer growths. He had tried many of the newer methods of treatment of inoperable malignant growths Coley's fluid was of no use in carcinoma and in advanced cases of sarcoma there was grave danger of reaction, which might be serious Thyroid extract, even in small doses, in advanced cases seemed to have a bad effect, causing loss of weight, &c, although the cancerous growth might shrink. Arsenic he had given largely and in many forms, but had seen no benefit whatever The best non-operative treatment was to relieve pain and to maintain nutrition He believed in opium first and phenacetin second for the former purpose. When morphine had to be increased to large doses he omitted it altogether for a week, giving hypodermic injections of $\frac{1}{6}$th of a grain of hyoscyne in place of it, and then restarting morphine in small doses He considered that morphine improved nutrition and that the exhibition of doses of alcohol did the same

Mr W F **BROOK** (Swansea) said that the results of x ray treatment were most encouraging in some cases and most disappointing in others He had seen good results in epithelioma of the scrotum and no improvement in some cases of epithelioma of the lip He had performed proctotomy and applied x rays directly to the growth without any benefit. But he had seen good in cases of carcinoma mammæ particularly in one patient, whom he showed to the section in which after 41 sittings the growth had clinically gone, a goitre in the same patient being entirely unaffected. The value of x ray treatment he believed to be fully established, but it was impossible to predict in what cases good would follow He thought that in some instances the application of x rays might advantageously precede local operative treatment.

Mr F B **JESSETT** (London) was convinced of spontaneous cure of carcinoma and cited cases of it. He had had experience of five cases of oöphorectomy In two there had been a relief of pain but in none could he say there was an appreciable diminution in the growth. One case of oöphorectomy in a woman without cancer developed it in the mamma five years after the laparotomy He was disappointed with the result of x ray treatment except in some cases of rodent ulcer

Dr B G **FERGUSON** (Cheltenham) had recorded one of the earliest cases of x ray treatment of recurrent carcinoma, in which 20 applications had caused the growth utterly to disappear No reappearance came for eight months, when some nodules were seen. Another series of 20 applications caused their removal as well as that of some glands in the axilla. He would not advise commencement of treatment by the rays but free removal by the knife. In rodent ulcer good results had followed the use of the rays. Incidentally he mentioned the benefit which had followed their application in sinuses after nephrectomy. He had used chloride of zinc paste in carcinoma with satisfactory results.

Dr LOVELL DRAGE (Hatfield) advocated the use of cinnamon of sodium in glycerine by hypodermic injection. Half-drachm doses of the glycerine solution caused no unpleasant symptoms but a marked relief from pain.

Dr HERBERT SNOW (London) agreed as to the local incidence of cancer, the corollary to which was that primarily inoperable cases ought to be few and far between. He did not believe in any instances of spontaneous cure; all these must be placed in the category of mistaken diagnosis. Nodules on the thorax after removal of carcinoma might seem to disappear but they were always there though less apparent. Early and free removal should prevent their occurrence. He had seen oöphorectomy performed 10 or 12 times. Two or three times brawny œdema had disappeared but in another two cases chronic insanity had supervened. He did not believe in the value of x ray treatment, referring the apparently good effects to mental impression and the burning action of the rays. Opium was not lethal to cancer cells but it was nevertheless of great benefit. It should not be pushed to great doses and at the same time all means should be adopted which diminished the force of the heart and equalised the circulation. In this matter he strongly deprecated the use of alcohol. Cocaine should be combined with morphine when intestinal cancer was present. He sincerely believed in the destruction of cancer cells by the lymphatic gland tissue.

Dr H. MANDERS (London) referred to the treatment by high frequency currents and desired that failures as well as successes should be reported if progress was to be made. In carcinoma the elimination of urea was markedly lessened and the effect of the high frequency currents was to increase metabolism as evidenced by the increased percentage of urea passed. These currents also had a bactericidal action and if carcinoma was due to a parasite, which he thought highly probable, they might act in this manner also. The body itself governed the oscillations of the high frequency currents and the tissues had a different relation to them in health and disease.

Mr J. PAUL BUSH, C.M.G. (Bristol), said that his experiences in the x ray treatment had been most disappointing, for he had not as yet seen any case of undoubted carcinoma in which the improvement had been of a permanent nature. He further believed that Coley's fluid might be a very dangerous material to use.

Mr J. D. MCFEELY (Dublin) alluded to cases of advanced rodent ulcer in which he had obtained most satisfactory results from the free use of pure formalin applied with the patient under an anæsthetic on account of the severe pain during the actual treatment.

Mr ALEXIS THOMSON (Edinburgh) presented to the section an elaborate analysis of the cases of oöphorectomy published up to the present in British medical literature.

The following papers were taken as read:—

Mr J. PAUL BUSH, C.M.G.: The Treatment of Deformities of the Face by the Subcutaneous Injection of Paraffin.

Dr J. WALKER DOWNIE: Injection of Paraffin in Nasal Deformities.

Mr E. STANMORE BISHOP: Methods of Uniting Divided Intestine, with special reference to a new Bone Bobbin for that purpose.

Professor F. VALENTINE (New York): The Diagnosis of Urethral Disease.

PATHOLOGY

WEDNESDAY, JULY 30TH

The PRESIDENT, Professor Sheridan Delépine (Manchester), said that valuable time would be saved if the section would proceed at once to the business of the day.

Dr FREDERICK W. MOTT (London) opened a discussion on

The Pathology of Nerve Degeneration,

confining his remarks principally to the chemical aspect of the subject. The first part of his paper had already been recorded in his Croonian lectures of last year and embodied his researches in the chemistry of the Marchi staining method. He found that the amount of phosphorus in the spinal cord, after section of a peripheral nerve (the sciatic) varied inversely as the black staining of the cord with Marchi's fluid. He concluded from this that the lecithin of the normal nervous tissue was split up into fat and glycerophosphoric acid. The evidence of the change was to be found in the presence of choline in the cerebro-spinal fluid. Turning to the clinical aspect of these researches he had found that choline was increased in the blood in general paralysis, beri beri, and other nervous diseases, and he suggested that this increase of choline might be used as a test for the presence of organic disease of the nervous system where a doubt existed between this and functional disease. In the second part of his paper Dr Mott expressed his suspicion that stimulus from nerve cells might play an important part in nerve regeneration. This stimulus was excluded by cutting the posterior nerve roots when he found that regeneration took place less readily. He believed that the neurilemma cells were important factors in the regeneration of the axis cylinders.

Dr JUDSON S. BURY (Manchester) remarked on some of the clinical aspects of peripheral neuritis. He drew attention to the acuteness and severity of some cases which presented the type known as Landry's paralysis and also to the curious persistency of many cases of neuritis, however caused, even when the degree of neuritis was obviously slight.

Dr A. WILSON said that the earliest changes in the fibrillæ consisted of a loss of the capability of staining with such dyes as toluamine blue. It was important to know that the dye entered into combination with the tissue to form a salt. In degeneration this faculty of forming a salt with the dye was gradually lost. In referring to the neuron theory he said that the degeneration of a severed neuron must cease at the end organ of the nerve. If it passed beyond this the cells affected were not a part of the neuron and the theory fell to the ground. He illustrated the degeneration spreading beyond the end organ of the nerve by section of the glosso-pharyngeal nerve in which the end bulbs of taste disappeared.

Dr J. PURVES STEWART (London) referred to Waller's paper in 1850 and Ranvier's work in 1873. He showed on the screen sections of nerves in the chief stages of the process of degeneration. Degenerative changes occurred in the distal segment of a divided nerve whether it was sutured immediately or not. Primary union without degeneration did not occur. The degenerative changes also affected a small part of the proximal segment in the neighbourhood of the wound of division. The cellular changes in degeneration consisted of a transient invasion of leucocytes which were later replaced by connective tissue cells which at the end of five weeks had absorbed all the myelin. These connective tissue cells were then replaced by proliferated neurilemma cells which became elongated and ultimately formed fibrous tissue. The neurilemma cells began to proliferate on the second day after the injury and arranged themselves in longitudinal columns with overlapping protoplasmic processes. Fragmentation of the medullary sheaths and axis cylinders began on the fourth day. Regeneration overlapped degeneration in point of time. In the distal segment of a reunited nerve, spider cells shot out axis-cylinder processes from their opposite poles at the end of three weeks. These neuroblasts were the neurilemma cells and the threads fused into a continuous axon. The new medullary sheaths were similarly formed from the neurilemma cells. In a nerve five months after immediate suture the nerve fibres appeared practically normal. In the distal segment of a non united nerve the process of regeneration was essentially the same but the new nerve fibres did not attain full maturity. The well known end bulb of the proximal segment was formed at first by the curling back of the ends of the divided nerve fibres and subsequently there was a disposition of new axis cylinders and medullary sheaths from the proliferated neurilemma cells. The deduction from these facts was that since regeneration occurred in the distal segment of a non united nerve the so-called "neuron" theory of Weldeyer could no longer be maintained. The speaker would substitute the fibrillar theory of Apathy according to which the nerve fibrils were the essential elements of the nervous system. The nerve cells acted as convenient shunts and the central nervous system was one vast exchange transmitting nerve impulses from one part to another. The central nervous system, however, exercised a profound influence on the peripheral nerves without which the new fibres of the distal segment did not attain maturity. Two factors were, therefore, necessary for the complete regeneration of a nerve fibre: (1) the presence of neurilemma cells; and (2) the re-establishment of conduction of impulses to and from the central nervous system.

Professor C S SHERRINGTON (Liverpool) said that to quote degenerative changes in muscle and gland as results of section of peripheral nerves was no valid argument against the neuron theory The view advanced on what appealed to them as urgent grounds by Dr Purves Stewart was not in the least incompatible with the neuron theory It merely made the peripheral nerve fibre a chain of neurons instead of a single neuron and explained the degeneration of the links at the peripheral end of the chain as due to the same kind of influence by one neuron upon another as was exerted by neurons upon striped muscle fibres

Sir VICTOR HORSLEY (London) spoke in support of the neuron theory He considered the changes described by Dr Purves Stewart to be those of nutrition In Gowers's tract the spino-cerebellar part never degenerated downwards. He found that in regard to this tract the neuron theory was borne out. If the superior cerebellar peduncle was divided in a cat the coarse fibres degenerated towards the brain, the fine fibres towards the cerebellum

Dr MOTT replied

Dr D CHALMERS WATSON (Edinburgh) gave a kinematograph and lantern demonstration on

Nervous Diseases in the Lower Animals

The animals shown on the screen were a puppy and a horse. The former had suffered from paralysis, ataxia, altered sensibility, and other symptoms, the gross morbid lesions found at the necropsy were those of imperfect development of the brain convolutions and chronic hydrocephalus The latter was a case of stringhalt and an exhaustive histological examination showed advanced morbid changes in the nervous system and elsewhere, the origin of which was probably bacterial.

A lantern demonstration of specimens from a case of Arrested Development of the Olivo pontine Cerebellar Complex accompanied by Spina Bifida and other Developmental Peculiarities was given by Mr KEITH W MONSARRAT (Liverpool) and Dr W B WARRINGTON (Liverpool)

Dr WARRINGTON read a paper on the

Anatomy of the Nervous System in a Case of African Lethargy,

and showed sections of the pathological conditions present. The pathological process was one of subchronic leptomeningitis The characteristic pronounced feature was perivascular infiltration of round cells. No one part of the brain was more affected than another His examination of the nervous system agreed with Dr Mott's description of these cases There were no micro-organisms similar to those recently described

Sir VICTOR HORSLEY and Dr MOTT discussed the paper and Dr WARRINGTON replied

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DISEASES OF CHILDREN

WEDNESDAY, JULY 30TH

Professor T M. ROTCH (Harvard University) opened a discussion on

The Modification of Milk in the Treatment of Infants

In an elaborate paper supported by numerous statistical tables he urged the necessity in the consideration of this question of securing terms having a definite and universal significance. Conflicting opinions were, he considered, due, at least in part, to the absence of precise and exact definition, and in any case it was a necessity for profitable comparison and discussion that all should attach one and the same meaning to each of the terms to be employed. The exact analytical methods of modern chemistry rendered this now possible, and the question of infant feeding ought therefore to be removed from the region of vague generalisations to the exact domain of percentage compositions The physician ought to free himself from the empirical methods of the nurse and from the tyranny of the manufacturer of artificial foods and to prescribe the nutrition of his infant patients with the same exactness and knowledge which he adopted in the administration of drugs There could be no doubt at all that the best food for young infants was the natural supply of breast milk, but it was equally certain that circumstances of various kinds compelled the physician not infrequently to find a substitute for this. And in this endeavour it was necessary to remember that human milk differed widely in its quantitative composition. To copy nature's processes successfully, therefore, the physician must be able to vary the percentage of proximate principles in the substitute food he prescribed according to the requirements of the individual infant—a principle important in health but still more important in the treatment of disease. There was no dispute that a substitute food must be the milk of some animal. The difficulties of the question arose from the fact that every such milk for purposes of infant feeding required modification Such modification was usually effected by a rough empirical method It was desirable to replace this by precise and definite processes so that the physician should be aware of the percentage composition of the nutriment ordered for the child and should be able to vary this from time to time as might be necessary The first essential was to secure pure milk of good quality, of known quantitative value, and free from bacterial contamination, the second was the safe transmission of such milk without change from the source of supply to the individual infant, and the third was the capacity to vary the composition of the food as the judgment of the physician directed To secure this programme every step in the process must be under medical supervision. Professor Rotch then gave a graphic account of the organisation of the milk-supply in connexion with the Gordon Walker milk laboratories He described the feeding, toilet, and housing of the cows, the steps taken to prevent contamination, and the methods employed to provide milk of known composition As a result of these the laboratories were able to supply milk with various percentages of fat, carbohydrates, and proteids, and similarly to adjust as might be required the relative proportions of the caseinogen and whey proteids The physician therefore prescribed the food of the child with the same confidence that he sent directions for drug treatment to the pharmacist. The milk laboratory and store were conducted with the same intelligence and care as ruled the conduct of the pharmacy It had been found readily possible to convey milk obtained as described even 1000 miles without change and without prejudice to its nutritive value And, further, by certain modifications of method the same principles might be adopted in the home. To obtain pure milk for infant feeding was the desire of all, to imitate the natural supply modification in some degree was an admitted necessity, and to conduct that modification on scientific principles could only be accomplished on a quantitative basis. Professor Rotch argued that these ends could only be obtained by some such methods as he had described and concluded by stating that actual experience of large numbers of physicians in America had proved these methods to be both theoretically sound and practically successful.

Dr JULES COMBY (Paris) discussed the question in detail and suggested some doubt of the influence of artificial processes on the nutritive value of milk.

Professor A. BAGINSKY (Berlin) had listened to Professor Rotch's description of the dairy farms and milk laboratories with much sympathy and interest, as he had for some years been organising similar methods in Germany He approved of the principle of prescribing milk of known composition, more especially in cases of disease, but thought that the widespread use of artificially prepared milk might be responsible for results not advantageous to infant health and vitality

Dr H DE ROTHSCHILD (Paris) could not admit that there was any wide field of usefulness for artificially prepared milk. Healthy children were readily nourished on pure cow's milk, and this by appropriate dilution could be adapted to most cases of disease The essential thing was to be able to purchase pure milk, and granted this, all the necessary preparation could be conducted at home under the physician's directions. He, however, entirely sympathised with the suggestion to bring the animals yielding milk for feeding infants under medical supervision

Dr W P NORTHUP (New York) in an energetic speech offered his experience as a practical physician in support of the value of Professor Rotch's methods All were agreed that pure milk was desirable, and this was exactly what the laboratories secured. They could order it and be sure that they would obtain what they ordered—milk chemically pure, with bacteria in limited numbers, and practically free from toxins But it was necessary, and more especially in cases of disease, to secure food adapted to the individual infants' requirements and the opportunity of obtaining this in an exact fashion he regarded as a triumph of American medicine

Dr GEORGE CARPENTER (London) approved of the principle of prescribing milk of known composition and had every sympathy with efforts to obtain this The question of expense had to be considered and he feared this was a practical difficulty of moment. The condition of milk farms was often deplorable and was responsible for many epidemics. In discussing artificial feeding it was necessary to remember that a good wet nurse was often the best solution of the difficulty

Dr ERIC PRITCHARD (London) urged that the less interference that milk used for infant feeding was subjected to the better The fact that the mother's milk varied from time to time was an argument against too severe and rigid a standard in preparing a substitute milk. He had tried the Gordon Walker Laboratory in London but had found the expense and the delay in supplying what was ordered to be serious objections. If cream of known strength could be obtained all necessary modifications in the milk required by infants could be executed at home and without the aid of a laboratory

Dr JOHN THOMSON (Edinburgh) had no practical experience of the laboratory preparation of milk. In the cooler climate of Scotland such methods were perhaps less necessary

Dr F M. SANDWITH (Cairo) heartily supported the plan advocated by Professor Rotch. He spoke of its value from personal experience. The method and its results could not be too highly praised.

Professor J W BYERS (Belfast) spoke in a similar strain. He looked upon the discussion as distinguished by a proposal of great value in the management of infants whether healthy or sick.

Professor ROTCH, in reply agreed with those who argued that the food of the infant needed variation but he preferred exact to haphazard methods of securing this. As milk must be modified, why not modify it scientifically? His position was that if possible the mother should nurse her own child, that the best substitute was a healthy wet nurse and that, this failing milk carefully collected of exact composition, and suited to the individual s requirements should be prescribed. His proposal was not to substitute artificial for natural feeding but to make the former when it was required, an exact instead of a chance proceeding He had visited the Gordon Walker laboratory in London and was sure that, if supported by physicians, it would give exactly what was required. The question of expense—and this had been alluded to in somewhat exaggerated tones—would not be allowed to block a reform which concerned the well being of infant life and growth.

DERMATOLOGY

WEDNESDAY JULY 30TH.

The PRESIDENT of the section (Dr Henry A. G Brooke) opened the meeting with a few preliminary observations He expressed his regret that several guests of the Association who would have read papers or taken part in the discussions were prevented from being present, and he referred especially to Professor Neisser of Breslau, Dr Brocq and Dr Freund He hoped that Professor T. C Gilchrist of Baltimore would be able to attend on Thursday to give a demonstration of blastomycetes He welcomed Professor Gilchrist for he was an alumnus of the Owens College and a former pupil of his own. The Johns Hopkins University of Baltimore was well equipped with research laboratories so that the younger dermatologists were able with ease to undertake researches without incurring great expense. It was essential that they should have such facilities as these in this country and though it was hopeless to expect the Government to do anything in the matter they might not unreasonably expect something from private munificence, for Liverpool has just received £10,000 for a bacteriological laboratory

Radiography X Ray Treatment High Frequency Method, and Light Treatment

In the absence of Dr L. FREUND (Vienna) the Secretary (Dr G H. LANCASHIRE) read a summary of Dr Freund s paper The main conclusions at which Dr Freund had arrived were as follows. All radiant phenomena have the same physical basis and the effect of rays on the body varies like that of chemical agents, with the dosage and may range from mere stimulation to actual destruction of tissue In weak doses the rays favour organic processes, such as the growth of hair and the production of pigment. In stronger doses they lower vitality and produce inflammatory reaction. The clinical effects of all forms of radio-therapy are similar The physiological effects are in direct proportion to the intensity of the raying but in inverse proportion to the wave lengths. The reaction appears after a latent period, the length of which is inversely proportional to the wave length and intensity of the raying Those rays which have the property of exciting fluorescence are physiologically the most powerful. High frequency currents can also be included in radio-therapy and Dr Freund believes that the physiological effects of this method are due solely to the spark-discharges High frequency currents appear to be useful in pruritus and in lupus erythematosus. X rays are of value in some cases for the removal of hair as in ringworm favus, sycosis, and hypertrichosis, but in lupus and in epithelioma the improvement is due to cell infiltration and proliferation, and to the influence of the x rays in promoting the formation of connective tissue and cicatrices, but they possess no bactericidal properties In lupus vulgaris Finsen's light treatment and the x ray method are equally good, both take about the same length of time, and the cosmetic results of both are equally good. A rational method is first to x ray large surfaces and then to treat the remaining foci with Finsen s apparatus. Hard tubes are less likely to cause dermatitis and if it does occur it subsides more readily Ultra violet lamps have not superseded Finsen s lamp, for the latter has a greater penetrating force.

Dr SEQUEIRA (London) agreed with many of the opinions which had been expressed in Dr Freund s paper With regard to the treatment of rodent ulcer he thought that in suitable cases wide excision was the best possible treatment, but in extensive cases x ray treatment was of great value. Recurrence was common after the use of x rays, but a further application of the treatment sufficed to remove the recurrent nodules. Of 80 cases of rodent ulcer 34 were cured and most of the remainder were still under treatment. Some of the earlier cases had remained free from recurrence for 18 months. Unfavourable conditions for x ray treatment were involvement of cartilage, periosteum, or bone perhaps mainly from a mechanical hindrance to healing Sometimes the hard margin refuses to disappear, in such case a low tube may be employed to cause great reaction, or the actual cautery may be used. In cases of true epithelioma improvement may occur but when the lymphatic glands are involved the x rays seem to be powerless. Recurrent nodules of carcinoma in the skin, as after amputation of the breast, may disappear but the glands are less easy to affect. Lupus may be cured by the x rays but relapses occur again and again The effective factors are the x rays themselves, for the interposition of an aluminium sheet does not interfere with the effect. After x ray treatment disfiguring telangiectases were not infrequently left. In lupus erythematosus x ray treatment was valueless.

Dr S. E DORE (London) had employed Finsen s light treatment for two years in conjunction with Mr Malcolm Morris. He considered it important not to over-estimate the value and the possibilities of the treatment. The chief advantage is the excellence of the results and a case may be treated indefinitely without the risk of any disfigurement. The application of pyrogallol or acid nitrate of mercury to the patches greatly increases the activity of the light. Blue rays are of more importance than the ultra violet rays.

Dr J M H. MCLEOD (London) described some experiments he had been making to obtain an increase of the reaction after Finsen s light treatment. The liquids he found to be specially useful were (*a*) a 1 per cent. solution of potassium permanganate, (*b*) a weak solution of iodine with glacial acetic acid and (*c*) pure carbolic acid. He had tried Finsen treatment in five cases of lupus erythematosus, in two there was a definite improvement, two were unaltered, and in one case the disease was certainly made worse.

Dr LESLIE ROBERTS (Liverpool) was of opinion from some observations he had made that the local inunction of mercury and the application of the biniodide of mercury in an etherial solution of soap was more effective than Finsen treatment.

Mr J F HALL-EDWARDS (Birmingham) thought that unless a reaction was produced x rays did no good. Hard tubes are best, and much reaction is produced if the tube sparks over" The effect is probably electrical

Dr P S ABRAHAM (London) considered x rays to be especially useful for lupus of the mucous membranes. He had cured an extensive case of lupus erythematosus by means of x rays but some cases of this disease are distinctly made worse by x rays.

Mr CHISHOLM WILLIAMS (London) spoke on High Frequency Currents He felt sure that the beneficial effect was not due to "sparking" for he had seen removal of a lupus of the face by the application of high frequency currents to the foot—i.e., a general electrification was produced. High frequency currents acted as a general tonic.

Dr G G **STOPFORD TAYLOR** had had remarkable results after the application of x rays to cases of rodent ulcer and epithelioma. The application of pyrogallal greatly enhances the effect of Finsen treatment.

Mr **GEORGE PERNET** (London) had found the Lortet lamp very tedious at University College Hospital.

Dr **NORMAN WALKER** had noticed the hair grow in two cases while under the x ray treatment. In sycosis the hairs were not merely removed but much reaction was produced, and permanent benefit followed. He had been much disappointed in the results of the light treatment in lupus, it was extremely tedious, but he had been pleased with the x rays. Iodide and carbolic acid greatly assist in the production of a reaction. Lupus erythematosus reacts severely to x rays, but in many cases improvement follows. In rodent ulcer excision is the proper treatment, but if that be impossible the x rays may be used with benefit. During the last month he had treated a case of mycosis fungoides with striking benefit, which was noticeable after three exposures to x rays, all the nodules had flattened down. He did not consider the ultra violet lamp to be any improvement.

The **PRESIDENT** had also seen marked improvement in a case of mycosis fungoides under the influence of x rays.

Professor R B **WILD** (Manchester) thought the x rays of much value in the treatment of lupus and remarked that it was not always the most superficial nodule which responded best to treatment. When excision is done for rodent ulcer care should be taken to remove the growth deeply as well as extensively. X rays often gave very good results in rodent ulcer, but not if cartilage is exposed on the nose or ear. X rays are not always free from danger, for he had known in one case that a panophthalmitis had supervened necessitating the removal of the eye.

Dr **LANCASHIRE** (Manchester) considered it important that the dermatologist should be acquainted with the physical aspect of the question. He was inclined to think that the x ray tube was only a means of giving a brush discharge.

The **PRESIDENT** mentioned a small point of some value. Small refractory nodules could be made to disappear readily by superficial scarification.

Mr **GEORGE PERNET** and Dr H **RADCLIFFE CROCKER** (London) read a paper on the Use of Tuberculin T R. in Lupus Vulgaris. There was no doubt that to a certain extent tuberculin T R is beneficial, especially in the ulcerating forms in young people, but it was of little value in the nodular forms in old people. The best results follow the bowel injection of the tuberculin, and other methods of treatment, such as scraping and the administration of thyroid extract, assist. On the whole tuberculin T R cannot be recommended, for the method is expensive, tedious, and painful.

PHARMACOLOGY

WEDNESDAY, JULY 30TH

The **PRESIDENT** (Dr Nestor Tirard, London) delivered an interesting introductory address, in which he especially alluded to the loss suffered in the death of Dr Daniel Leech. The time and place for this appreciation of Dr Leech were well chosen. Dr Tirard said that presidential addresses were distinctly to be deprecated, the time for work was limited, the amount of work was large. With kindly forethought presidents of sections were warned not to occupy more than 15 minutes if they wished to make any introductory remarks. With the programme before them he would necessarily respect the wishes of the meeting by being as brief as possible. Indeed, he would not have occupied time at the commencement of the meeting had he not felt that the section of pharmacology, meeting in Manchester, must commence with some thoughts on the late Professor, Dr Leech, who worked so enthusiastically at the Owens College and whose work broadly conceived had had such a wide sphere of utility. He used to say with pride that the Victoria University was the first to examine in this subject and he was remembered within those walls, within this kingdom, and in all parts of the Empire as one who laboured to substitute the science of pharmacology based upon experimental investigations, for the loose therapeutic statements which had previously governed so much of the literature relating to drugs and their actions. Dr Leech would be remembered as a practical physician who found time to initiate and direct research, even when the claims upon his time did not allow him to carry out all the details. He was one who did not shrink from personal experiments with drugs. Dr Tirard remembered the amusement and admiration which Dr Leech excited at a committee meeting by exhibiting his forearm marked by blisters raised from cantharidis and mylabris. His interest in the British Pharmacopœia led him to continue experiments right up to the time when printers were clamouring for the final revise, and almost before the volume was issued he was arranging fresh investigations which might lead to wholesale revisions of what had just been authoritatively established by the General Medical Council. The British Medical Association would remember also that in his desire to respect the clinical experience of the medical profession he initiated in 1894 a laborious inquiry into the frequency of employment of various drugs which were perhaps discredited by many teachers unable to explain their actions by experiment. In that inquiry every member of the Association was given an opportunity to record a vote which would influence the construction and composition of the new British Pharmacopœia. Even shortly before the end, when he was too ill to attend to other work, he still struggled to consolidate the arrangements which he had made for the future of the Pharmacopœia, arrangements calculated to secure greater uniformity, greater scientific accuracy, and more general respect. At the Owens College his memory and example were perpetuated in the professorship which bore his name. Dr Tirard concluded by saying that having been himself intimately associated with a large part of Dr Leech's pharmacopœial work, he could not preside in that section of pharmacology in that college without having his mind filled with thoughts of his old friend.

Sir **LAUDER BRUNTON**, F R S, opened a discussion upon

The Undesired and Unexpected Actions of Medicines, including Tolerance and Idiosyncrasy to, or Abnormal Results from, Ordinary Doses.

After a few introductory remarks, he said: Drugs may exert an unexpected action either (1) by failing to produce their usual effect, (2) by having an excessive effect, and (3) by having an unusual effect. In discussing the action of drugs we must always remember it is really the reaction between the drug and the organism which we are considering and an alteration in the effect may be either due to the drug or to the organism. It is necessary to insist upon the fact that we are apt in prescribing to be misled by names and to think that what we have administered to our patients under a certain name is always the same thing.[1] One of the saddest cases of this is that of Mr Myer of Winschotén, Holland, who prescribed aconitine for a patient in what he thought to be a perfectly safe dose, and as the patient complained of the effects he took double the dose of it himself with the result that he died from it in five hours. Nor was this fatal result much to be wondered at because pure aconitine is 300 or 400 times as strong as the old German preparation. Such extreme cases are fortunately rare, but I believe it is by no means infrequent that cascara sagrada fails to produce its effect because the bark has been secured from the wrong species of rhamnus. But even when procured from the same plant tinctures and other preparations may differ very much in strength according to the place where the plant is grown and its age, especially as to whether it is flowering or not. Moreover, many plants contain more active principles than one and sometimes these active principles are antagonistic to one another. Another source of error is that plants may have deteriorated by keeping in the druggist's shop and so lost their original virtues. In the hands of the purchaser they may have changed their strength or action. I remember reading the case of a child who was said to have died from one drop of laudanum, but this laudanum had been kept on a mantleshelf for a considerable time and the mouth of the bottle only stopped by a twisted piece of paper so that the original tincture of opium had become converted into a strong liquid extract by evaporation. Badly preserved solutions of morphine appear sometimes to undergo change with the formation of apomorphine or some other product which gives rise to vomiting. Occasionally the very purity of drugs may alter their effect for the worse. It was first pointed out by Dr Leech whose early death everyone who knew him deeply deplores, that artificial salicylate of soda owes its inferiority to natural salicylate not to the presence of any impurity but really to the absence of a certain amount of salicylate of methyl which exists in the natural product. Some time ago when prescribing nitrate of potash with the view of lessening high arterial tension and arresting epistaxis I found that the patient was immediately relieved by the use of saltpetre which he got from an oil shop On having the prescription made up at a chemist's with pure nitrate of potash the epistaxis began again. When he told me this I suspected that the ordinary nitrate contained a small amount of nitrite and on adding about half a grain or a grain of nitrite of soda to the 15 or 20 grains of nitrate of potash that he had been taking the epistaxis again ceased immediately This result explained to me the observation made by a very old medical man who told me that although he belonged to a very gouty family he kept away gout by taking 20 grains of nitrate of carbonate along with bicarbonate of potash and the nitre that he got from a gunmaker was always better than what he got from a chemist, the small amount of nitrite tending to keep down the high tension which his gouty kidneys would otherwise have produced.

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[1] Kunkel. Toxikologie, p. 768.

[Sir Lauder Brunton here referred to the presence of impurities in bismuth and continued —]

Alterations in the effect of drugs may depend very much upon changes in them after they have been actually swallowed. In persons who live upon a vegetable diet and are accustomed to take but little salt, calomel appears only to have a slight action but in people who take a lot of salt or are accustomed to live upon salt provisions, a larger quantity of the calomel taken is converted into corrosive sublimate and thus the medicine may have an unexpectedly violent action An unusual amount of hydrochloric acid in the stomach may produce a like result, and this is a point to be borne in mind because nitrohydrochloric acid and calomel are both favourite remedies in conditions of biliousness

[After mentioning the effect of alkalies on antimony and upon resinous drugs Sir Lauder Brunton continued —]

Perhaps I cannot do better in introducing this subject than take a typical drug like arsenic and consider its different actions and afterwards compare them with those produced by other drugs. A drug may act on the body at the point of application whether it be skin subcutaneous tissue, raw wound or mucous membrane. After its absorption it may act upon any organ of the body to which it is carried by the blood. It may act during its elimination upon the same parts on which it usually acts during its absorption—namely the skin and mucous membranes as well as by the one great eliminating organ—namely the kidneys. The action of any drug whilst circulating in the body depends to a great extent on the amount present in the blood and this amount is determined by the difference between the quantity absorbed and the quantity excreted in a given time If absorption be rapid and excretion slow much of the product will circulate, whereas if absorption be slow and excretion rapid very little will be present in the blood at any one time. A drug may act at one time more violently upon the point of application at another on the organ to which it is carried by the blood and yet another on the organs of elimination. A large dose of arsenic taken by the stomach will irritate that organ and may be ejected by vomiting without being absorbed to any extent thus leaving untouched the organs generally as well as the channels of elimination. John Hunter and Sir Benjamin Brodie showed that when arsenic was applied to a wound it was absorbed with rapidity and was eliminated very rapidly by the mucous membrane of the stomach so much so that it produced inflammation of the stomach before any appearance of inflammation showed itself in the wound. But arsenic has long been used as a secret remedy in cases of cancer and often it causes the part to slough away without having any general action, although every now and again cases of poisoning have occurred The chief rule for avoiding any poisonous action in such cases is said to be by using the arsenic paste very strong and over a small area. If used in too dilute a form it is absorbed but if used very strong it forms a local slough and is not absorbed at all. In the poisoning by beer in Manchester so much was diluted that it appeared to have little local action when drunk but after absorption it was carried to the mucous membrane of the stomach and intestines and during its elimination by these organs gave rise to sickness and diarrhœa. During its elimination also by the skin it produced many cutaneous eruptions and while circulating in the blood gave rise to neuritis anæmia, fatty degeneration of the liver muscles and heart with muscular weakness loss of sensibility great pain and a tendency to syncope. In the case of poisoning by arsenic in beer the drug was taken in small quantity at a time and in a state of dilution that prevented its local action on the intestinal canal, but its ingestion was so continuous that the eliminating organs could not get rid of it as quickly as it was absorbed and so it accumulated in the organism. Exactly the reverse occurs in the arsenic eaters of Styria. These people take a somewhat large dose at once but they take it in a dry form so that it shall not be absorbed too quickly and the eliminating organs pass it out of the body with sufficient rapidity to prevent poisoning It is highly probable that a small quantity may circulate in the blood for a long time before the least traces of it are eliminated Styrian arsenic eaters take their doses at comparatively long intervals generally a week or a fortnight but very minute doses regularly taken are said to have the same effect in producing plumpness and strength and in some girls boarding schools in Switzerland arsenic is said to be regularly put in the food for the purpose of improving the girls' appearance

[Concerning tolerance Sir Lauder Brunton said —]

If we consider what the condition of a cell will be when a new substance is brought by the blood we may form a hypothesis regarding the tolerance which even if imperfect may help us to understand the nature of the phenomenon New substances will come first of all in contact with the outer part of the cell so that the relationship of the exterior to the interior will become altered gradually the new substance will penetrate through the cell and unless fresh quantities of the new substance be carried to the blood the cell may go on almost unchanged in its functional activity Even if new quantities are supplied to the exterior of the cell a large proportion of substances will be required to produce the same relative change than at first and so it will gradually lose its primitive effect larger and larger doses being constantly required until at last they seem to have almost no action This hypothesis will help us to understand the gradual loss of effect both of purgatives and narcotics but we must remember that complete imbibition of a cell with a new substance may alter its whole activity although the relationships of the different parts of the cell to one another are undisturbed In this way the arsenic may tend to cause fatty degeneration and atrophy of various cells both muscular and nervous, and to produce a series of changes which though very slow may surely lead to a fatal result In the case of arsenic the cumulative action which was so well observed in the Manchester epidemic was due to the constant ingestion of larger quantities than the eliminating organs could remove and the same is the case with mercury and lead and the sudden appearance of mercurial or lead poisoning is only caused by the accumulated amount becoming at length sufficient to produce it. In the same way the curious greenish purple of the skin produced by the long-continued use of nitrate of silver occurs after long accumulation and in the case of this metal it is stated that this undesirable result may follow the use of a small amount of silver if it has been freely administered years before little or no elimination having occurred in the interval. In the case of two drugs especially —digitalis and strychnine—sudden development of poisonous symptoms has been specially noted. In some cases it is possible that this may have been due to a cumulation of the active principle in the intestinal canal with sudden solution and absorption in consequence of some article of food or drink having been taken in the same way as I have already spoken in regard to quinine but generally I believe it is due to those drugs causing a lessened flow of urine and thus arresting their own excretion.

Sir Lauder Brunton then passed to consider the aromatic series nearly every member of which has a tendency more or less to produce cutaneous eruptions with feebleness of the circulation with sometimes a tendency to collapse and with a tendency also to anæmia when administered for a long time."

[Examples were then given of drugs belonging to this series and other drugs which produce cutaneous eruption and heart failure With regard to salicylates Sir Lauder Brunton continued —]

For some time past I have used a method of treatment in-appendicitis which has given very satisfactory results It consists of administering salicylate of soda and belladonna in very full doses. I usually prescribe 15 or 20 grains of salicylate every two hours and 10 or 15 minims of the new tincture of belladonna. The drugs may either be given at the same time or in alternate hours, but they are not mixed because each drug should be taken until the first symptoms of its physiological action appear, singing in the ears in the case of salicylate, and dryness of the mouth, dilatation of the pupil and quickness of the pulse in the case of belladonna When these symptoms appear the drug is either to be stopped entirely or greatly diminished in quantity In two cases the patient has become delirious before any dryness of the mouth or other symptom of physiological action of the belladonna appeared, but in both cases I found that a tendency to insanity was present in the family Both patients had been perfectly sane all their lives, but the belladonna appeared to develop the latent tendency for the time being

[Sir Lauder Brunton concluded his interesting address by some remarks on narcotics]

INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION

Wednesday, July 30th.

The **President** of the Section (Dr B Arthur Whitelegge) opened the proceedings by delivering a short address in which he referred to the fact that they met on the centenary of the first Factory Act and in the first year of an important consolidating and extending Factory Act In the course of his remarks he pointed out that factories and workshops had been built and the plans had been passed by the responsible authorities without due consideration of ventilation or of sanitary accommodation or means of escape in case of fire , the remedy later on was usually more costly and less effective than proper provision at first would have been So, too, with machinery, which was too often ordered, made, and taken into use without consideration of the dangerous points to be guarded or avoided, however obvious they might be , and that occurred in the case of machinery which, when made up for export to other countries, was sent out guarded as it should be. So, too, with the fans which were intended to carry away dust or fumes , the exhaust was often taken not from the point which common sense would dictate—namely, the place of origin of the mischief—but from some remote part, so that the impurities had to be diffused through the air to be breathed before they could escape

Dr S **King Alcock** was then called upon to open a discussion on

The Value of Systematic Medical Examination of Workers in Dangerous Trades

The point he wished to emphasise was that the nature rather than the severity of the symptoms should be their guide in classifying any case of trade poisoning , a slight attack of optic neuritis was a more impressive danger signal than was the severest case of uncomplicated colic The physical signs and symptoms present in any case of poisoning might of course have their origin in other diseases the possible existence of which should be investigated if present Although each symptom considered separately might have a doubtful significance the concurrence of two or more led well nigh to certainty when each had some separate pathognomonic importance. It was the conjunction of colic with wrist-drop, of optic neuritis with a blue line, of anæmia with paresis, that enabled them to diagnose lead poisoning, whereas the unassociated presence of any one of these symptoms would always leave room for doubt.

A paper was then communicated from Mr B M **Bond** (Poole) who considered that the chief value of the examination in dangerous trades lay in the power possessed by the surgeon to suspend or to discharge workers injuriously affected by their work.

Mr W H. **Vickery** (Newcastle upon-Tyne) sent a paper in which he put forward the view that every worker in lead, no matter how careful, absorbed a certain amount He urged that it was the duty of the inspecting surgeon to try to determine at what point absorption passed the boundary line of safety so that he might suspend the worker and prevent the onset of an attack of lead poisoning

Dr W A. **Atkinson** thought that the periodical examination of lead workers was undoubtedly a safeguard against plumbism, because there was an opportunity of detecting some of the earlier symptoms and such cases if taken away from the influence of lead and properly treated seldom developed the more marked symptoms of lead poisoning

After Dr J **Holmes** and Dr T F **Young** had spoken,

Dr T **Oliver** (Newcastle upon-Tyne) contributed a paper on the subject under discussion. He said that the utility of the examination was based upon experience. Nearly all civilised countries had legislated to a greater or less extent for workers in white lead, mercury, and phosphorus By thus acting the various Governments had recognised that ill health followed unregulated employment in trades, while the compulsory medical examination required by many in addition showed that it was recognised that by timely detection much of the evil consequences of industrial poisoning could be prevented.

An interesting and important paper on the Injurious Influence of Fast Aniline Black Dyeing Processes was then read by Mr W F Dearden (Manchester)

THE ANNUAL MUSEUM.

There was but little attempt to make the exhibition this year as socially attractive as was the preceding one at Cheltenham , indeed, any such attempt would probably have been attended with limited success, since a strictly rectangular hall was the only available building for the purpose, whereas the Winter Garden in Cheltenham afforded every opportunity of making the annual museum attractive and artistic The Winter Garden proved a pleasant lounge and retreat and was, besides, approached by beautifully kept lawns The Drill Hall in Burlington street, Manchester, is situated in a somewhat unpleasant neighbourhood not very far from the Owens College and both places could hardly be said to be within easy distance of the leading hotel quarters The opening ceremony on Monday was featureless Dr Woodcock briefly introduced the Lord Mayor of Manchester, who declared in equally brief terms the exhibition to be open A reception of visitors then took place and the attendance was fairly good. Despite the heavy showers on Tuesday there was a satisfactory influx of medical men, and the interest taken in the exhibits was evidently brisk

Electrical appliances and photo therapeutic apparatus perhaps attracted most interest, although considerable attention was given to the excellent surgical and sanitary appliances displayed, as well as to new forms of drugs, new pharmaceutical preparations, and so on There was a small motor car and carriage section. As might have been anticipated many well known local firms were represented. It may be remarked that there was a decidedly diminished tendency to worry the visitor to give his attention to any particular exhibit, and there was an absence of that kind of objectionable solicitation which borders so closely upon mere touting It is evidently realised that medical men know best what interests them most, and it would add considerably to their comfort if the unasked for and generally exaggerated statements made by the exhibitors could be suppressed altogether Of course, the exhibitor generally possesses some special knowledge of his exhibits, but there is no necessity for him to give the medical visitor any information unless requested to do so To be persistently hailed on all sides with "Have you seen this, Doctor?" "May I draw your attention to that, Doctor?" "Will you put your name in my book?" and so on, is annoying and calculated to defeat the real and excellent aim of the exhibition—i e to introduce to the notice of the practitioner any pharmacological advances or other improvements

Adhering to our practice in previous years, we propose to review what we consider to be the more important exhibits, which for convenience may be classified as follows I. Drugs , II Foods and Food Products , III Sanitary Appliances, Disinfectants, &c. , IV Surgical Instruments and Appliances , V Mineral Waters, Beverages, &c. , VI Publications , and VII Miscellaneous

I.—DRUGS

In touch with so many busy industrial centres it might have been expected that Manchester would afford abundant opportunity for exhibiting a great variety of drugs. And such was the case. The midland towns were well represented With regard to drugs and their preparations there was no striking advance to report, and certainly no particularly important departure relating to the forms of administration appears to have taken place. Attention is of course still being directed to the improvement of pills tablets, cachets bases excipients and so forth an attention which has contributed so much towards pharmaceutical elegance and to bringing dosage to a remarkable pitch of accuracy Amongst the local firms represented were Messrs. James Woolley Sons and Co Limited, who offered an admirable selection of new therapeutic agents for inspection Amongst these were argonin duotal purgatin, urosin, and other drugs which have been described already in our analytical *columns. Mention should also be made of* akolethe a solution of the sedative principles of opium Again, cancellous tissue described as decalcified bone, has been suggested as an absorbent dressing for use in the treatment of granulating wounds fistulas and ulcers Amongst the elixirs shown was elixir terpini co each fluid drachm containing one grain of terpin hydrate and $\frac{1}{16}$th grain of heroin hydrochloride it is useful in the irritable conditions of the respiratory tract. Lastly a special preparation is unguentum resorsol an ointment prepared with resorcin tar, zinc, and bismuth for use in inflammatory conditions of the skin. Messrs. Charles Midgley, Limited of 23 St. Ann s-square, Manchester presented to view a number of interesting preparations, the feature of the exhibit, however being an excellent series of medicated soaps. Amongst the soaps prepared both with an alkaline and a superfatted base are ichthyol, sulphur and white birch tar soaps. The superfatted soaps include also nicotine soap and resorcin soap and *others The same firm prepare* a series of medicated pastilles and special liquores Amongst the former may be mentioned eucalyptus and codein pastilles and the dionine lozenge and amongst the liquores may be *noted those containing papain pepsin santal and copaiba.* These liquors are designed for the use of practitioners who do their own dispensing Mr J C Arnfield of 7 and 9 Lower Hillgate, Stockport, exhibited a number of useful preparations amongst the most novel of which were Unna s pastes and hæmorrhoidal jellies in collapsible tubes and eye ointments contained in gelatin capsules. By merely piercing the capsule the desired quantity of ointment may be easily obtained. Colloiderm may be mentioned as an excellent aseptic collodion evaporating rapidly Messrs. R. Sumner and Co of 50A Lord-street Liverpool, exhibited a number of preparations illustrating chiefly improved methods of administration such as gelatin perles and capsules and gelatin coated pills free from pin holes. Antisepticine is also worthy of mention being a non poisonous antiseptic containing the active agents thymol, eucalyptol peppermint, gaultheria and *benzoic or boric acids* Antisepticine is suggested for internal use in flatulence as an anti fermentative and in dysentery and diarrhœa. An emulsified chloroform is also prepared by this firm, it is convenient in enabling the extemporaneous preparation of acqua chloroformi B P The Bayer Co. Limited of 20 Booth street, Manchester exhibited their well known preparations. Amongst these are agurin " a theo-bromine compound possessing diuretic properties, the silver proteid protargol aspirin, a substitute for the salicylates and hedonal, a hypnotic of the urethane group A well arranged stall replete with a great variety of preparations was that of Messrs. Wyleys Limited of Coventry The exhibits included ichthyol pessaries and suppositories *throat* and other pastilles, and standardised tinctures and medicines in capsules coated pills, cachets and pellets. Messrs. Duncan Flockhart and Co of 104 South Canongate Edinburgh, exhibited the well known preparations connected with their name, the chief of which is, of course, specially pure chloroform, but other preparations were included such as gelatin capsules, tablets, and infusions. Coming to London firms, Mr W Martindale of 10 New Cavendish-street London W exhibited a number of preparations well worth attention. Amongst these were sterules " or sterilised eye-drops contained in capillary tubes (the method is convenient and effective) compressed moss a good absorbent dressing sodio magnesian aperient with caffeine and many other useful preparations. The portable urine test and bacteriological test apparatus are well known on account of their special usefulness. We have already described in our analytical columns Dolles s aromatic iron milk, for which the British Iron Milk Syndicate Limited, of 115 and 116 Strand London W C. are *the agents. It is* an ingenious preparation of pyrophosphate of iron suspended in water with the aid of glycerine. The iron salt is unchanged until it reaches the beginning of the intestinal tract where it is absorbed. It is without the usually unpleasant effects of iron salts and is not astringent, while it is agreeable to take. Messrs C J Howlett and Son, of 35, Charlotte-street, London, E.C exhibited a number of improved pharmaceutical *preparations* including several valuable mistura, besides many comparatively new remedies including urea and the cacodylates. Amongst the antiseptic preparations were a cream a jelly and a liquid ether soap An interesting variety of preparations, medical and antiseptic, was *presented to view on the stall of Messrs.* Corbyn Stacey and Co Limited, of 300 High Holborn, London. Antiseptoform is a wax like solid which gives off formaldehyde gradually at ordinary temperatures while on heating it generates the same gas in large quantities It is therefore useful for aerial disinfection. The exhibit included a number of elegant extracts, liquors and syrups. Mr Frank A. Rogers of 327 Oxford-street London W exhibited several forms of apparatus for producing sprays for medical application well adapted for laryngeal work post nasal work, and in the treatment by spray of other cavities. An interesting series of medicated ointments in the form of cylindrical sticks known as hypodermules was also worthy of attention. We have already noticed some of the more important preparations of the Anglo-American and Continental Pharmaceutical Company of 39A Tamworth road, Croydon. These include Huxley s compound syrup of the acid glycero-phosphates and an antiseptic plasma dressing and dusting *powder* The small spherical capsules known as kugloids may be mentioned they contain glycero phosphate of quinine, benzoate of creasote, and eucalypto, the therapeutic indications being obvious Messrs Burgoyne Burbidges, and Co of 12 and 16 Coleman street London, E C exhibited a number of new silver preparations useful in the antiseptic treatment of wounds Amongst them were actol credé (lactate of silver) antiseptic credé *(citrate of silver) collargolum (colloidal silver credé)* and unguentum credé (colloidal silver ointment) Acoin the comparatively new local anæsthetic for surgical ophthalmological and dental operations has already been described in our analytical columns. An interesting collection of synthetics generally of a beautiful crystalline character was tastefully arranged on the stall of Messrs. Zimmer and Co of 33 Lime-street London, E.C. These included euquinine so-called tasteless quinine said to possess the same antipyretic action as quinine, the dose being the same, urosine and dymal, the basis of an antiseptic dressing The Angier Chemical Company of 32 Snow hill London E C exhibited preparations of their *emulsion of petroleum with hypophosphites. It is described* as acting as a demulcent and sedative throughout the intestinal tract Maltine serves as a substitute for ordinary syrup for the exhibition of iron and the phosphates with the added advantage that it possesses diastasic properties. The Maltine Manufacturing Co of 24 and 25 Hart-street Bloomsbury exhibited a number of preparations of the nature indicated compounds were also shown of maltine with *cod liver oil cascara, &c.* Messrs Parke, Davis, and Co of 111, Queen Victoria street, London E.C exhibited a very large choice of preparations including special drugs, serums and toxins antiseptics and chocolate-coated tablets Special emphasis was laid upon the value of adrenalin the active principle of the suprarenal gland as an astringent hæmostatic and vasomotor stimulant. The exhibit included the nuclein compounds of mercury silver iron, and copper The Charles H Phillips Chemical Co of 14 Henrietta street, Covent-garden London W C exhibited an elegant preparation of magnesia it consists of a uniform emulsion of the pure hydrated oxide of magnesium and contains 24 grains in each fluid ounce. It has the advantage of acting as an antacid in dyspepsia without the production of carbonic acid gas It serves as an excellent mouthwash and is described as of peculiar value in the colic of *infants. Messrs Oppenheimer* Son, and Co. of 179 Queen Victoria street, E.C. had a well-arranged stall on which their palatinoids and bi palatinoids figured for the most part. The palatinoids of tinctures and the bi palatinoids of compound syrups are worthy of special mention An excellent variety of medicine cases suitable for many purposes was also shown. These included emergency cases pocket medicine cases and a combined *emergency and midwifery case* The Peptenzyme Co. of 80 Gloucester road South

Kensington, London, S W , besides exhibiting peptenzyme tablets and elixir, preparations which we have had occasion to report upon in our columns, showed also a preparation called "trophonine," which is described as a palatable and highly nutritious liquid food, being derived from vegetable and animal proteids associated with the digestive enzymes , Another preparation worthy of note on this stall was "zymocide," a solution of several aromatic antiseptics Being non poisonous it is suitable for internal use as an anti-fermentative and in dysentery and diarrhœa. The chief subject of exhibit on the stall of Mr B Kühn of 36, St Mary at-Hill, London, was chinosol, which has the advantage of possessing not only strong antiseptic power, but a deodorising power also It occurs in the form of pure powder for medical use and in a crude form for common disinfectant purposes Tablets are prepared containing a definite amount of chinosol which enables the quick preparation of a standard solution The exhibit included a group of pharmaceutical preparations manufactured by Messrs Knoll and Co Of these we have already mentioned the interesting synthetic and purgative purgatin, in powder and tablets, and triferrin, a paranucleinate of iron This firm also showed graduated glass tubes containing ethyl chloride for inhalation in general anæsthesia. Messrs Arthur & Co , of 69, Berners street, London, W , made a special feature of their gold preparations known as bromaurum and hydraurum, said to be useful in the treatment of neurasthenia, epilepsy, and chronic rheumatism Samples of uric acid illustrating abnormal pigmentation caused by nervous degeneration and the action of bromaurum in obviating this pigmentation were exhibited. The exhibit included antiseptic handkerchiefs and aquaform, a local application for the relief of perspiring hands Of comparatively recent introduction is the interesting substance ovo lecithin, consisting of the three lecithins of stearic, oleic, and palmitic acids contained in the yelk of the egg Mr Billon, of 16, Water lane, Great Tower street, London, E C , prepares pills of ovo lecithin and a special confection for children, and fluid ovo lecithin for intra muscular injection

ASYLUM REPORTS

East Sussex County Asylum (Annual Report for 1901) —The average number of patients resident during the year was 956, comprising 406 males and 550 females The admissions during the year amounted to 222—viz , 120 males and 122 females Of these 181 were first admissions Dr E. B C Walker, the medical superintendent, states in his report that among the admissions there were 75 males and 70 females whose prospect of recovery was bad or hopeless , 35 males and 38 females were found to be actively suicidal on admission The number of patients discharged as recovered during the year amounted to 74—viz , 34 males and 40 females, or 7 7 per cent of the average number resident. The deaths during the year amounted to 90—viz , 45 males and 45 females or 9 4 per cent , as calculated on the same basis Of the deaths three were due to pulmonary, or other forms of, tuberculosis six to cerebral atrophy, six to cardiac disease, seven to nephritis, nine each to epilepsy and senile decay, 14 to pneumonia, 18 to general paralysis of the insane and the rest to other causes One female patient was admitted while pregnant and was confined of a child four months afterwards. She was subsequently discharged as recovered Four patients escaped from the asylum but three of them were brought back. During the months of April, May, June, and August one female and 14 male patients were attacked with measles, the disease being introduced from the neighbourhood, where it was very prevalent Early in the year the accommodation for male patients was found to be inadequate To make provision for them a contract was entered into with the Nottingham City Asylum for the reception of 30 males In April beer as part of the ordinary diet of patients was discontinued , it caused but slight discontent on the part of a few patients, and the addition to the dietary of more cheese cake, and jam was found to be much appreciated. The Commissioners in Lunacy state in their report that the asylum as a whole was in good order, that 58 per cent of the males and 68 per cent. of the females were usefully employed, and that the medical case books were well kept. The committee of management states in its report that during the year the attendants' and nurses' leave has been increased and the diet scale improved No cows are now purchased for the farm without undergoing the tuberculin test

Obituary.

JOHN PERMEWAN, L R.C.P EDIN

MR. JOHN PERMEWAN died at his residence, Redruth, Cornwall, on July 26th in his seventy first year The deceased, who received his medical education at St. Bartholomew's Hospital, had resided for many years in Redruth where he had with his eldest son, Dr A E Permewan, J P , an extensive practice Mr Permewan was attending to his professional duties to within a fortnight of his death which was caused by pneumonia following a chill The deceased will be greatly missed in Redruth where he took a great interest in all local matters and was one of the originators of the West Cornwall Women's Hospital. Mr Permewan also erected at his own expense seats for the convenience of invalids in various directions in the outskirts of Redruth The deceased leaves two sons, both of whom are members of the medical profession, and two daughters His wife, who was also greatly esteemed at Redruth, died about three years ago

DEATHS OF EMINENT FOREIGN MEDICAL MEN —The deaths of the following eminent foreign medical men are announced —Dr Karl Marinus Reiss, Professor of Pathology in the University of Copenhagen, at the age of 73 years The scientific papers published by him chiefly related to diseases of the respiratory organs —Dr Matias Nieto of Serrano, Marquis de Guadalerzas permanent President of the Royal Academy of Medicine of Madrid

Medical News.

VICTORIA UNIVERSITY —In the Faculty of Medicine the following candidates have passed in the subjects indicated —

FINAL EXAMINATION

Part I —R A. H. Atkinson A N Benson F L Boag and Alexander Boothroyd Owens Neville Bradley University C H Bromhall, Owens Stanley Brown University Thomas Brown Yorkshire Laurence Clay and Thomas Coogan, Owens Robert Cook University B H Cox Owens A M Deane, Yorkshire , J L Falconer H L Fox J P Garlick and F W Gatenby Owens, E A Gibson University H D Haworth Owens F W Hayes Yorkshire Rowland Heathcote Owens Arthur Hendry University E W Henstock and Hubert Hodge, Owens C A Hughes, A D Hunt and H R Hurter, University Hamilton Irving and J M H Jones, Owens G H Joseph University W H Judson and T W Lonsdale Owens H J Macvean Yorkshire J de V Mather Owens C T Matthews, Yorkshire H E Moore Owens D J Mulholland, University C S O Neill Owens M. B Potts, Yorkshire, Frank Robinson Harold Simms J M Skinner, R T Slinger and J C Smyth Owens Bertram Suggit Yorkshire R H. Swindells and F P S Thomas Owens H G Thompson and I C Thorburn, University M G L Walker Yorkshire; S H West Owens Henry Woods, University and William Wright Owens

Part II —†Walter Briggs and †G H Brown Owens Alexander Burkhard, Yorkshire †A G Christian Tom Eastham A H Gregson †Alexander Hodgkinson W S Holmes C H Hopwood and †J R Hutchinson Owens R G M Ladell Yorkshire †A W Latham and †G H Leigh Owens J A Longley, Sydney Platts and A H Radcliffe Yorkshire Arthur Richmond F W Schofield and S W Swindells Owens Ernest Tinker Yorkshire A E Townley and F E Tylecote Owens G B C Walker, University and *W S Wrigley, Owens

* Awarded first-class honours † Awarded second-class honours

SECOND EXAMINATION

A *Anatomy and Physiology* —B M Bennett Owens J L Browne University Francisco da Cunha, H S Dixon and Walter Fuller Owens A. E Griswood University W H. Hey and R W Higson, Owens W D Higson and G J Keane University F J Kendall Yorkshire Laurence Kilroe Owens Walter Longley Yorkshire James McClellan and R H. Mole University G C Mort Owens R B Radcliffe Yorkshire F G Ralphs Owens; J S Rowlands University C A Smith Yorkshire and Harold Spurway and T W Walker Owens

B *Materia Medica and Pharmacy* —Herbert Ainscow B M Bennett Frank Boothroyd T M Bride, Charles Brown D B Core and C M Craig Owens John Dixon R G Dixon, and F G Dobson, Yorkshire; W R. Douglas Owens Harold Fearnley Yorkshire Joseph Fletcher, Owens; E R. Flint Yorkshire; H. M Fort C L. Franklin and William George, Owens, B T J Glover University S R Gloyne Alfred Gough, and D W Hardy Yorkshire P J Harris-Jones Owens; W D Hill Yorkshire; A W Houghton and A. W Howlett, Owens J J Hummel and G H Hustler Yorkshire; T E. Jones, University, A. J Landman, Yorkshire; T W P Leighton, J B Macalpine J T R McGill and J D Marshall Owens; Herbert North Yorkshire; H B Pare and W C Parkes Owens; T W Parry University P L Pollard and Joseph Rickards Owens; C H. Smith University; W W Stacey Owens F H. Storey University, Henry Thorp Owens; A. L. Walker Frederick Whalley and Thomas Whitehead, Yorkshire; G W Williams Courteney Yorke and Warrington Yorke University and J S Young Owens

The Diploma in Public Health has been awarded as follows —

W J Butcher and Walter Latham

UNIVERSITY OF ABERDEEN —The following degrees and diploma have been conferred on the undermentioned —

Degree of Doctor of Science (D.Sc.) —Alexander Findlay M.A B Sc., Aberdeen

Degree of Bachelor of Science (B Sc.) —George Rattray M.A Aberdeen (with Special Distinction in Botany and Geology)

Degree of Doctor of Medicine (M D) —Norman Wm Anderson M.B C M. Strathmiglo Fife; *James Fletcher M.B C.M.; Ham Green Hospital Bristol (under New Regulations) Albert Henderson M.A. M.B , C.M., Aberdeen Alfred Hogg M.A. M.B C M Old Trafford, Manchester Douglas Whimster Kellier Moody M B C.M. Montrose; *Alexander Robb M.A., M.B C.M Paisley, Percy Austin Roden M B C.M Droitwich; Robert Maxwell Trotter, M.B C.M. Newcastle-on-Tyne; and George Alex. Troup M.B C M., Stratford London

* Theses awarded commendation

Degrees of Bachelor of Medicine (M.B) and Bachelor of Surgery (Ch.B) (New Ordinances) —†Charles Todd Andrew B Sc. Hamilton; William Leslie Beaton Forth James Davidson Cruden, by Ellon; William Fraser B Sc. Forres William Sim Garden Portsoy George Eric Hamilton Aberdeen; Thomas Barrett Heggs West Bromwich, Staffordshire Donald John Gair Johnston Culduthel Mains, Inverness; †John Charles Grant Ledingham M.A., B Sc. Boyndie, Banff William Louis Anderson Leslie Stonehaven *Alexander James Macdiarmid, Aberdeen; George Shiach McKay* M A. Dufftown; Malcolm Macleod, Aberdeen; Thomas Basil Mitchell Hillside, Montrose Alexander Lumsden Ritchie School hill Turriff; George Officer Robertson M.A. Ellon; John Rose, M.A. Leanach Inverness; Francis William Squair New Deer; †*John Hector Stephen B Sc. Aberdeen; Henry Watson Norwich*; and Andrew Stewart Wilson Aberdeen

† With second-class honours

Diploma in Public Health —Henry Fraser M.D Aberd., Aberdeen (with credit); and Wilfred Ernest Lawson, M.B., Ch.B Aberd Aberdeen

The John Murray medal and scholarship awarded to the most distinguished graduate (M.B) of 1902, was gained by Lewis Davie Cruickshank M.B., Ch.B., Tarves Aberdeenshire and the Alexander Anderson Scholarship was awarded to John Charles Grant Ledingham M.A. B Sc., Boyndie, Banff

The following candidates have been successful in the examinations indicated —

Portion of First Professional Examination.—William Angus, John W Archibald James W Barnott, Agnes A Baxter Henry Begg William Begg Francis J Browne, James A. M Clark James M'K. Clark James A. Davidson Walter J Dilling James Donaldson, Norman A. Duncan Robert L. P Duncan Robert J Duthie, Williamina S B Fitzpatrick, Robert P Garrow Stephen Goodbrand Leighton H Hay James Leask, Dalziel B M'Gregor James R Mackenzie, Douglas John Marr James M Mathieson, Harry Middleton John H. Moir Algernon E. C. Myers Patrick Nicol, Alexander Noble, Alfred J Pirie Albert N E. Rodgers Robert W A. Salmond Arthur Shepherd Alexander H Skinner Frank P Sturm James B G Thomson William A Watson James J P Wilson and John M J Wilson

Completed First Professional Examination.—John S Beedie Robert Chalmers Theodore Chalmers, James G Copland Alex. M'R. *Donaldson* Mary W Durno William M. Ferguson, George F Forgie, John F Gill, James F Grant ‡R M. Gunn, Alexander J Guthrie, George T J Hendry Adam Hutton Adam Johnston, William B. Keith, Arthur Kellas, James S M'Connachie, Joseph M Macdonald John G M'Gregor Enea K. Mackenzie ‡William A. H. M'Kerrow Neil P Macphail Sophia Jean Meiklejohn Mearns A Milne James E. Mitchell, Stanley W Munro John Murray Sebastian V van Niekerk David E Rae J Raffan Patrick M'Rennie, John Sangster W F G Scott, John R Stewart Forbes J Stuart, Arthur G Troup James C Troup Alexander F Wallace and Cristina Wilson

Completed Second Professional Examination.—George Adam Benjamin J Alcock Catherine E Anderson, John Anderson §James Clark William Dalgleish Francis W Davidson, Alexander Duguid Walter A. Elwood, Alexander Hendry Thomas G Innes, Herbert M Jamieson John Jenkins Helen M Glashan Donald M Kay Charles G Macmahon William M M'Pherson Alexander M'Robbie James Robb Michael B H Ritchie James Robertson Alexander N Ross §Bertie R. G Russell, Herbert W B Buxton §Charlotte A. T Schultze Fife Slater ‡Cyril H Smith, James H Thomson, Douglas A. Wood William Wood and Robert J B Wright. *Old Regulations* Alexander S Cardno.

Completed Third Professional Examination.—Benjamin J Alcock, William Anderson (Kintore) §Margaret Duncan §Archer Irvine Fortescue Charles W T Gray, ‡Bella Gunn, James W Miller ‡W R. Pirie, G B Sleigh and Douglas A. Wood

Passed with distinction § Passed with much distinction.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS.—The following candidates have passed the Public Health examination as undernoted —

FINAL EXAMINATION

Passed in all subjects —T A. Dillon Miss H A. Hall Miss M E. M Logan J J Moore W B A Moore, J Murphy J Murray M A A. O'Brien J O'Doherty C E O'Keeffe G C Robinson and F C Yorke.

Completed the examination —H M Clarke T P Cormack James Dwyer R. W Richards, G J Sexton and J H White.

Public Health.—J D Wynne M.B (honours); R. D Booth M.B; C D H. Rygate M.R.C.S and Hugh Woods M D

FOREIGN UNIVERSITY INTELLIGENCE.—*Bahia* Dr *Anisio Circundes de Carvalho has been appointed to the* chair of Clinical Medicine in succession to Dr Monteiro —*Barcelona* Dr Antonio Gonzales Prats has been appointed to the chair of Medical Pathology —*Gratz* Dr Erwin Payer has been appointed Extraordinary Professor of Surgery —*Kiel* Dr Reinhold Ruge has been recognised as *privat docent* of the History and Geography of Medicine.—*Lausanne* Dr Kasimir Stryzowski has been appointed Extraordinary Professor of Physiological Chemistry —*Pavia* Dr Rina Montio a lady who was awarded the great gold medal by the University has recently been recognised as *privat docent* —*Vienna* Dr Arnold Durig has been recognised as *privat-docent* of General and Experimental Pathology.—*Würzburg* Dr Rostoski has been recognised as *privat docent* in Medicine.

LITERARY INTELLIGENCE.—In a few days the Walter Scott Publishing Co will issue a volume by the Rev A. N Cooper M.A. vicar of Filey Yorks, descriptive of some of his tours, entitled The Tramps of The Walking Parson " Mr Cooper has earned for himself the *sobriquet* of "The Walking Parson" by his feats of pedestrianism. We consider that in these days walking has been far too *much replaced by other forms of exercise* and mechanical methods of locomotion and we look forward to a perusal of Mr. Cooper's book, setting forth the manifold benefits and pleasures of pedestrianism.

PRESENTATIONS TO MEDICAL PRACTITIONERS —Mr J W K. Mullen L.R.C.P & S Irel. the medical superintendent of the Ladywell Sanatorium, has been presented by the nurses and *servants of that institution* with a study chair on the occasion of his completion of 21 years service at the sanatorium —Mr C A. W Chichester of Gillingham has by his will bequeathed £100 to the Devon and Exeter Eye Infirmary —At the Camelford (Cornwall) Town hall on July 25th the members of the Camelford branch of the St. John Ambulance Association presented Mr Ernest John Jerome L.R C P and S. Edin. with a Gladstone bag in appreciation of his services as honorary lecturer

ODONTOLOGICAL SOCIETY —The following officers have been elected for *1902-03* —President William A. Hunt. Vice-Presidents F J Bennett, W H. Woodruff E. G Betts, W S Woodburn (Glasgow) W B Bacon (Tunbridge Wells) and H. B Mason (Exeter) Treasurer C. F Rilot Librarian H. Baldwin Curator J F Colyer Editor of Transactions H. Lloyd Williams Honorary secretaries J H. Mummery (Foreign) W Rushton (Council) and Montagu F Hopson (Society) Councillors (Resident) R. Wynne Rouw J Mansbridge, Morton A. Smale, R. Dennison Pedley, J Percy Smith George Hern A. Hopewell Smith, E. Preedy and Carl Schelling (Non Resident) G O Whittaker (Manchester) W A Rhodes (Cambridge) W Glaisby (York), J J H Sanders (Barnstaple) E. A. Bogue (New York) J F L. Pike (Sheffield) G W Watson (Edinburgh), Kevin E. O'Duffy (Dublin) and *John E. Grevers* (Amsterdam).

DONATIONS AND BEQUESTS —Under the will of Mrs. M. E. Scott of Hayward's Heath £5000 are bequeathed to the Sussex County Hospital and £3000 to the Royal Hospital for Consumption, Ventnor —By the will of Mr James Hancock of Sheffield £500 will ultimately go to the Jessop Hospital for Women.—By the will of Mr A. Scrutton of Woodford £500 are bequeathed to the London Hospital for the endowment of a bed and £500 to Mrs. Mearnes's Convalescent Home at Folkestone for the same purpose —The Duke and Duchess of Aosta have sent a donation of 1000 francs to the funds of the Italian Hospital, Queen square.—The City Corporation has granted 50 guineas towards the fund for building a nurses' home for the British Lying-in Hospital, Endell street, and the same amount to Queen Charlotte's Lying-in Hospital, Marylebone road —By the will of Mr Thomas Patey Chappell £500 are bequeathed to St. George's Hospital and £100 to the Teddington Cottage Hospital.—Miss Clara Squire by her will bequeathed £100 each to the Charing Cross Hospital, the Cancer Hospital, Fulham, the Middlesex Hospital, St Mary's Hospital, Paddington, and the National Hospital for the Paralysed and Epileptic, Queen square, and £200 to the Westminster General Dispensary, Soho

INCREASE OF SALARY —At the meeting of the Plympton Rural District Council held on July 25th it was unanimously decided to increase the salary of the medical officer of health (Mr S Noy Scott, L R.C P Lond , M R.C S Eng , D P H.) from £150 to £200 per annum

HOSPITAL FOR CONSUMPTION, BROMPTON —A country branch and convalescent home for open air treatment in connexion with the Hospital for Consumption, Brompton, is now being built at Heatherside from plans prepared by Mr E T Hall, F R.I B A. This building has been specially designed and will combine the latest improvements The patients will be drafted from the parent hospital on the recommendation of the physicians in charge. The site is on the well known Chobham Ridges, about three miles from Frimley, Surrey This new departure will involve a large outlay, about £60,000, and funds are urgently needed.

MAUD HOSPITAL, EXMOUTH —The second annual meeting of the subscribers of this institution was held on July 22nd , the report showed that 73 in patients and 104 out-patients had been treated during the year ended June 30th, 1902. The financial statement showed that the income amounted to £527 and the expenditure was £455 At the last meeting of the subscribers of this hospital it was decided that a new institution should be erected under the name of "The Exmouth Cottage Hospital" as a memorial to the late Mrs Hume Long The cost is estimated at £4000, towards which £3000 have been received and the committee hope that the new building will be completed within the year

Parliamentary Intelligence.

HOUSE OF COMMONS

TUESDAY JULY 22ND

The Sanitary Condition of Post Offices

SIR WALTER FOSTER asked the Secretary to the Treasury as representing the Postmaster General whether the Post Office had arranged to permit the inspection of post-office buildings by Factory Act officials when such inspection was considered necessary and whether the Postmaster General would direct that upon the staff making complaints in writing with reference to the sanitary condition of the buildings in which they work an inspection would take place and the result be communicated to the men concerned.—Mr AUSTEN CHAMBERLAIN replied The Postmaster General has made an arrangement with the Home Office under which he is able if he considers it necessary to avail himself of the services of a factory inspector in dealing with any question whether a post-office building fulfils the conditions of the Factory Acts, and he has already done so Every complaint made by the staff as to the sanitary condition of a post office building is thoroughly investigated but the Postmaster General cannot undertake to call in a factory inspector every time a complaint is made.

WEDNESDAY JULY 23RD

Medical Examination of Passengers at Calcutta

Mr WEIR asked the Secretary of State for India whether any arrangements had yet been made for the punctual attendance of the medical officer for the examination of passengers leaving Calcutta by morning sailings of outward bound steamers and could he state whether the shed in which passengers were examined had yet been put in a state of repair and the practice of medical examination in a public thoroughfare discontinued —Lord GEORGE HAMILTON replied I have no information about these matters They are such as are dealt with by the local authorities without being reported to the Secretary of State Any complaints on the subject should be addressed to these authorities

THURSDAY JULY 24TH.

Poor-law Reform in Scotland

On the motion of Mr Baird a Bill was introduced and formally read a first time to extend the powers of the Local Government Board for Scotland in regard to the detention of poor persons in poor houses and parish hospitals

Poor law Medical Officers and Private Practice.

Mr CATHCART WASON asked the Lord Advocate if his attention had been called to an advertisement for a Poor law medical officer for the parish of Farr Sutherlandshire and whether such advertisement was in accord with the regulations of the Local Government Board —The LORD ADVOCATE replied: The attention of the Local Government Board has been called to the advertisement referred to and it is in communication with the parish council of Farr The Board has not made a formal regulation on the subject, but when it finds a parish council interfering with the fees charged by its medical officer in his private practice it calls upon the council to cease doing so, and it has repeatedly taken this course

Dental Provision at the Duke of York s School

Mr CATHCART WASON asked the Financial Secretary to the War Office if any arrangements had been made for dentistry and dental inspection of the children at the Duke of York s School and, if so would he state their nature.—Lord STANLEY replied: Arrangements have been approved for the provision of a dentist and the necessary materials for dentistry for the next 12 months after which period the arrangements are subject to revision

BOOKS, ETC , RECEIVED

BAILLIÈRE TINDALL, AND COX, 8, Henrietta street Covent garden, W C

The Journal of Obstetrics and Gynæcology of the British Empire. Volume I , January to June, 1902. Price not stated

Aids to Practical Dispensing By C J S Thompson Fellow of the Royal Historical Society Member of the Pharmaceutical Society of Great Britain Third edition enlarged, with Illustrations Price bound in cloth 2*s* 6*d* paper 2*s*

Death and Sudden Death By P Brouardel Professor of Medical Jurisprudence Dean of the Faculty of Medicine Paris and F Lucas Benham M D , B S Lond M D Adelaide, Member of the Royal College of Physicians of London Second edition Price 10*s* 6*d* net

BOEHME GEORG (A Deichert sche Verlagsbuchhandlung Nachfolger) Leipsic

Die Motilitätsstörungen des Auges auf Grund der Physiologischen Optik, nebst einleitender Beschreibung der Tenon schen Fascienbildungen By Dr Ernest E Maddox Ophthalmic Surgeon, Royal Victoria Hospital Bournemouth Authorised German Edition elaborated by Dr W Asher, Augenarzt in Leipsic. Price paper, M 6 cloth M 7

CASSELL AND COMPANY, LIMITED, London, Paris New York, and Melbourne

The Tale of a Field Hospital By Sir Frederick Treves, Bart., K C V O , C B Cheap edition Price 3*s* 6*d*

CHURCHILL, J & A , 7 Great Marlborough street W

The Force of Mind or, the Mental Factor in Medicine. By Alfred T Schofield M D , M R C S , Honorary Physician to Friedenheim Hospital Price 5*s* net

A Manual of Bacteriology, Clinical and Applied with an Appendix on Bacterial Remedies, &c By Richard T Hewlett, M.D., M R C P , D P H Lond Professor of General Pathology and Bacteriology, King s College, London Second edition Price 12*s* 6*d*

A Text-book of Medicine Begun by the late Charles Hilton Fagge, M D F R C.P completed after his death and since revised or rewritten by Philip Henry Pye-Smith M D , F R S Fourth edition In two volumes Vol II Price 21*s*

COBLENTZ OSCAR Berlin W 35

Die Anatomie und Physiologie der Kehlkopfnerven Mit ergänzenden pathologischen Beiträgen Bearbeitet von Dr A. Onodi, Professor der Rhino-Laryngologie an der Universität in Budapest Price M 6

GEORGE NEWNES, LIMITED Southampton street, Strand W C

The Story of Animal Life. By B Lindsay Price 1*s*

HIRSCHWALD AUGUST Unter den Linden, 68, Berlin, N W

Erinnerungs Blätter an die Leyden Feier in April, 1902. Price M 2

SAMPSON LOW MARSTON, AND CO , LIMITED St. Dunstan s House, Fetter-lane E C

Diagnosis by Means of the Blood Illustrated by 154 Photomicrographs By Robert Lincoln Watkins, M.D of New York Price not stated

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub Editor, not later than 9 o clock on the Thursday morning of each week for publication in the next number*

ATKINS SYDNEY ERNEST L R C S Irel. L S A has been appointed Medical Officer and Public Vaccinator for the Northlew District by the Okehampton (Devon) Board of Guardians

BELL THOMAS M R C S L R C P Lond has been appointed Medical Officer of Health to the Urban District Council of Shepsted.

BENSON, CHRISTOPHER RICHMOND M.R C S , L S A , has been appointed Medical Officer and Public Vaccinator for the Bratton Clovelly District by the Okehampton (Devon) Board of Guardians.

BRAMWELL, EDWIN M.B C M Edin M R C P Lond M.R C.P Edin., has been appointed Assistant Physician to the Leith Hospital.

BROADBENT JOHN M.A. M.D Oxon., M.R.C P Lond has been appointed Assistant Physician to the London Fever Hospital

BURTON ARTHUR M D Cantab., has been appointed Certifying Surgeon under the Factory Act for the Cromer District.

COX, ERNEST A., M.R C S., L.R.C.P Lond., has been appointed Public Vaccinator for the No 4 District of the Daventry Union

DAVIES, JOSEPH F R C.S. L.R.C.P Edin., L.F.P S Glasg J.P has been appointed Deputy Medical Officer of Health of Swansea.

DOBIE, HENRY EDWIN NEWMAN M B Edin., has been appointed Public Vaccinator for the Midland District of Victoria, Australia.

GIBSON WILLIAM M.B., Ch B Glasg has been appointed Medical Officer of Health to the Cheadle Rural District Council.

GODFREY HORACE PERCY, M.B Melb., F R.C.S Eng. has been appointed *pro tem.* Visiting Surgeon to the Gaol at Orange New South Wales.

GORDON JOHN M.D B S Melb L.R C.P Lond., F R.C S Eng., has been elected Honorary Surgeon to Out patients of the Melbourne Hospital, Victoria Australia.

GOUGH JOHN HARLEY F R C S Edin., L.R.C.P Lond M R C S has been appointed Honorary Physician to the Torbay Hospital Torquay

HARRATT T T, M R C S L.R.C P Lond has been appointed Medical Officer of Health of Rye in succession to Mr A. E. Vidler resigned

HAWORTH R., M.B M S Glasg has been appointed Medical Officer of Health for Oswaldtwistle.

HOPEWELL-SMITH A., L.R C P Lond., M R C.S, L.D.S Eng has been appointed Lecturer on Dental Anatomy and Physiology at the Royal Dental Hospital of London vice Mr C S Tomes, resigned.

HUNT, ERNEST L.R.C.P Lond M R.C S has been appointed Medical Officer for the Kingsteignton District by the Newton Abbot (Devon) Board of Guardians.

JOHNSON CHARLES HAROLD, M.D Edin., has been appointed Health Officer for the Shire of Yackandandah Victoria, Australia, vice Dr Frederick Charles Acton resigned

LONG, SYDNEY HERBERT M.B., B C Cantab., has been appointed Medical Officer of Health to the St. Faith s Rural District Council.

MATTHEW EDWIN, M.A. M.B C.M Edin. has been appointed Assistant Physician to the Leith Hospital

MEREDITH, R. WILLIAM HENRY L.R.C P Lond., M.R C.S, has been appointed Medical Officer for the No. 1 District by the Wellington (Somerset) Board of Guardians vice Dr John Meredith resigned.

PECK, HERBERT M D Edin., has been re-appointed Medical Officer of Health to the Chesterfield Borough and Rural District Councils

PITTTE, WALTER, L.R C.P Edin L R C S Edin L.S A. has been appointed Medical Officer for the No 1 District by the Bridgwater Board of Guardians.

POLLOCK, JOHN ROBERT RUSSELL, L.R C.P Lond M.R C S has been appointed Medical Officer of Health of the Tiverton (Devon) Rural District.

RENNIE, GEORGE EDWARD M D M R.C.P Lond., has been appointed a Member of the Medical Board of New South Wales vice Mr H. G A. Wright deceased

SCOTT JAMES ANDREW NEPTUNE, M D Glasg has been appointed Health Officer for the Shire of Wycheproof vice Dr Ralph Charles Brown.

SECCOMBE, J W S, M R C.S., L.R.C P Lond., has been appointed House Physician to St. George s Hospital.

SPRINGTHORPE, JOHN WILLIAM M.A M D Melb has been appointed President of the Dental Board Victoria, Australia.

STAWELL, R. R., M.B Melb., has been appointed In-door Physician to the Children s Hospital, Melbourne, Victoria, Australia

STEVENS W W M B Ch M. Syd. has been appointed Junior Medical Officer at the Coast Hospital New South Wales vice Dr Ada C. Affleck, resigned.

TALBOT FRANCIS T M B B.C Cantab M.R.C.S., L.R.C P has been appointed Surgeon to the Stockton and Thornaby Hospital

TATE ISOBEL A., M.B B S R U I has been appointed Resident Assistant Medical Officer at the Union Workhouse Burnley

TAYLOR, M. H., J.P L.R C.P., L.R C S has been appointed Coroner for the Kingston District of Surrey vice Mr A Braxton Hicks deceased.

TOYE, E. J., M.D Lond has been appointed Medical Officer of Health to the Northam (Devon) Urban District Council, vice Mr Mahood resigned.

VALENTINE, W A., M.D Univ Dublin Trin Coll has been appointed District Medical Officer and Public Vaccinator of the Northam District of the Bideford Union vice Mr A. E Mahood resigned

WELLINGTON, R. H. L.R.C.P Lond., M R C.S., has been appointed Deputy Coroner for the City and Liberty of Westminster and for the South-Western District of London under the London County Council.

WILLIAMS, PENROSE LAWTON WATKIN L.R.C.P Lond., M.R C.S., has been appointed Medical Officer to the Bridgwater Workhouse.

WILSHAW T R. L.S.A. has been appointed Medical Officer of the Newsham District of the Richmond Union Yorks

Vacancies

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester —Resident House Surgeon. Salary £100 per annum with board residence, &c

AYR DISTRICT ASYLUM Ayr —Locum Tenens for August. Salary 10 guineas.

BIRMINGHAM GENERAL DISPENSARY —Resident Surgeon, unmarried Salary £1.0 per annum (with allowance of £30 per annum for cab hire) rooms fire, light, and attendance.

CORNWALL COUNTY ASYLUM Bodmin.—Junior Assistant Medical Officer unmarried. Salary £130 rising to £160 by annual increments of £10 with board furnished apartments, laundry &c.

COUNTY ASYLUM Mickleover, Derby —Junior Assistant Medical Officer Salary £120 rising to £150 per annum with furnished apartments board washing and attendance.

DUNDEE SANATORIUM FOR CONSUMPTION —Medical Superintendent Salary £250 per annum

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

HALIFAX UNION POOR LAW HOSPITAL.—Resident Medical Officer for Hospital at Salterhebble, Halifax. Salary £130 per annum as Resident Medical Officer and £30 per annum for Dispensing making a gross salary of £160 per annum, with apartments rations and washing

HAYDOCK LODGE ASYLUM Lancashire.—Assistant Medical Officer Salary £175 a year with furnished quarters, board washing, &c.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £50 or £80 per annum with board and lodging

INDIA —Plague Work in.—Medical Men wanted for Plague Duty in India for a period of nine months. Salary will be Rs. 700 a month or in the case of those who are in possession of the D P H., or who have already served on Plague duty to the satisfaction of the Government, Rs. 800 a month First-class passage to India and back and an outfit allowance of £25.

LONDON HOSPITAL, Whitechapel E.—Assistant Physician to the Skin Department

LONDON THROAT HOSPITAL, 204 Great Portland-street.—House Surgeon for six months. Salary at rate of £50 per annum

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon Salary £90 with residence board, and washing

METROPOLITAN ASYLUMS BOARD —A First Senior Male Assistant Medical Officer unmarried for the Asylum Darenth, near Dartford Kent. Salary £250 per annum rising to £300, with rations lodging attendance and washing

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon Salary £100 per annum with board and residence.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried Salary £200 per annum increasing by £15 every year with apartments attendance, light, and fuel

ROTHERHAM HOSPITAL AND DISPENSARY —Senior House Surgeon Salary £110 per annum.

ROYAL LANCASTER INFIRMARY —House Surgeon unmarried Salary £100 per annum with residence, board attendance, and washing

SALOP INFIRMARY —Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board and apartments.

SOUTHPORT INFIRMARY —Resident Junior House and Visiting Surgeon unmarried Honorarium at the rate of £60 per annum, with residence board and washing

STAFFORDSHIRE GENERAL INFIRMARY Stafford.—Assistant House Surgeon Salary £80 per annum with board, lodging and washing

ST BARTHOLOMEW'S HOSPITAL.—Lectureship on General Anatomy and Physiology in the Medical School of this Hospital.

STOCKPORT INFIRMARY —Junior Assistant House Surgeon Salary at rate of £40 per annum with board washing and residence

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon Salary £50 per annum with board, lodging washing and attendance

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon Also Assistant House Physician Appointment for six months with honorarium at rate of £75 per annum, board lodging and washing

THE Chief Inspector of Factories Home Office S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Act at Croydon in the county of Surrey

Births, Marriages, and Deaths.

BIRTHS.

BALY —On July 27th at Goldhurst terrace South Hampstead the wife of C P Peyton Baly M.R C S., L.R.C.P Lond., L.D.S Eng of a daughter

HAYDEN.—On July 21st, at Lydart Pepys-road New-cross S E the wife of G Hayden, M.R C.S and L.R.C P Lond of a daughter

RUBRA —On July 23rd at 39 Cecile-park, Crouch-end, N., the wife of Henry H Rubra, M D Brux M R C.S L.R.C.P Lond. of a son.

MARRIAGE.

SAVAGE—COOPER.—On the 26th inst., at St. Matthew s Brixton, by the Rev Dr D Springett, Vicar assisted by the Rev George Savage uncle of the bridegroom, and the Rev Marcus Rainsford Thomas Copeland Savage F R C.S., second son of the late Warwick Savage Esq., of Burslem Staffs to Madeline second daughter of William Cooper Esq., C C., 65, Brixton hill. Future address Auckland New Zealand

N.B —A fee of 5s is charged for the insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

RELIGION AND QUACKERY

A ROMAN Catholic newspaper makes the following extraordinary comments upon the letter signed E J H" which appeared in the columns of THE LANCET of July 19th (page 194)

Medicinal Controversy —THE LANCET has opened its columns to a correspondent. E J H who, to judge from his sympathies, is also a medicine man This E J H' is indignant that the monks of Buckhurst Abbey should advertise their salve suggesting that for reprisals sake some members of the medical profession should announce that they will be prepared to 'preach hear confessions and perform some of the other functions peculiar to the clergy' Can t 'E J H see he is doing the first albeit, badly whilst the body we take it he represents is not unaccustomed to hear confessions in quite another form The editorial comment is quite juridical, and apparently without prejudice

A Matter of Discretion —But there are very many persons who trust simple remedies rather that the complex and unknown qualities of the medicines used by the modern disciples of Galen and Hippocrates to say nothing of Æsculapius Given this fact we would ask the editor of THE LANCET, Is it not better that the preparation of these simple remedies should be in the hands of trusty monks than as sometimes happens in those of men of little skill and less stability of character? The question of the propriety of advertising the remedies is quite out of THE LANCET editor's range, and when approval is given by Catholic authorities we would advise the physician to stick to his pharmacopœia, and mind his own patients

As the editor of our contemporary has asked us the question we have no hesitation in saying that it is not better that the preparation of any remedies should be in the hands of monks, for monks in their corporate capacity are not chemists pharmacologists, or medical men A trusty" monk is one who discharges his monastic duties with conscientiousness not one who makes salves Lord Kitchener is a 'trusty" soldier and Mr Victor Trumper is a trusty" cricketer but neither gentleman ought to be allowed to manufacture and to traffic in medicinal nostrums because neither has received the necessary training We think that we know our own range but we are certain that the editor who questions this matter is not in an equally good plight he does not understand the evils of quackery the qualifications of professional medical men or the limitations of professional pietists He is apparently unaware that the duties to the community discharged by the monks in the middle ages have now devolved on other people all the education of the country being no longer centred in the Church THE LANCET by the way, is not concerned with differences of religious opinions and we need hardly say that our feelings would be just as much against a confraternity of the English Church making and selling medicinal remedies as it is against similar action on the part of a Roman Catholic body frequent evidence of this impartiality will be found in our columns

FUND FOR MEMORIAL TO LATE SURGEON GENERAL NASH

THE following additional subscriptions have been received —

	£	s	d		£	s	d
Surgeon General J B C Reade C B K H S	1	0	0	Previously acknowledged	111	1	0
Lieutenant Colonel L E Anderson	1	0	0	Total	114	1	0
Surgeon Major General J Davis	1	0	0				

'A NOVEL PATENT"

UNDER this heading in THE LANCET of May 17th 1902 page 1434, we drew attention to a patent burial vault" consisting of a kind of outer coffin having a groove or channel all round the upper margin of the main portion or body, to contain a sealing material while the lid has a flange which dips into the sealing material We understand that Dr L G Thompson some 14 years ago while he was surgeon superintendent of Launceston Hospital Tasmania designed a similar metal shell having a lid fitting into a water joint The shell had a glass window in it so that a body could be viewed.

THE 'Y FUND

SURGEON GENERAL H S MUIR begs thankfully to acknowledge additional donations towards the above Fund from Lieutenant Colonel J W L Macnamara I M S and the following officers of the Royal Army Medical Corps —Colonel J Dallas Edge, C B Lieutenant-Colonels J Lees Hall W J Baker J A Gormley, T J O Donnell D S O C W Thiele G E Twiss and E. Butt, Majors W W Pike D S O C Birt F R Nowland T B Beach, H T Knaggs Reilly and T Du B Whaite Captains C E Pollock H. B G Walton, G B Crisp D D Shanahan G W Tate J Hennessy J C Jameson, G St C Thom Chevers C G Spencer and J H. Rivers Lieutenants W L. Steele H Richardson R. F M. Fawcett, J V Roche, J J W Prescott D S O and H Bransbury and Lieutenants and Quartermasters Spackman and Morrison The fund now amounts to £483 It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly 'handing on' to *confrères*) Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens terrace, Hyde Park, London, W

INCOME TAX AND CLUB APPOINTMENTS

WE have received the following letter for publication It is a copy of one sent to the Inland Revenue by a medical man holding a club appointment :—

Alderney House Alderney, C I
July 12th, 1902

SIR —The enclosed £2 4s 4d 1st quarter s moiety, 1902, I send under protest and intend to apply to the Income Tax Repayment Association with regard to this payment and two previous payments

The charge is in regard to profits from appointment as medical officer under the Shepton Mallet Board When I tell you that the appointment consists in taking charge and visiting at all hours of the day and night the sick and infirm of ten (10) parishes—viz , Ashwick, Oakhill, Binegar, Emboro Stratton-on the Fosse, Holcombe Stoke Lane Downhead West Cranmore, and East Cranmore, and supplying drugs and instruments, for £115 per annum (which includes keeping and attending three distant surgeries) you will wonder where the profit comes in The district extends from Chewton Mendip to Leigh on Mendip (12 miles) and from Chilcompton to Shepton Mallet (10 miles), one horse cannot work it

The Shepton Mallet Board, with a wealthy brewer at its head (I hope he pays income tax for all his public-houses) cuts the doctor down to 10s for a midwifery case and driving miles to examine and certify a lunatic is reduced from 21s to 10s When I attended a confinement I sometimes had to pay 12s for carriage hire and have gone nine miles in the snow in the middle of the night The entering and clerking of all the cases, correspondence &c., is worth employing a clerk for

Other unions pay for operations and fractures, Shepton Mallet does not (and it is a wealthy union) The reason I have troubled you with this statement is that for the last four years I have filled up forms and returned them in the usual way and found that after satisfying the assessor or collector at Emboro (Mr Flower) I had then to deal with the surveyor at Wells and after receiving assurances from him with regard to my position I have had to deal with the gentleman at Frome and finally found that Bath had joined in and that from all parts of the compass I was now being set upon to disgorge some of the 'profits"

If the same efforts had been directed against *higher game* what a fine income Oakhill would bring in After what I have told you with regard to No 2 (Ashwick and Oakhill) district Shepton Mallet Union you will not be surprised to know that about a dozen medical officers in as many years have moved across its horizon as in a cinematograph so to speak and that if the income tax goes on while the salary remains stationary the rate of the procession's progress will receive a still further stimulus

I was Sir, truly yours,
(Signed) J J HANLY, M A L R C P & S Ed,
Late Med Officer, Ashwick District.

The Secretary Inland Revenue, Somerset House

THE DIMINISHING POPULATION OF FRANCE

THE French people are threatened with a new danger An attempt is being made to obtain an alteration of the law to enable any citizen to obtain for the sum of one franc a "permit de chasse available for one day Amongst the numerous and brilliant accomplishments of the French shooting is not generally reckoned and the possibility that anyone may obtain a shooting licence for a franc has a serious aspect The gentleman who writes on Shooting in *Le Figaro* is fairly aghast at the danger as he feelingly observes, 'it would be impossible to walk in the country without the risk of being shot." The ordinary Briton looks with some misgiving on the present French sportsman but he, at any rate is a picturesque object when fully attired for the chase and it does not appear that he is as a rule, particularly destructive to any form of living creature, human or otherwise Should the franc sportsman come into being a new industry may be started in letting out to him a suitable 'habit de chasse" and a gun and we would commend the idea to M. Caran d Ache the first of living caricaturists His facile pencil would avail more than the strongest words we could pen to avert a danger which would undoubtedly tend to depopulate France

EAR DRUMS

THE A P Murray Company of Century House Regent-street W is issuing circulars curiously enough addressed 'To the Medical Profession, calling attention to the Murray' Invisible Ear Drum It is distributing a sample outfit of assorted drums for 17s 6d saying that 'the treatment of deafness is one which most physicians have overlooked, and yet it is a most lucrative one" Possibly that is why the A P Murray Company has stepped into the breach In the course of a pathological disquisition it is stated that head noises are caused by disorganised or disarranged ossicles and that the "Murray" Drum is not made of rubber because, no doubt, "Some people cannot wear a rubber coat or a mackintosh without causing an acute case of rheumatism." The company claims that it "offers a remedy which we believe has not and will not be equalled." If its remedy is as novel as is its pathology we at once present the company with a testimonial for we are certain that scientific medicine knows of nothing like it But what is the reason of sending this rubbish to medical men? Or have the circulars found their way also to the public?

THE LAW FUND

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON

THE following additional subscriptions have been received by Dr Paramore, 2 Gordon-square W C and it will afford him much pleasure to receive as many more as possible within the next few days before the trustees have ceased to act —

	£	s	d		£	s	d.
Dr Robert C Brown	1	1	0	Dr J J K. Duncanson	0	10	0
Dr Hugh W Arbuckle	0	5	0	Dr David Lawson	1	1	0
Mr A. Angus Martin ..	0	5	0	J A M	0	5	0
Dr H. Tyrrell Griffiths ..	1	1	0	Mr Thomas Graham	0	10	0
Mr C H. Golding Bird	2	2	0	Dr J H T Frampton	0	10	6
Mr Frederic Durham	1	1	0	Dr Richard Walford Eve	1	1	0
Dr Byrom Bramwell	1	1	0	Mr Reginald Harrison	1	1	0
Mr Samuel Bentham	0	5	0	R D	0	5	0
Mr H H. J Edwards ..	0	5	0	Dr F D Boyd C.M.G	0	10	6
Dr W Hall Calvert ..	0	7	6	Dr Robert Barnes	2	2	0
Mr W J N Harle ..	0	5	0	Mr F A. Strelo	0	5	0
Mr Walter Alfred Ward	0	5	0	Dr Arthur J G Cross ...	2	2	0
Mr Thomas Baker	0	10	0	Mr Leedham Fuller	1	0	0
Dr G H. Batterbury ..	0	5	0	Mr W O Magoris ..	0	10	6
Mr Tom Clark	1	1	0	Dr. E. F S Green (for self and Dr A Rose)	0	10	6
Dr B H J Gardiner	1	1	0	Dr William Taylor J.P	1	1	0
Dr Charles J Aitken ...	0	2	6	Dr Hugh Davies	0	10	6
Mr H. Ashton ..	0	2	6	Mr B C Broomhall	0	5	0
Dr Edmund L. Anderson	0	5	0	Dr J W Ballantyne	1	1	0
E. H	0	5	0	Mr J A Kingdon ..	2	2	0
Dr Frederick J Green	0	10	6	Mr F W Chesnaye	2	2	0
Dr W E N Dunn ..	1	1	0				

◆

Mr C Hamilton Whiteford—The filthy little pamphlet is circulated in the most barefaced manner by the quack whose address is given within. We have referred to the matter and shown up the man in our columns. Of course to do so has not much practical result, as readers of THE LANCET are not likely to consult him What we are unable to understand is the powerlessness of both the police and the post-office to stop the dissemination of such obscenity The matter has been brought to their attention by us and others but no effective steps are taken

Surgeon—We think that the claim for payment in such circumstances is very seldom made, but the surgeon whose work has been done very often offers the fee to his professional colleague. This we think, should always be done whether the fee is accepted or not.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St Thomas's (3.30 P.M.) St. George's (2 P.M.) St. Mary's (2.30 P.M.) Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians, 2 P.M.) Soho-square (2 P.M.) Royal Orthopædic (2 P.M.) City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Royal Free (2 P.M.), Guy's (1.30 P.M.)

TUESDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.), Middlesex (1.30 P.M.) Westminster (2 P.M.) West London (2.30 P.M.), University College (2 P.M.) St. George's (1 P.M.) St. Mary's (1 P.M.) St. Mark's (2.30 P.M.) Cancer (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Royal Ear (3 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat Golden-square (9.30 A.M.) Soho-square (2 P.M.)

WEDNESDAY (6th).—St. Bartholomew's (1.30 P.M.) University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M.) Charing-cross (3 P.M.) St. Thomas's (2 P.M.) London (2 P.M.) King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.) National Orthopædic (10 A.M.) St. Peter's (2 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Gt. Ormond-street (9.30 A.M.) Gt Northern Central (2.30 P.M.) Westminster (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Cancer (2 P.M.) Throat Golden-square (9.30 A.M.) Guy's (1.30 P.M.).

THURSDAY (7th).—St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.), London (2 P.M.) King's College (2 P.M.) Middlesex (1.30 P.M.) St. Mary's (2.30 P.M.) Soho-square (2 P.M.) North-West London (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (Gynæcological, 2.30 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), St Mark's (2 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

FRIDAY (8th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.) Middlesex (1.30 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.) King's College (2 P.M.) St. Mary's (2 P.M.), Ophthalmic (10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat Golden-square, (9.30 A.M.) City Orthopædic (2.30 P.M.) Soho-square (2 P.M.)

SATURDAY (9th).—Royal Free (9 A.M.), London (2 P.M.) Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.) St. George's (1 P.M.) St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.) and the Central London Ophthalmic Hospitals operations are performed daily

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "To THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

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It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures, original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

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MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

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METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 31st, 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
July 25	29·80	W	0·01	117	70	57	57	61	Cloudy
" 26	29·67	S W	0·10	129	77	58	62	66	Cloudy
" 27	29·56	S.W	0·03	102	63	58	55	61	Cloudy
" 28	30·10	S W	0·10	121	71	52	55	60	Cloudy
" 29	30·14	S W	...	121	74	53	57	61	Cloudy
" 30	30·12	W		103	69	54	57	61	Cloudy
" 31	30·06	E.N.E	0·02	105	67	56	54	58	Overcast

During the week marked copies of the following newspapers have been received:—*Leicester Daily Mercury, Leicester Daily Post (Weekly Edition), Mining Journal, Scientific American, The Reporter (Borough of Salford), Evening Post (San Francisco), The Daily Telegraph (Launceston, Tasmania), Pioneer Mail, Devon and Exeter Express, Burnley Express, Scotsman, Dublin Evening Telegraph, Southampton Echo, Belfast News, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Journal, Daily Express, Standard, Windsor and Eton Express, Globe, Westminster Gazette, Sunday Times, Derbyshire Times, Macclesfield Echo, Torquay Directory, Reading Mercury, Herts Advertiser, Times of India, Aberdeen Free Press, Lancashire Post, Plymouth Morning News, Western Mercury, Yorkshire Post, &c.*

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Address in Obstetrics:

CARCINOMA IN WOMEN, CHIEFLY IN ITS CLINICAL ASPECTS.

Delivered at the Annual Meeting of the British Medical Association at Manchester July–August, 1902

BY WILLIAM JAPP SINCLAIR, M.D ABERD,
PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY IN THE OWENS COLLEGE, MANCHESTER.

Eadem orationis virtus atque angustii, sana et male affectis nos juvat, et bene habentes oblectat.—DEMOPHILUS.

INTRODUCTORY

GENTLEMEN,—Looking forward to standing in the position occupied once by such men of mark in their generation as Thomas Radford, Matthews Duncan, and Robert Barnes I am keenly alive to the fact that I do not owe the position, as they did, to a wide reputation and well-earned professional distinction. All the more, perhaps, having resolved to do the best I am capable of in the position, am I deeply grateful to the Council of this Association and to my too indulgent friends and neighbours whom chiefly I have to thank for the great honour conferred upon me.

In ruminating over the limited range of my intimate professional knowledge for a suitable theme for an address I had to keep in mind that the subject must be in the highest degree important in itself in order to be worthy of the occasion; it must be of wide interest in order to arrest the attention of those who are engaged in the practice of obstetric medicine in its widest sense and it must, if possible, be not a mere professional essay but have some important object and aim. I felt, also, that it would be an advantage to myself in preparing an address if I could discover a subject which had occupied my own thoughts in a special degree in the course of my practical professional work. With such conditions and many others essential to the most modest fulfilment of my task I felt that my undertaking was extremely formidable, but I knew that I could rely upon your forbearance and upon the intrinsic interest of my subject. I have chosen for the subject of my address Carcinoma in Women, chiefly in its Clinical Aspects, that is, very largely from the standpoint of the medical practitioner

Apology and justification.—It is generally believed that carcinoma of the sexual organs of women is as cancer occurring in men and to this extent, therefore, the subject is not one of obstetric medicine pure and simple. But malignant disease has a tendency to affect certain organs in women to an extent and with a relative frequency unknown in the other sex, and the clinical facts in the typical cases of cancer of the uterus make up a *tout ensemble*, an association of syndromata, a personality of the disease, that distinguish it from the malignant disease of any other organ. Then the frequency of its occurrence, the sex of its victims, and the pitiful character of its course from the social point of view lend it an interest and a pathos almost entirely its own.

If carcinoma of the uterus be the same disease as cancer in general, may not this individuality or personality of the malady make it the key to the situation? The frequency with which the disease occurs in a medical practice, the comparative similarity pervading the cases amidst individual differences, the facility with which operations can be performed and therapeutic agents employed, the possibility of careful clinical investigation and observation of cases in which the disease recurs and of cases immune from recurrence, are all circumstances which attract attention to this special form of malignant disease, render it a comparatively easy subject for inductive reasoning and therefore make of it perhaps the most promising field for clinical research.

Contrast between pathologists and clinical workers.—We must have observed a tendency to establish a contrast, or at least a certain degree of antithesis, betwixt clinical and scientific work. It was the devotion of the gifts of genius, of the highest intellectual endowments, to clinical investigation which lent dignity to the labours of former generations of physicians and surgeons and made their councils fruitful in conferring permanent benefits upon humanity Enlightened and patient industry and success in the observation and treatment of disease were the long and tedious, but the only sure, way to professional distinction and honour But now, since the advent of the modern developments of pathology, and especially of bacteriology, the unknown or misunderstood is accepted as magnificent by the whole medical profession, and a certain distinction can be achieved without much talent or industry, the microtome and the cultivation-tube—though work connected with them often resembles a sad mechanic exercise—have provided a royal road for many men into fields of clinical work which they have not known how to cultivate. They have shirked their apprenticeship to clinical medicine, yet they claim the consideration and emoluments due to the skilled and experienced journeyman.

But while I put in this word of protest against anything that may appear directly or indirectly to derogate from the dignity and from the appreciation of the usefulness of scientific clinical work I claim to hold in as high esteem and admiration as any man can the magnificent intellectual labours of the pioneers and masters of modern pathology and bacteriology Both clinicians and pathologists require all the mental endowments that Nature confers upon her most favoured in order to investigate the causes of disease and apply the remedies, and there is no room for formal or implied depreciation of the work of either Still we may institute comparisons.

Pathology and clinical gynæcology.—There is a general and a special aspect of the subject which we may examine in proportions suitable to the occasion (1) the investigation of the etiology and pathology of cancer in general, and (2) the consideration of cancer of the uterus in particular The practical gynæcologist may ask, What have investigations and researches into the etiology and pathology of cancer done for clinical gynæcology? The answer must be guarded at this stage at least. A late distinguished gynæcologist once said in his haste that a knowledge of anatomy was positively misleading with regard to the surgery of the pelvis. It can hardly be alleged that pathology has been misleading to the gynæcologist, for he has never trusted to its guidance. Men are wiser than their creeds they hold pious opinions in religion which, fortunately they never put into practice. They affect to entertain, because they have never questioned, certain theoretical tenets in medical science, but these beliefs do not in any way modify or injure their practice. If we could effectively pass in review the old pathology and the new and estimate their practical results we should, I am convinced be greatly impressed with the need for clinical gynæcology saving itself by its own scientific clinical work, not by faith in any pathological creed

THE OLDER PATHOLOGY

There is such a vast amount of writing on the subject of the etiology and pathology of cancer that in the effort to select typical authorities we are embarrassed, even bewildered. The gynæcologist naturally turns to the authority of the "gynæcology pathologist," whose investigations and speculations are, at least, marked by the conscientious effort to lead up to something with practical and helpful applications towards the solution of problems which meet him constantly in his professional occupations If then, we turn to the publications of the recognised masters who are not only pathologists but have grown old in the constant contribution of the highest practical services to the advancement of obstetrics and gynæcology and whose example has moulded the opinions and practice of their contemporaries and of a younger generation, we may confidently commence with a concise exposition of the opinions of Hegar In his recent works on the "Etiology of Malignant Tumours" he modestly refers to the contributions of W A. Freund and of Czerny as giving him courage to make an attempt at expounding his own views but when we turn to the writings of these authorities and endeavour to form some clear conception of what they intended to contribute to the sum of our knowledge we cannot help feeling that there is some room for a certain sense of disappointment. Hegar thinks we shall not be so very soon in a position to establish the causes which lead to ordinary carcinoma and sarcoma, yet there is no reason to despair "We have made such progress that we may soon be able to formulate our questions," thus clearing the ground for future investigators. In endeavouring to grapple with the subject he calls attention to certain respects in which the theories of Thiersch and

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Address in Obstetrics

CARCINOMA IN WOMEN, CHIEFLY IN ITS CLINICAL ASPECTS.

Delivered at the Annual Meeting of the British Medical Association at Manchester July–August, 1902

By WILLIAM JAPP SINCLAIR, M D Aberd,
PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY IN THE OWENS COLLEGE, MANCHESTER.

Eadem orationis virtus atque unguenti nam et male affectos nos juvat, et bene habentes oblectat.—Demophilus.

INTRODUCTORY

Gentlemen —Looking forward to standing in the position occupied once by such men of mark in their generation as Thomas Radford Matthews Duncan, and Robert Barnes I am keenly alive to the fact that I do not owe the position, as they did, to a wide reputation and well earned professional distinction. All the more, perhaps, having resolved to do the best I am capable of in the position, am I deeply grateful to the Council of this Association and to my too indulgent friends and neighbours whom chiefly I have to thank for the great honour conferred upon me.

In ruminating over the limited range of my intimate professional knowledge for a suitable theme for an address I had to keep in mind that the subject must be in the highest degree important in itself in order to be worthy of the occasion it must be of wide interest in order to arrest the attention of those who are engaged in the practice of obstetric medicine in its widest sense and it must, if possible, be not a mere professional essay but have some important object and aim. I felt, also, that it would be an advantage to myself in preparing an address if I could discover a subject which had occupied my own thoughts in a special degree in the course of my practical professional work. With such conditions and many others essential to the most modest fulfilment of my task I felt that my undertaking was extremely formidable, but I knew that I could rely upon your forbearance and upon the intrinsic interest of my subject. I have chosen for the subject of my address Carcinoma in Women, chiefly in its Clinical Aspects that is very largely from the standpoint of the medical practitioner

Apology and justification.—It is generally believed that carcinoma of the sexual organs of women is as cancer occurring in men and to this extent, therefore, the subject is not one of obstetric medicine pure and simple. But malignant disease has a tendency to affect certain organs in women to an extent and with a relative frequency unknown in the other sex, and the clinical facts in the typical cases of cancer of the uterus make up a *tout ensemble* an association of syndromata, a personality of the disease, that distinguish it from the malignant disease of any other organ. Then the frequency of its occurrence, the sex of its victims, and the pitiful character of its course from the social point of view lend it an interest and a pathos almost entirely its own.

If carcinoma of the uterus be the same disease as cancer in general, may not this individuality or personality of the malady make it the key to the situation? The frequency with which the disease occurs in a medical practice, the comparative similarity pervading the cases amidst individual differences, the facility with which operations can be performed and therapeutic agents employed, the possibility of careful clinical investigation and observation of cases in which the disease recurs and of cases immune from recurrence, are all circumstances which attract attention to this special form of malignant disease render it a comparatively easy subject for inductive reasoning and therefore make of it perhaps the most promising field for clinical research.

Contrast between pathologists and clinical workers —We must have observed a tendency to establish a contrast, or at least a certain degree of antithesis, betwixt clinical and scientific work. It was the devotion of the gifts of genius of the highest intellectual endowments, to clinical investigation which lent dignity to the labours of former generations of physicians and surgeons and made their councils fruitful in conferring permanent benefits upon humanity Enlightened and patient industry and success in the observation and treatment of disease were the long and tedious, but the only sure way to professional distinction and honour But now, since the advent of the modern developments of pathology, and especially of bacteriology the unknown or misunderstood is accepted as magnificent by the whole medical profession, and a certain distinction can be achieved without much talent or industry the microtome and the cultivation tube—though work connected with them often resembles a sad mechanic exercise—have provided a royal road for many men into fields of clinical work which they have not known how to cultivate. They have shirked their apprenticeship to clinical medicine yet they claim the consideration and emoluments due to the skilled and experienced journeyman.

But while I put in this word of protest against anything that may appear directly or indirectly to derogate from the dignity and from the appreciation of the usefulness of scientific clinical work I claim to hold in as high esteem and admiration as any man can the magnificent intellectual labours of the pioneers and masters of modern pathology and bacteriology Both clinicians and pathologists require all the mental endowments that Nature confers upon her most favoured in order to investigate the causes of disease and apply the remedies and there is no room for formal or implied depreciation of the work of either Still we may institute comparisons.

Pathology and clinical gynæcology —There is a general and a special aspect of the subject which we may examine in proportions suitable to the occasion (1) the investigation of the etiology and pathology of cancer in general and (2) the consideration of cancer of the uterus in particular The practical gynæcologist may ask, What have investigations and researches into the etiology and pathology of cancer done for clinical gynæcology? The answer must be guarded at this stage at least. A late distinguished gynæcologist once said in his haste that a knowledge of anatomy was positively misleading with regard to the surgery of the pelvis. It can hardly be alleged that pathology has been misleading to the gynæcologist, for he has never trusted to its guidance. Men are wiser than their creeds" they hold pious opinions in religion which fortunately they never put into practice. They affect to entertain, because they have never questioned, certain theoretical tenets in medical science, but these beliefs do not in any way modify or injure their practice. If we could effectively pass in review the old pathology and the new and estimate their practical results we should, I am convinced be greatly impressed with the need for clinical gynæcology saving itself by its own scientific clinical work, not by faith in any pathological creed

THE OLDER PATHOLOGY

There is such a vast amount of writing on the subject of the etiology and pathology of cancer that in the effort to select typical authorities we are embarrassed even bewildered. The gynæcologist naturally turns to the authority of the gynæcology pathologist, whose investigations and speculations are, at least, marked by the conscientious effort to lead up to something with practical and helpful applications towards the solution of problems which meet him constantly in his professional occupations If then, we turn to the publications of the recognised masters who are not only pathologists but have grown old in the constant contribution of the highest practical services to the advancement of obstetrics and gynæcology and whose example has moulded the opinions and practice of their contemporaries and of a younger generation, we may confidently commence with a concise exposition of the opinions of Hegar In his recent works on the Etiology of Malignant Tumours" he modestly refers to the contributions of W A. Freund and of Czerny as giving him courage to make an attempt at expounding his own views but when we turn to the writings of these authorities and endeavour to form some clear conception of what they intended to contribute to the sum of our knowledge we cannot help feeling that there is some room for a certain sense of disappointment. Hegar thinks we shall not be so very soon in a position to establish the causes which lead to ordinary carcinoma and sarcoma, yet there is no reason to despair We have made such progress that we may soon be able to formulate our questions," thus clearing the ground for future investigators. In endeavouring to grapple with the subject he calls attention to certain respects in which the theories of Thiersch and

Cohnheim, the two most frequently accepted explanations of the genesis of carcinoma, stand in direct opposition to one another.

Thiersch lays chief stress upon the failure of that resistance to the increase of cells which is normally brought to bear by the tissues. He must therefore assume that the ordinary epithelial cells possess a great energy towards proliferation and that this energy is brought into play by a depression of the power of resistance of the tissues. According to Cohnheim such a strong proliferation as is necessary to the formation of the tumour cannot be effected by the cells of the tissues post partum. Only embryonic cells are capable of performing such a task, and it is these which form the basis of malignant tumours when they still remain behind in the body with their energy retained in full. Both authorities leave out of consideration the fact that the cells of a malignant growth increase rapidly but are never completely developed, and the capacity for differentiation on the part of embryonic cells is their most remarkable characteristic.

Keeping this fact in mind some more recent writers on the subject try to reconcile or to evade the differences and difficulties by supplementary theories stated in the language of poetry. Hansemann speaks of an "anaplasia of the cells" by which their energy towards differentiation suffers an injury but their capacity for maintaining a separate existence is increased. Hauser speaks of a "parasitic character," not in the most recently accepted sense. Here the old doctrine comes again into view according to which cancer presents a sort of parasitic growth—*ein Schmarotzer gewachs*—which gradually devours the host which entertained it. It is "an emancipation of the cells from the laws of physiological life," according to one pathologist, "a sort of anarchy," according to another, or "a riotous proliferation", and, in the opinion of still another, it is an "unconscious memory of cells and tissues and an attempt to recover their lost independence of action." Whatever felicity of literary expression may be attained in the exposition of these opinions the most of the theories amount to this, that the cell acquires a peculiar energy which it had not before possessed, all of which brings us back to the rapid proliferation, the depression of the powers of resistance, and the decrease in the faculty of differentiation.

We have, then, to establish how these peculiarities come into existence. Hegar has no difficulty in finding some causes which rob the cells of their capacity for arriving at complete development. He discusses many of them—advanced age, purely mechanical influences interference with general nutrition, the ravages of contagious disease. He touches incidentally upon some of the puerile attempts to generalise from a too limited number and variety of facts, and from the misinterpretation of even these, explanations of the causes of things, such as we generally consider the products of the Age of Faith rather than of the scientific intellect of the nineteenth century.

Hegar's special contribution here is an examination of examples of the growth of epithelium, such as in abnormal growth of hair, even when wasting of the body generally is going on. That there is some sort of relationship between the anomalies of growth and development and the occurrence of tumours, often observed in the same individual, there is no room for doubt. 'Energetic proliferation may be associated with depressed differentiation and *vice versâ*." But Hegar does not possess the type of intellect that can harbour illusions with regard to facts, and he admits that of casual relationship between these phenomena and the growth of malignant tumours there is no proof whatever ("*Allein für einen Kausalnexus fehlen alle Beweise*"). The same judgment is brought to bear upon Birch-Hirschfeld's theory of a symbiosis, perhaps the most transcendentally remote from the clinical standpoint and yet probably the progenitor of our newest theories and researches. Symbiosis, to which he refers the origin of cancer, is a sort of fecundation whereby the tissue cell acquires a greater independence and becomes a sort of parasite. The theory assumes the presence of a micro-organism. If this were demonstrated to be present the problem would be solved in the form of a parasitic theory of the purest kind. But all attempts to demonstrate the presence of such an organism have been in vain. We must therefore content ourselves with the alternative theory whereby the tissue cell possesses *a priori* the capacity of increase necessary to the production of malignant tumours. This theory can be supported by many striking facts, such as the wear and tear of epidermis and the restoration of the epithelium of mucous membranes. But, again, all causal-nexus fails, increase of cell growths leads to the formation of hypertrophies and benign tumours, not to carcinoma and sarcoma.

Hegar attempts to bring the theoretical and practical together. As to treatment he concludes that he must confine himself to a few points which arise out of what he has endeavoured to establish concerning causation. Prevent irritation, give special attention to nutrition, keeping in mind individual characteristics, occupation, time of life, prevent infection as far as possible from such diseases as lues and gonorrhœa. But our knowledge of the influence of micro-organisms, and especially of the products of their metabolism, is as yet too defective to enable us to be more precise on the subject of prophylaxis. Finally, he agrees with Czerny and W. A. Freund in their comparative optimism, as also in their warning with regard to surgical treatment, not to be discouraged or to "throw up the sponge" prematurely. His colloquial figure of speech "*Die Flinte nicht zu früh ins Korn zu werfen*" amounts to much the same thing. When we think of the surgical measures in vogue among the younger men in Germany at the present day we can only reflect that there was surely in the history of surgery never a more superfluous exhortation.

To the recent utterance of W. A. Freund, formerly of Strassburg, we turn with a lively expectation of a clear statement of our present position with regard to pathology and for such practical guidance for the future as the long and honourable career filled with the thought and action of an eminently practical man can afford us. Freund also begins with the encouraging description of cases of permanent cure of cancer of the uterus. Still, the remote results of such operations remain unsatisfactory even though we can perform the most radical of operations by clearing out all the female sexual organs from the pelvis without fatal consequence. Wherein lies the cause of failure? Is it in the nature of the disease or in the method of operating? Does the cancer pathology of the present day afford us any sure indication for a rational and prophylactic treatment? Freund proceeds to pass in review the various theories, past and present, which have been formulated regarding the histogenesis, etiology, and clinical features of cancer. He proves that he himself has preserved to a remarkable degree the capacity for criticism as well as for the generous appreciation of the work of younger men. He even quotes Marchand's dictum that the meaningless collective term "carcinoma" is an inherited burden which we still drag along with us. The most recent investigations have shaken, he might have said shattered, the whole blastodermic theory. The general effect of the review is to give the impression that modern German research and experiment have produced a process of iconoclasm. It has pulled down the old and mighty authorities from their seats, and has set no meek ones in their place. The whole situation is summed up somewhat cynically, but unfortunately too truthfully, by one of the disputants. He says "For us the catchwords 'development from the connective tissue, development from the epithelium,' with which the controversy has been conducted, are devoid of any real meaning", and he describes himself as the idle spectator at a game of bluff which is conducted on both sides with great zeal for science, but in which only false coin is given and taken by both sides with solemn equanimity. So now the old etiology and pathology of cancer pass away into the limbo of human futilities, holding in their clutch no inconsiderable portion of the new speculations and researches. The late Professor Huxley, in arguing against the continuance in our schools and universities of the old classical education, once said that he could construct a grammar of palæontology which would be more useful than the Greek grammar and fully as efficient for the training of the mental faculties of the young. When we think of the sufferings of successive generations of students of medicine in trying to master the blastodermic theory of malignant neoplasms let us seek comfort in the reflection that at least it has had some of the educative influence of Huxley's Grammar of Palæontology. In an eloquent passage at the close of an admirable address Freund said "I myself can no longer share in this serious and difficult work. To perform it becomes the task of a younger generation, for whom I wish from my heart success in the conquest of this promised land—the cure of cancer of the uterus. I would be happy if, like Moses, I were permitted to gaze upon it from afar." We can only sadly reflect that we also might be encouraged and comparatively happy if we could only claim with conviction the right to call it the Promised Land and believe that it will ever be occupied.

THE NEW PATHOLOGY

It would take us too far away and for too long a time from the clinical consideration of the subject to go into detail on the newer etiology and pathology of cancer in general and the disease as it affects the female sexual organs in particular But it may be as well for the sake of completeness, and on account of its alleged bearings on the practice of to-day to glance at the chief features of the more recent research and controversy Is the cause of malignant disease a vegetable parasite or blastomycete as suggested by Russell 10 or 12 years ago and worked out by San Felice and many others? Are the cancer bodies" animal parasites?—a theory maintained by Gaylord and supported by much persevering and ingenious observation and experiment. Is it an infectious disease most nearly resembling tubercle and syphilis? or is the cause still entirely unknown or merely guessed at as possibly the result of local or general changes in the nervous system governing the growth, the nutrition and involution of organs and tissues? It would be impossible within my limits and with the objects in view to discuss all this in detail but we may glance at the work of one or two individuals and inquire in what relation their results stand to the clinical observation and the treatment of disease.

Leopold of Dresden, after several years of observation and experiment, placed the results of his labours before the profession at the International Congress held at Paris in 1900, and he returned again to the subject at the Congress of German Gynæcologists held at Giessen last year His conclusions amount to this that blastomycetes may be the cause of malignant new growths in man that they may convey the disease by inoculation from man to animals producing exactly similar new growths which are fatal to the animals affected. Among his experiments Leopold mentions the implantation into a rat of tissue from carcinoma of the ovary The animal died in 61 days from a tumour of the size of a walnut which was found to be an adeno-sarcoma. It will thus be seen that Leopold like some other experimenters in order to support his conclusions, must give up the distinction between carcinoma and sarcoma. This may be right and a step towards truth and simplicity or it may have been accepted by the author under stress of circumstances like the poet succumbing to the inexorable demands of rhyme at the expense of the sense or it may only imply which is most probable of all and certainly true that it is not always possible to distinguish between carcinoma and sarcoma by the aid of the microscope alone

In referring to this subject in a recent discussion Menge expressed the opinion that such experiments produce merely granulation tissue with giant cells and he further says

If Leopold holds to his belief in the specific nature of his cancer producers he must admit the identity of carcinoma and sarcoma." W A. Freund's opinion of such experiments may be inferred from his oracular advice, when concluding his appreciation of Leopold's work Wait and see' (*Abwarten!*)

With regard to the parasitic theory of cancer some very confident statements as to progress in discovering the causation come to us from America. At the last meeting of the American Gynecological Society one of the speakers gave typical expression to our vague hopes and aspirations In the course of a paper on Hysterectomy for Uterine Cancer he said 'Are we not justified in the hope that the so-called parasitic theory of the origin of cancer may evolve something? The solution of the question depends upon the bacteriologist and pathologist. We can but look upon the subject with some seriousness when the great State of New York has considered it of sufficient importance to establish a pathological laboratory for the study of the etiology of cancer Dr Gaylord of that institution has reported that he has found the protozoon." During the discussion which followed Dr Matthew D Mann Professor of Gynæcology in the University of Buffalo said I know the profession is not ready yet to accept the evidence of what has been done in Buffalo but personally I feel quite convinced that in the State Laboratory the cause of cancer has been discovered." Of certain work in support of the yeast theory of the etiology of cancer it has recently been said Roncali apparently thinks the *ipse dixit* of enthusiasm is an adequate substitute for the details of a scientific proof." But here is apparently independent evidence from a witness of repute which is bound to arrest attention. Nevertheless, a witness who knows the facts and whose evidence must weigh fully more with us than even the one just quoted—I allude to Senn of Chicago—said even more recently that intra-parenchymatous injections of animals were of no use as a proof of anything and that the parasitic origin of carcinoma has not been established by experimental research bacteriological or histological, or by implantations or inoculation experiments This year we have the report of the Cancer Commission of the Harvard Medical School. It informs us that the work done during the past two years in the study of the etiology of cancer has been wholly negative in its results in the sense that an increasing doubt has been thrown upon the parasitic origin of the disease and upon the pathological significance of so-called cell inclusions. An opinion is given that the long series of admirably conducted experiments went to show that the search for a cause of cancer has not been furthered and is not likely to be, by a continued prosecution of research on the lines just mentioned. The Director of the State Laboratory at Buffalo says on the other hand, that the results of the past year's work have been to strengthen the conviction that cancer is an infectious disease.

A witty Frenchman once said of French politics "*Plus ça change plus c'est la même chose*' and the sentiment might not inappropriately be applied to the researches into the etiology and pathology of cancer of the uterus. At the foundation of every hypothesis there is the hope that if only a cause could be discovered a remedy might be found in the working out of every theory there is a certain amount of observation and research vitiated by some preconception, then a war of opinion more or less in the nature of an acrimonious logomachy between rival schools But it is the same thing Even if it were possible to reconcile some contradictions we are not in sight of any causal nexus between the clinical phenomena of the disease and the alleged factors in its production and still further away from any hint of the bearing on the pathology at present in vogue upon any definite therapeutic measures No reasonable man will condemn the new pathology it is a grand monument of the patient and industrious application of the highest scientific imagination and the capacity for research to the solution of a problem But it has been hitherto as futile as the old. From a thirty years war of opinion as to the interpretation of phenomena no great pathologist brings home *spolia opima*, we can hardly reckon among our actual acquisitions mere flotsam and jetsam from the troubled sea of controversy One recent writer says that probably we have reached finality as regards the mere examination and classification of cancerous growths as far as the microtome and microscope are concerned and further knowledge must be sought for by way of experimental investigations. But on what principles are we to go beyond the experiments already made? We are probably in the position of the German peasant who on seeing a railway train for the first time exclaimed in amazement

Es müssen doch Pferde darin sein (But after all there must be horses in it) Let us hope we have also in store for us the surprise of seeing the application of some genuinely novel principles and methods to the elucidation of this dark problem.

MISCELLANEOUS THEORIES

But the more sanguine may think it worth while to inquire if there is not some room for hope in the further development of theories concerning individual causes. If you can find an individual cause or group of causes then the solution is simple—remove the cause. If the cancer is produced by eating too much animal food abstain and you are safe If the cause of the malignant tumour be the included epiblast or a group of mysterious parasites which you entertain involuntarily like keeping an inaccessible case of dynamite in your cellar ignorance would be bliss but if it is caused by the prodigal consumption of chloride of sodium the sooner you know and give effect to your knowledge the better After the admirably reasoned argument of Dr J F Payne in a recent discussion on carcinoma we shall probably hear comparatively little in the future, at least in this country of the vague statements on the influence of woods and river courses in producing cancer This much may be said, while admitting that there is room for a rational attempt to get at the real import of cancer localities."

The recent suggestion that the arsenic which we all take into our systems, voluntarily or otherwise may be a contributory cause to the increase of cancer is at least startling

It used to be considered the one drug that had some specific effect as a cure and it was the sheet anchor of the cancer quacks But strange vicissitudes occur in the history of unfounded hypotheses A century ago osteomalacia was believed to be the cause of certain death after Cæsarean section, nowadays the operation, as modified by Porro, is the certain cure for osteomalacia. But it is useless to pursue this line of argument, I believe we are right in assuming that there is no hope for the solution of the cancer problem in any of the theories of individual causes hitherto advanced. There is a parity of reasoning in the support of many of them with Burns's explanation of the causation of certain great qualities in Scotsmen "Tell me whisky's name in Greek, I'll tell the reason"

CANCER OF THE UTERUS NOT AS A GROWTH BUT AS A DISEASE

We search, then, in vain through the recent manuals of gynæcology, and even of pathology and the records of pathological investigation for any hint of progress in the evolution of an etiology of malignant disease of the internal sexual organs of women. Of histology there is enough and to spare, but of pathology in the narrower sense there is little to arrest attention, much less to satisfy, and there is absolutely nothing to indicate an advance from the position of a former generation of pathologists The nomenclature is new, the thoughts and principles are old There would, in fact, be a certain amount of truth in the allegation that the diligent pursuit of the histology of malignant growths and other tumours has distracted the attention, the activities, and the energy, to say nothing of the intellectual force, which might have led to a true pathology of cancer of the uterus by fixing the attention upon structure, growth, and extension in relation to clinical phenomena. We have heard too much of cancer as neoplasm, too little of it as a disease If, now, we set aside all considerations of the etiology and pathology of cancer of the uterus and keep in mind only the clinical aspects of the disease, we see much ground for congratulation on the achievements of the last quarter of a century The clinical work has been wholly surgical. What is not surgical is futile—it is hardly knowledge.

What has been accomplished?—It is nearly 30 years since, as house surgeon to a gynæcologist of great local repute, I had every opportunity of observing the treatment of cancer of the uterus, a disease which when a student I had never once seen diagnosed by a clinical teacher The routine method was to clear away some of the débris of tissue from the invaded portion of the cervix and apply a liquid which had at the time a more general application in the treatment of certain diseases of the skin The treatment was painful, and that was all No patient was kept in the hospital to die, and I need hardly say that no one received appreciable benefit. Next came the period of bromum and other specifics equally futile.

A few years later I had the opportunity of witnessing the operations by the galvanic écraseur of the late Professor Carl Braun von Fernwald in the Vienna General Hospital He obtained a wonderful degree of success in arresting for years, and sometimes permanently, the progress of the disease by removing the vaginal portion of the uterus when that was the only part involved. Next Schroeder of Berlin practised and advocated the supra vaginal amputation of the cervix. The practice has been continued to the present time by some of Schroeder's pupils, notably by Hofmeier and Winter

Next came the period of progress with the operation of total extirpation Many hesitated to attempt it owing to the immediate danger But the technique rapidly improved and it soon became the generally accepted operation, because it afforded the best grounds for hope of conferring prolonged benefit or of definitely curing the patient. Whatever we may think of the remote results of our surgical work no one who knows the history can deny that the reduction in the immediate mortality from this operation marks one of the greatest triumphs of modern surgery

Vaginal hysterectomy, when the disease is confined to the uterus, is not now more dangerous than is an ordinary ovariotomy The mortality, which at one time was over 30 per cent., has now sunk to 3 or 5 or 7 per cent., according to the extent of the disease and the concomitant complications or derangements of health In recent years there has been a wave of mental depression passing over the gynæcological world on account of the unfavourable remote results of vaginal hysterectomy for cancer, and the most optimistic will admit that there has not been much ground for exultation. At a recent congress of American gynæcologists one of the eminent members said "There are some men who claim for total extirpation of the uterus the happiest results Other men have looked upon the matter with utter hopelessness I am sorry to say that I have brought myself among the latter class from bitter experience." Hofmeier at the last Congress of German Gynæcologists declared that the present professional opinion and practice amounted to a declaration of "bankruptcy" of the radical vaginal operation as practised for the last 15 years Of this statement Fritsch remarked "It has been said that we have gone bankrupt with our vaginal total extirpation, and that its place must be entirely occupied by the abdominal method, and this has been said about an operation from which better results have been obtained than from any other cancer operation whatever" But so far from the pessimistic view being the true one the results obtained by many of the best-known operators continue to improve and to give the greatest encouragement to continued efforts in the future They are obtaining better immediate results and the number of "cures" increases—that is, the percentage of immunity for at least five years after operation becomes greater The percentage of cases operable when first seen also increases because the patients come earlier for treatment and improvements in technique have extended the indications The proof of all this lies in the statistics of carefully reported work done under circumstances in which the sources of error are reduced to the minimum. We may select examples from every country in Christendom, which now includes America, and the lessons taught by all are the same

Von Ott of St. Petersburg gave the figures for Russia in the Section of Gynæcology at Paris two years ago He mentioned 1000 cases of the radical vaginal operation, with a mortality of 10 per cent. for the work of many operators Von Ott himself had performed 189 operations with a mortality of 1 6 per cent. For his own statistics he had experience of six years of freedom from recurrence, equal to 29 per cent. of cures, according to the conventional method of reckoning He had known cases of permanent immunity from recurrence which appeared to be hopeless before operation. Olshausen of Berlin operates now in 50 per cent. of all cases, instead of in 31 per cent. as formerly Recurrence is not uncommon between three and seven years after operation, but very rare afterwards. In 671 cases operated upon in the course of nine years the mortality was 6 per cent. In the last six years, between 3 and 4 per cent. In the last three years there were 291 cases with a mortality of 5 per cent. As to recurrence, over 36 per cent. of the cases were free after five years, after two years free from recurrence, 74 per cent., after three years, 62 6 per cent., after five years, 38 8 per cent. Zweifel of Leipsic now operates on 50 per cent. of all cases presenting themselves for treatment. Formerly he could operate on only 27 per cent. He considers the 27 per cent. of Leipsic a low figure compared with Berlin. Zweifel in the course of four years performed 219 vaginal operations with a mortality of 5 48 per cent. Chrobak, in Vienna, operated in 213 cases with a mortality of 5 6 per cent. The proportion of operable cases increased from 15 to 29 per cent The percentage free from recurrence after five years was 34 6 In Schauta's clinic in Vienna 273 operations were performed The mortality for the vaginal operation was 10 per cent., for the abdominal operation 60 per cent. The mortality in uncomplicated cases operated on by the vaginal method was 4 6 per cent. Of these patients 36 per cent were permanently cured When the cancer extended beyond the uterus the primary mortality was 23 per cent. and the permanent cures were 7 per cent Reipen gives the figures for Halle The operators were Kaltenbach and Fehling There were 303 cases and the operation mortality was 6 6 per cent. There was no recurrence within five years in 25 per cent of the cases In carcinoma of the body of the uterus alone there was no recurrence in 75 per cent. Cullen in America had no recurrence in 66 per cent. of cases of cancer of the body In 73 cases of cancer of the cervix he had 20 per cent. of non recurrence. Kelly of Baltimore had had 63 per cent. of freedom from recurrence after six years in cancer of the body, in his cases of carcinoma of the cervix there was immunity from recurrence for from three to six years in 28 per cent. Kelly offers his testimony as to freedom of the pelvic glands from infection when the disease is confined to the uterus and therefore operable in the first degree. Hense gives remarkable evidence as to the influence of the climacteric in preserving from recurrence In 73 cases of post-climacteric operation there was permanent freedom from recurrence in 50 per cent. Winter reports from Berlin 308 operations with a mortality of 50 per cent. Recurrence took place in nearly 70 within five years, and there were nearly 30 per cent. of permanent cures. Of the cases in which the operation could be effected in sound tissue the proportion of cures was 33 per cent. Winter remarks on the frequency of recurrence in the cicatrix. As representatives of Italy we may quote Spinelli and Mangiagalli The former reports 41 operations with a primary mortality of 2 4 per cent. but the cures were only 8·9 per cent. Mangiagalli had 127 cases with a mortality of 8 6. Only 17 patients were free from recurrence after three years. In his cases recurrence was *always* in the cicatrix. In this country Lewers traced the history of 40 cases operated on radically per vaginam with a primary mortality of 7 per cent. There was freedom from recurrence in 27 5 per cent. from two to seven years. In 11 cases of cancer of the body five of the patients were well from four to seven years after operation.

These illustrations of work done might be multiplied to an indefinite extent, but enough has been set down to support the statement that there is ground for encouragement, not for depression much less for despair in the recent history of vaginal hysterectomy for cancer Each story from which the bare figures have been culled contains its own lessons and its message of hope, encouraging us to persevere in the course on which we have entered. At the first glance there may appear to be but cold comfort in the figures, but we should remember that every woman cured" in even the conventional sense has been saved from a lingering and painful death To our resources that will enhance the value of surgical interference in the future there has been in recent years no more valuable contribution than the improvement in technique introduced by the late Professor Schuchardt of Stettin. The most remarkable figures of all are those given by Schuchardt as the results of the paravaginal operation. The best results before were those of Leopold in Dresden, who with an operability of 20 4 per cent had 50 per cent. of conventional cures." Schuchardt raised the operability to 61 per cent. and had conventional cures to the extent of 40 per cent. In easy cases he had the astonishing result of 60 per cent. of cures.

Reaction.—One of the results of the depression arising from the recognition of the unfavourable remote results of vaginal hysterectomy has been a rush especially in Germany to the extreme verge of the practical in dissecting out not only the internal sexual organs but the whole of the lymphatics and cellular tissue of the pelvis. This has been declared to be justified by the belief that better remote results would be obtained than by vaginal hysterectomy

From a careful and laborious attempt to keep up with the record of proceedings I have no hesitation in saying that a large portion of the extended radical abdominal hysterectomies for cancer are homicidal vivisections which nothing hitherto advanced in their support appears to palliate, much less to justify Most of the cases recorded have been too far advanced for any operation however radical. 'The radical nature of these operations," says one German critic, is expressed only in the sad immediate and remote results a high primary mortality and injuries to the ureters and bladder in those who survive for a time. The operators profess to dissect out the pelvic lymphatic glands, iliac, hypogastric, sacral, inguinal, lumbar, and they resect the ureters and reimplant them in the bladder when they interfere with the scope of their proceedings. The immediate mortality is terrific but then, as Jacobs said at Amsterdam the operation mortality is no longer an argument capable of arresting our efforts, and so far as experience of the remoter results has ripened for guiding inference all admit that the patients who escape with their lives from the operations, occasionally reckoning only the possession of a permanent urinary fistula or the loss of a kidney among the consequences, are no better off in relation to recurrence than are those who have undergone the comparatively safe operation of radical vaginal extirpation.

There appears at the present time to be no visible limit to operations for cancer in the judgment of some of our contemporaries. The title of one very recent contribution to a gynæcological journal must suffice for calling attention to *Fortschritt* in the direction of vivisection Simultaneous occurrence of cancer of the uterus and of the stomach—abdominal total extirpation of the uterus, gastrectomy with gastro-jejunostomy " This operative work all at one sitting.

THE FUTURE OF TREATMENT AND THE AIMS OF CLINICAL RESEARCH.

From all that has been said it must be obvious to those who care to listen to opinions of mine that I firmly believe the presently existing pessimism is not justified by the facts, that there is much reason for encouragement to greater efforts in the future, and that our hopes must rest on early vaginal operation, not on the so-called extended radical abdominal sections. We may look forward to the future with a certain degree of confidence that considerable achievements are still before us, even though the pathologists do not succeed in working out a theory of the causation with practical applications to therapeutics. In saying so I do not profess to assume the functions of the prophet. We can all enlighten the present on subjects which are the chief interest of our lives, and any real insight into the present is bound to shed some light on the immediate future by the ordinary process of cautious inference. Among the preliminary considerations which call for attention comes the question Is cancer of the uterus on the increase? My own firm conviction for a long time has been that it is not, in spite of all allegations to the contrary

The late Sir Spencer Wells in the Morton Lectures of 1888 gave rather an alarmist account of our prospects but we must all welcome with a sense of relief the recent statement of Dr Tatham at the Chelsea Clinical Society According to Dr Tatham cancer in women is not increasing at the same rate as is cancer in men. The increase in men and women respectively was in 1891–1900 as 147 to 74 There is not time to argue the matter out, but it seems reasonable to attribute the disparity of increase to a considerable diminution in the extent of cancer of the uterus and mamma. All this is especially reassuring when we remember that the disease is now almost always diagnosed, at least in its later stages whereas in former times it was in many cases overlooked even when it was about to produce, or had produced a fatal result. For example, if we keep in mind the cases in which there was little ulceration and much infiltration producing occlusions of the ureters and fatal uræmic convulsions, cases of early peritonitis and other complications, we must believe that the more general capacity for correct diagnosis has added considerably to the apparent increase of malignant disease in women.

If as I firmly believe, cancer of the cervix is a different disease from cancer of the body and is a *morbus miseriæ* like osteomalacia, leprosy and pellagra, it is bound to decrease as the social condition, the physical well being, the freedom from worries and the consequent comparative happiness of the people improve and become more general, if not universal.

Cancer of the cervix uteri occurs almost exclusively among the poor the chronically overworked and underfed—among poor prolific women harassed, worried drained by lactation, and reposeless. That fissures of the cervix, neglected lacerations, tissue changes in the cervix from flexions, irritations from venereal diseases remnants of puerperal sepsis affect the cervix I have myself no doubt whatever There is no time to argue the question, but each expression here used embodies an opinion and has the foundations of a thesis which I am prepared to maintain and defend. But we cannot afford to remain supine and inactive while the process of evolution is going on. We have seen disease eradicated in this country by social legislation—for example, mollities ossium, but no legislation that we can foresee will relieve our fellow-countrywomen from the physical effects and the cares of large families or save them from the consequences of their own negligence and from marital cruelty and selfish indulgences.

Our hopes of immediate amelioration rest therefore on surgery.—We must rely not on the extension of operative procedures into the brilliance of vivisections, but on the united efforts of all concerned to bring the cases under surgical treatment at the earliest possible stage. We labour at present under considerable disabilities.

1. The patients are not so well trained and disciplined as German and other women in continental Europe. They naturally hesitate when they think of going to a medical man to tell of their symptoms and they neglect the most ominous symptoms with a light heart because they suffer no pain. The consequence is that as a rule our cancer patients consult the medical practitioner when it is clearly too late to do any operation justifying the hope of cure or even

It used to be considered the one drug that had some specific effect as a cure and it was the sheet anchor of the cancer quacks But strange vicissitudes occur in the history of unfounded hypotheses A century ago osteomalacia was believed to be the cause of certain death after Cæsarean section, nowadays the operation, as modified by Porro, is the certain cure for osteomalacia. But it is useless to pursue this line of argument, I believe we are right in assuming that there is no hope for the solution of the cancer problem in any of the theories of individual causes hitherto advanced. There is a parity of reasoning in the support of many of them with Burns's explanation of the causation of certain great qualities in Scotsmen "Tell me whisky's name in Greek, I'll tell the reason"

CANCER OF THE UTERUS NOT AS A GROWTH BUT AS A DISEASE

We search, then, in vain through the recent manuals of gynæcology, and even of pathology and the records of pathological investigation, for any hint of progress in the evolution of an etiology of malignant disease of the internal sexual organs of women. Of histology there is enough and to spare, but of pathology in the narrower sense there is little to arrest attention, much less to satisfy, and there is absolutely nothing to indicate an advance from the position of a former generation of pathologists The nomenclature is new, the thoughts and principles are old There would, in fact, be a certain amount of truth in the allegation that the diligent pursuit of the histology of malignant growths and other tumours has distracted the attention, the activities, and the energy, to say nothing of the intellectual force, which might have led to a true pathology of cancer of the uterus by fixing the attention upon structure, growth, and extension in relation to clinical phenomena. We have heard too much of cancer as neoplasm, too little of it as a disease If, now, we set aside all considerations of the etiology and pathology of cancer of the uterus and keep in mind only the clinical aspects of the disease, we see much ground for congratulation on the achievements of the last quarter of a century The clinical work has been wholly surgical. What is not surgical is futile—it is hardly knowledge.

What has been accomplished?—It is nearly 30 years since, as house surgeon to a gynæcologist of great local repute, I had every opportunity of observing the treatment of cancer of the uterus, a disease which when a student I had never once seen diagnosed by a clinical teacher The routine method was to clear away some of the débris of tissue from the invaded portion of the cervix and apply a liquid which had at the time a more general application in the treatment of certain diseases of the skin. The treatment was painful, and that was all. No patient was kept in the hospital to die, and I need hardly say that no one received appreciable benefit. Next came the period of bromum and other specifics equally futile

A few years later I had the opportunity of witnessing the operations by the galvanic écraseur of the late Professor Carl Braun von Fernwald in the Vienna General Hospital He obtained a wonderful degree of success in arresting for years, and sometimes permanently, the progress of the disease by removing the vaginal portion of the uterus when that was the only part involved. Next Schroeder of Berlin practised and advocated the supra vaginal amputation of the cervix. The practice has been continued to the present time by some of Schroeder's pupils, notably by Hofmeier and Winter

Next came the period of progress with the operation of total extirpation Many hesitated to attempt it owing to the immediate danger But the technique rapidly improved and it soon became the generally accepted operation, because it afforded the best grounds for hope of conferring prolonged benefit or of definitely curing the patient. Whatever we may think of the remote results of our surgical work no one who knows the history can deny that the reduction in the immediate mortality from this operation marks one of the greatest triumphs of modern surgery

Vaginal hysterectomy, when the disease is confined to the uterus, is not now more dangerous than is an ordinary ovariotomy The mortality, which at one time was over 30 per cent., has now sunk to 3 or 5 or 7 per cent., according to the extent of the disease and the concomitant complications or derangements of health. In recent years there has been a wave of mental depression passing over the gynæcological world on account of the unfavourable remote results of vaginal hysterectomy for cancer, and the most optimistic will admit that there has not been much ground for exultation. At a recent congress of American gynæcologists one of the eminent members said "There are some men who claim for total extirpation of the uterus the happiest results. Other men have looked upon the matter with utter hopelessness I am sorry to say that I have brought myself among the latter class from bitter experience." Hofmeier at the last Congress of German Gynæcologists declared that the present professional opinion and practice amounted to a declaration of "bankruptcy" of the radical vaginal operation as practised for the last 15 years Of this statement Fritsch remarked "It has been said that we have gone bankrupt with our vaginal total extirpation, and that its place must be entirely occupied by the abdominal method, and this has been said about an operation from which better results have been obtained than from any other cancer operation whatever" But so far from the pessimistic view being the true one the results obtained by many of the best-known operators continue to improve and to give the greatest encouragement to continued efforts in the future They are obtaining better immediate results and the number of "cures" increases—that is, the percentage of immunity for at least five years after operation becomes greater The percentage of cases operable when first seen also increases because the patients come earlier for treatment and improvements in technique have extended the indications The proof of all this lies in the statistics of carefully reported work done under circumstances in which the sources of error are reduced to the minimum. We may select examples from every country in Christendom, which now includes America, and the lessons taught by all are the same.

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Next came the period of progress with the operation of total extirpation. Many hesitated to attempt it owing to the immediate danger But the technique rapidly improved and it soon became the generally accepted operation, because it afforded the best grounds for hope of conferring prolonged benefit or of definitely curing the patient. Whatever we may think of the remote results of our surgical work no one who knows the history can deny that the reduction in the immediate mortality from this operation marks one of the greatest triumphs of modern surgery

Vaginal hysterectomy, when the disease is confined to the uterus, is not now more dangerous than is an ordinary ovariotomy The mortality, which at one time was over 30 per cent., has now sunk to 3 or 5 or 7 per cent., according to the extent of the disease and the concomitant complications or derangements of health. In recent years there has been a wave of mental depression passing over the gynæcological world on account of the unfavourable remote results of vaginal hysterectomy for cancer, and the most optimistic will admit that there has not been much ground for exultation. At a recent congress of American gynæcologists one of the eminent members said "There are *some men who claim for total extirpation of the uterus the* happiest results. Other men have looked upon the matter with utter hopelessness. I am sorry to say that I have brought myself among the latter class from bitter experience."[1] Hofmeier at the last Congress of German Gynæcologists declared that the present professional opinion and practice amounted to a declaration of "bankruptcy" of the radical vaginal operation as practised for the last 15 years. Of this statement Fritsch remarked "It has been said that we have gone bankrupt with our vaginal total extirpation, and that its place must be entirely occupied by the abdominal method, and this has been said about an operation from which better results have been obtained than from any other cancer operation whatever" But so far from the pessimistic view being *the true one the results obtained* by many of the best-known operators continue to improve and to give the greatest encouragement to continued efforts in the future. They are obtaining better immediate results and the number of "cures" increases—that is, the percentage of immunity for at least five years after operation becomes greater The percentage of cases operable when first seen also increases because the patients come earlier for treatment and improvements in technique have extended the indications The proof of all this lies in the statistics of carefully reported work done under circumstances in which the sources of error are reduced to the minimum. We may select examples from every country in Christendom, which now includes America, and the lessons taught by all are the same.

Von Ott *of St Petersburg gave the figures for Russia* in the Section of Gynæcology at Paris two years ago He mentioned 1000 cases of the radical vaginal operation, with a mortality of 10 per cent. for the work of many operators. Von Ott himself had performed 189 operations with a mortality of 1 6 per cent. For his own statistics he had experience of six years of freedom from recurrence, equal to 29 per cent. of cures, according to the conventional method of reckoning He had known cases of permanent immunity from recurrence which appeared to be hopeless before operation. Olshausen of Berlin operates now in 50 per cent of all cases, instead of in 31 per cent. as formerly Recurrence is not uncommon between three and seven years after operation, but very rare afterwards In 671 cases operated upon in the course of nine years the mortality was 6 per cent. In the last six years, between 3 and 4 per cent. In the last three years there were 291 cases with a mortality of 5 per cent. As to recurrence, over 36 per cent. of the cases were free after five years, after two years free from recurrence, 74 per cent, after three years, 62 6 per cent., after five years, 38 8 per cent. Zweifel of Leipsic now operates on 50 per cent. of all cases presenting themselves for treatment. Formerly he could operate on only 27 per cent. He considers the 27 per cent. of Leipsic a low figure compared with Berlin. Zweifel in the course of four years performed 219 vaginal operations with a mortality of 5 48 per cent Chrobak, in Vienna, operated in 213 cases with a mortality of 5 6 per cent. The proportion of operable cases increased *from 15 to 29 per cent* The percentage free from recurrence after five years was 34 6 In Schauta's clinic in Vienna 273 operations were performed The mortality for the vaginal operation was 10 per cent., for the abdominal operation 60 per cent. The mortality in uncomplicated cases operated on by the vaginal method was 4 6 per cent. Of these patients 36 per cent. were permanently cured When the cancer extended beyond the uterus the primary mortality was 23 per cent. and the permanent cures were 7 per cent Reipen gives the figures for Halle The operators were Kaltenbach and Fehling There were 303 cases and the operation mortality was 6 6 per cent. There was no recurrence within five years in 25 per cent. of the cases. In carcinoma of the body of the uterus alone there was no recurrence in 75 per cent. Cullen in America had no recurrence in 66 per cent. of cases of cancer of the body In 73 cases of cancer of the cervix he had 20 per cent. of non recurrence Kelly of Baltimore had had 63 per cent. of freedom from recurrence after six years in cancer of the body, in his cases of carcinoma of the cervix there was immunity from recurrence for from three to six years in 28 per cent. Kelly offers his testimony as to freedom of the pelvic glands from infection when the disease is confined to the uterus and therefore operable in the first degree. Hense gives remarkable evidence as to the influence of the climacteric in preserving from recurrence. In 73 cases of post-climacteric operation there was permanent freedom from recurrence in 50 per cent. Winter reports from Berlin 308 operations with a mortality of 50 per cent. Recurrence took place in nearly 70 within five years, and there were nearly 30 per cent of permanent cures Of the cases in which the operation could be effected in sound tissue the proportion of cures was 33 per cent. Winter remarks on the frequency of recurrence in the cicatrix. As representatives of Italy we may quote Spinelli and Mangiagalli The former reports 41 operations with a primary mortality of 2 4 per cent. but the 'cures" were only 8·9 per cent. Mangiagalli had 127 cases with a mortality of 8 6. Only 17 patients were free from recurrence after three years. In his cases recurrence was *always* in the cicatrix. In this country Lewers traced the history of 40 cases operated on radically per vaginam with a primary mortality of 7 per cent. There was freedom from recurrence in 27 5 per cent from two to seven years. In 11 cases of cancer of the body five of the patients were well from four to seven years after operation.

These illustrations of work done might be multiplied to an indefinite extent, but enough has been set down to support the statement that there is ground for encouragement, not for depression much less for despair in the recent history of vaginal hysterectomy for cancer Each story from which the bare figures have been culled contains its own lessons and its message of hope, encouraging us to persevere in the course on which we have entered. At the first glance there may appear to be but cold comfort in the figures, but we should remember that every woman cured" in even the conventional sense has been saved from a lingering and painful death. To our resources that will enhance the value of surgical interference in the future there has been in recent years no more valuable contribution than the improvement in technique introduced by the late Professor Schuchardt of Stettin. The most remarkable figures of all are those given by Schuchardt as the results of the paravaginal operation. The best results before were those of Leopold in Dresden, who with an operability of 20 4 per cent had 50 per cent. of conventional cures.' Schuchardt raised the operability to 61 per cent. and had conventional cures to the extent of 40 per cent. In easy cases he had the astonishing result of 80 per cent. of cures.

Reaction.—One of the results of the depression arising from the recognition of the unfavourable remote results of vaginal hysterectomy has been a rush, especially in Germany to the extreme verge of the practical in dissecting out not only the internal sexual organs but the whole of the lymphatics and cellular tissue of the pelvis. This has been declared to be justified by the belief that better remote results would be obtained than by vaginal hysterectomy

From a careful and laborious attempt to keep up with the record of proceedings I have no hesitation in saying that a large portion of the extended radical abdominal hysterectomies for cancer are homicidal vivisections which nothing hitherto advanced in their support appears to palliate, much less to justify Most of the cases recorded have been too far advanced for any operation however radical. The radical nature of these operations," says one German critic, is expressed only in the sad immediate and remote results, a high primary mortality and injuries to the ureters and bladder in those who survive for a time." The operators profess to dissect out the pelvic lymphatic glands iliac, hypogastric, sacral, inguinal, lumbar and they resect the ureters and reimplant them in the bladder when they interfere with the scope of their proceedings. The immediate mortality is terrific but then, as Jacobs said at *Amsterdam* the operation mortality is no longer an argument capable of arresting our efforts, and so far as experience of the remoter results has ripened for guiding inference all admit that the patients who escape with their lives from the operations occasionally reckoning only the possession of a permanent urinary fistula or the loss of a kidney among the consequences, are no better off in relation to recurrence than are those who have undergone the comparatively safe operation of radical vaginal extirpation.

There appears at the present time to be no visible limit to operations for cancer in the judgment of some of our contemporaries The title of one very recent contribution to a gynæcological journal must suffice for calling attention to *Fortschritt*" in the direction of vivisection Simultaneous occurrence of cancer of the uterus and of the stomach—abdominal total extirpation of the uterus, gastrectomy with gastro-jejunostomy" This operative work all at one sitting

THE FUTURE OF TREATMENT AND THE AIMS OF CLINICAL RESEARCH.

From all that has been said it must be obvious to those who care to listen to opinions of mine that I firmly believe the presently existing pessimism is not justified by the facts that there is much reason for encouragement to greater efforts in the future, and that our hopes must rest on early vaginal operation, not on the so-called extended radical abdominal sections. We may look forward to the future with a certain degree of confidence that considerable achievements are still before us even though the pathologists do not succeed in working out a theory of the causation with practical applications to therapeutics. In saying so I do not profess to assume the functions of the prophet. We can all enlighten the present on subjects which are the chief interest of our lives, and any real insight into the present is bound to shed some light on the immediate future by the ordinary process of cautious inference. Among the preliminary considerations which call for attention comes the question Is cancer of the uterus on the increase? My own firm conviction for a long time has been that it is not, in spite of all allegations to the contrary

The late Sir Spencer Wells in the Morton Lectures of 1888 gave rather an alarmist account of our prospects, but we must all welcome with a *sense of relief* the recent *statement* of Dr Tatham at the Chelsea Clinical Society According to Dr Tatham cancer in women is not increasing at the same rate as is cancer in men The increase in men and women respectively was in 1891–1900 as 147 to 74 There is not time to argue the matter out, but it seems reasonable to attribute the disparity of increase to a considerable diminution in the extent of cancer of the uterus and mamma. All this is especially reasuring when we remember that the disease is now almost always diagnosed at least in its later stages, whereas in former times it was in many cases overlooked even when it was about to produce, or had produced a fatal result. For example, if we keep in mind the cases in which there was little ulceration and much infiltration producing occlusions of the ureters and fatal uræmic convulsions, cases of early peritonitis and other complications, we must believe that the more general capacity for correct diagnosis has added considerably to the apparent increase of malignant disease in women.

If as I firmly believe, cancer of the cervix is a different disease from cancer of the body and is a *morbus miseriæ* like osteomalacia, leprosy and pellagra, it is bound to decrease as the social condition the physical well being the freedom from worries and the consequent comparative happiness of the people improve and become more general, if not universal.

Cancer of the cervix uteri occurs almost exclusively among the poor the chronically overworked and underfed—among poor prolific women, harassed, worried, drained by lactation, and reposeless. That fissures of the cervix neglected lacerations tissue changes in the cervix from flexions, irritations from venereal diseases remnants of puerperal sepsis affect the cervix I have myself no doubt whatever There is no time to argue the question, but each expression here used embodies an opinion and has the foundations of a thesis which I am prepared to maintain and defend. But we cannot afford to remain supine and inactive while the process of evolution is going on. We have seen disease eradicated in this country by social legislation—for example, mollities ossium, but no legislation that we can foresee will relieve our fellow countrywomen from the physical effects and the cares of large families, or save them from the consequences of their own negligence and from marital cruelty and selfish indulgences.

Our hopes of immediate amelioration rest therefore on surgery.—We must rely not on the extension of operative procedures into the brilliance of vivisections but on the united efforts of all concerned to bring the cases under surgical treatment at the earliest possible stage. We labour at present under considerable disabilities.

1. The patients are not so well trained and disciplined as German and other women in continental Europe. They naturally hesitate when they think of going to a medical man to tell of their symptoms and they neglect the most ominous symptoms with a light heart because they suffer no pain. The consequence is that as a rule our cancer patients consult the medical practitioner when it is clearly too late to do any operation justifying the hope of cure or even

prolonged immunity, and in many cases advice is sought for the first time only when it is almost too late to palliate.

2. This is clearly the most important of the many diseases regarding which the interests of the general practitioner in the subject and his influence with his patients are our chief ground for hope of ameliorations To him the patient first appeals and consequently on him depends whether steps shall be taken promptly or otherwise to bring the best resources of medical science to bear on the individual case. If I might venture a criticism, my own experience would suggest that all are not sufficiently insistent on physical examination even when there is *primâ facie* evidence that the cause of the symptoms is malignant disease. It is a painful fact and food for humble reflection that we still see presenting themselves at our hospitals poor women who have been under medical treatment for a considerable time without an examination being suggested to them, even although the first symptoms which they mention, and their age, and the appearance which they present should at once suggest the presence of cancer

3. Among the causes which lead to late diagnoses of malignant disease of the uterus—partly by leading the patients to present themselves late and partly to the postponement of examination—is the prevalent superstition with regard to a "climacteric hæmorrhage." I have no hesitation in saying with entire conviction that "climacteric hæmorrhage" is, like the collective term "cancer," one of the inherited burdens which we drag along with us to our hindrance and grievous detriment Apart from pathological conditions usually diagnosable there is no such phenomenon in nature.

4 Another popular delusion which stands in the way of early diagnosis of cancer of the uterus is the belief that pain is an invariable symptom of cancer When the sufferer from cancer begins to complain of pain we all know now that the disease is too far advanced for radical treatment. The question naturally arises, How is this universal ignorance to be dissipated? If our patients only knew what symptoms were suspicious the fear of death would overcome the natural shrinking from examination and the medical adviser would be taken early into confidence.

The nature of the subject precludes popularising of knowledge by ordinary methods, but a great deal more might be done by the means now available. Dr Lewers makes a helpful suggestion in the *Practitioner* for June that a cancer research commission might be the agency of diffusing knowledge of the subject through nurses, district visitors, sanitary associations, and others who come into intimate relations with the more ignorant and poorer classes of the community

As far as the medical profession is concerned the chief difficulty in the way of obtaining better results by early operation is that of early diagnosis. Anyone engaged in the practice of the medical profession should have no difficulty in diagnosing cancer of the uterus when a cavity has formed or the patient is suffering from one of the hypertrophic forms of epithelioma of the cervix But there are cases in which there is real difficulty in establishing early diagnosis of uterine cancer Now it is mere mockery and the suggestion of utter impracticability to tell a busy medical practitioner to snip bits off the affected part and to subject them to microscopic examination. The busiest men see the most cases and therefore are least able to follow the advice. There are the various clinical research societies, of the assistance of which a small minority take advantage, but they cannot be expected to supply the wants of the whole profession like a clinical test of easy application

And then we must keep in mind that it is easy to place too great reliance on mere microscopic diagnosis. It is, for example, impossible to diagnose between benign adenoma of the corpus uteri and the malignant form of the disease by means of the microscope alone, the distinction is purely clinical And those who hold strongly, as I do, that the finer clinical points are constantly overlooked because of the air of scientific accuracy which the masters of the microtome assume will not readily forget the history of the discussion on the claims of the total extirpation of the uterus as against any partial operation. Certain young "gynæcologist-pathologists" in Germany at one time discovered that in carcinoma of the cervix the mucosa of the body of the uterus underwent a sarcomatous degeneration, and as usual they published their observations to all the world. Immediately the same curious phenomenon, *a priori* improbable as it was, was observed in every *Frauenklinik* in Germany, and the scientific proof of the futility of partial extirpation was established! We never hear of that sarcomatous degeneration now, for it was soon proved beyond cavil to be the result of a purely inflammatory process Syphilitic tumours have been described as microscopically indistinguishable from large-celled sarcoma, and tuberculous growths have also been mistaken for malignant disease

How then can early diagnosis of carcinoma of the cervix be established clinically? I would once more suggest the value of friability of tissue as pathognomonic in this particular phase of malignant growth. The presence of friable tissue in the cervix uteri indicates the existence of disease which is clinically malignant whatever the microscope may say

With goodwill and general interest in the subject and by early diagnosis it should not be difficult to bring the proportion of operable cases seen in this country to something approaching that of Germany Success even so far would mean the saving of many lives and a great reduction in the amount of human misery What the proportion of operable to inoperable cases of cancer of the uterus when first seen in this country generally may be we do not clearly know I do not think there have been sufficient observations published to enable us to form a conclusion. At the Southern Hospital here a careful inquiry into the figures of the last 10 years made by the present house surgeon, Dr A. M. Mitchell, shows the proportion to be about 22 per cent Dr Munro Kerr has been kind enough to make inquiries with regard to the subject in Glasgow and he tells me that out of 118 consecutive cases seen at the Western Infirmary there were 98 found to be inoperable—that is to say, 18 per cent. of operable cases At our Christie Hospital here operable cases are seldom seen, but the circumstances are exceptional and palliation must be the recognised treatment German gynæcologists have succeeded in raising the proportion of operable cases from as low as the figures I have just quoted to over 20, over 30, and now in some clinics, such as Olshausen's, to 50 per cent., and Schuchardt reached the extraordinary figure of 61 per cent. With such examples before us it would surely be criminal folly to despair of equal or greater progress among ourselves And, indeed, suggestive and encouraging signs are not wanting of aroused attention and interest in the promptness with which cases are now being submitted to operation compared with even the recent past.

What has been implied in all that I have said I now wish to state explicitly for what it is worth. It is my firm conviction that the secret of cancer in general will be discovered, if ever, by the study of carcinoma of the uterus, and that the means will be exact clinical observation, followed, perhaps, and corroborated, by experimental research

The microtome and the cultivation tube and experimental implanation have had their day, they need not cease to be, but they should find their proper place in our system of investigation. We may get at the causes of malignant disease, as far as we understand the causes of things, by exact clinical observation, but the specific remedy or the system of therapeutics will come, in all probability, as a stroke of empiricism from an individual working for the sake of knowledge and for the good of humanity It might be argued that the pathology and serum treatment of tuberculous disease and diphtheria are examples to the contrary, but there appears to be hardly any analogy between the genuinely infectious diseases and the phenomena of cancer

Cancer is infectious to the individual already affected with cancer, but to no other The phenomena of rapid recurrence in the cicatrix after operation, owing to contact of the fresh wound with cancerous matter, points to an early cancerous condition of the system, an entirely different matter from the late cancerous cachexia. This fact, established clinically, has received too little notice

APPLICATION OF LOGICAL METHODS

If we are ever to arrive at the causation of carcinoma of the uterus we must reach it by the rigid application of logical methods of induction to clinical work. We are already in possession of certain facts established clinically with regard to cancer of the body and cancer of the cervix and the extent to which they are dissimilar We might begin our collective investigations with carcinoma of the cervix. It is a diseased condition with antecedents and characteristics almost entirely its own. Its characters fit it specially for clinical observation and the application of logical methods of induction

"If two or more instances of a phenomenon under investigation have only one circumstance in common that circumstance *is the cause of the phenomenon.*" The application of this Method of Agreement would require very patient note taking according to a rubric containing every antecedent circumstance which has ever been suggested as the cause or connected with the cause of the disease. But genius is the faculty of taking infinite pains. After a time it would be seen what was the invariable antecedent, if any in every case. If there was no invariable antecedent of the phenomena of the disease over a considerable series of cases, then the rubric would have to be strengthened by new possible antecedents, while the obviously irrelevant could be abandoned. By the antecedent circumstances I mean such facts as heredity previous illnesses especially contagious diseases, social circumstances, marriage child bearing puerperal ailments lactation, menstruation and an indefinite variety of others. One of the earliest results of this method would probably be the differentiation of the varieties of malignant disease of the uterus just as clinical work alone established the differences between the fevers in the past. We would learn which clinical varieties produced early lymphatic invasion, which most readily recurred where the recurrences commenced and how the last state of the operation case after recurrence compared with the case in which the disease had been allowed to run its course unaffected by treatment. Facts would be proved, fables dissipated. Conclusions formed would become opinions, not mere individual impressions.

CONCLUSION

Running through all I have said and implied in some apparent digressions has been an effort to attract attention (as far as anything I may say can do so) to the dignity and the effectiveness of exact scientific clinical methods of observation. To attain my object it seemed necessary to call specific attention to the futility of much of the labours of the past undertaken in order to establish the etiology and true pathology of cancer All honest and enlightened human effort should be welcomed I depreciate none. But chiefly is my hope fixed on the fact that in such research as I have been suggesting every member of the medical profession engaged in general practice could coöperate in genuinely scientific work with those whose daily occupation was of a special character The work of both sets of workers would be complementary The specialists should have more time as a rule to devote to such work and naturally they have the particular disease more in their minds The medical practitioner knows most about the history and environment of the individual patient and can obtain relevant information from which the hospital physician is excluded.

I shall not parody the language of the great German authority upon whom I have so largely drawn and speak of a Promised Land I shall content myself with saying that my earnest hope and desire is this—that some of our younger men, with more energy better opportunities starting on a higher level of knowledge, will professedly take up this great enterprise and see whether by calm, industrious, and enlightened clinical observation alone or collectively they can discover the cause and the remedy for this mysterious and dreadful malady

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ON THE

ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA

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(Concluded from p 280)

THE cases which I have referred to have supplied illustrations of the effect of treatment in carrying the condition back from the double to the simple form Looking at all the circumstances before us it is only reasonable to expect that the abnormality induced by the constant passage of sugar in large quantity through the system is likely to favour the progress of the disease into the more advanced form and conversely that the removal or diminution of the abnormality is likely to *exert an* influence *tending to operate* in an opposite direction. In the cases which I have considered we have started with the presence of the acetone series and have seen the result that may follow I will now pass to the consideration of cases in which the products in question have been absent before beginning the treatment and show the result *that may attend the transition from a diet* containing carbohydrate to one from which it is excluded.

The usual effect, I think I may say, that may be looked for is that a certain amount of the products is thrown into the urine The amount, however, is not what can be called large and with the progress of time it tends to grow gradually less and finally to disappear In young subjects the products seem to hold on more tenaciously than in subjects of more advanced years The following may be given as illustrative cases.

CASE 8.—This was a male patient, aged 47 years At his first visit on Sept. 17th 1901 the report ran Sugar 62 per 1000 and diacetic acid 0 On Sept. 20th, as a result of the restricted diet the sugar had become reduced to 22 per 1000 and the diacetic acid had appeared to the extent of ++ Oct. 4th Sugar, trace , and diacetic acid 0

CASE 9 —This patient, aged 51 years, had been the subject of diabetes for four and a half years. He had just arrived from India and latterly from the difficulty in dieting whilst travelling had not been giving the attention to food that he had done formerly He was first seen on May 23rd, 1902, when the sugar stood at 83 per 1000 and diacetic acid 0 May 26th Sugar 20 per 1000 diacetic acid + and acetone, + 28th Sugar 13 per 1000 , diacetic acid, + and acetone + June 11th Sugar 10 per 1000 and diacetic acid 0 24th Sugar 6 per 1000 diacetic acid 0 and acetone, 0 July 8th Sugar trace diacetic acid 0 and acetone, 0 July 22nd Sugar 0 , diacetic acid 0 and acetone, 0

CASE 10 —The patient, aged 56 years, had recently become the subject of diabetes. June 21st, 1902 Sugar 55 per 1000 and diacetic acid, 0. 23rd Sugar 10 per 1000 diacetic acid, + and acetone, + 25th Sugar 0, diacetic acid, + and acetone, + July 5th Sugar 0, diacetic acid + and acetone, ++ 10th Sugar, 0, diacetic acid + and acetone, + 22nd Sugar 0, diacetic acid, 0 and acetone, +

CASE 11.—In this case diabetes had existed for five months. The patient was 55 years of age and was first seen by me on June 15th, 1900 He was at the time upon a partially restricted diet and the sugar stood at 29 per 1000 and diacetic acid, 0. July 6th Sugar 0 and diacetic acid, + August 17th Sugar 0 and diacetic acid 0.

CASE 12.—The patient, aged 64 years was first seen on March 7th, 1902. Sugar had been recognised in his urine in 1896. He latterly had been relaxing his diet. Marked neuritis existed. Sugar 27 per 1000 and diacetic acid, 0 March 27th Sugar 10 per 1000 and diacetic acid + June 6th Sugar 0 , and diacetic acid 0

The following two cases are of boys in the urine of whom a persistence is shown of the acetone products, notwithstanding the absence of sugar for a considerable time. It is not to be taken that it invariably happens with children in this way

CASE 13.—The patient, aged eight years was first seen on Nov 15th 1899 A sharp onset of thirst had occurred eight days previously and sugar in the urine had just been recognised. Sugar by copper reduction, 77 7 per 1000 , by polarimeter 77 3 per 1000 diacetic acid + , and albumin, 0 The disease had only just set in and the presence of sugar was almost the only abnormality presented by the urine. There was no oxybutyric acid and only a little diacetic acid The patient was placed immediately on the strict diet and for Dec. 7th the report runs as follows Sugar by copper reduction 0 polarimetric indication expressed in terms of dextrose − 4 6 per 1000 and diacetic acid +++ Thus a levorotatory power to the extent named now existed and there was a large quantity of diacetic acid On Jan. 4th 1900 the report ran almost the same Sugar 0 polarimeter − 4 3 per 1000 and diacetic acid, +++ The boy had risen in weight from four stones and four and a half pounds to four stones and 10½ pounds between Dec. 7th and Jan. 4th. On March 1st the report was practically the same. On the 22nd with a continued absence of sugar the levorotation had become reduced to −2 1 per 1000 and the diacetic acid to ++ June 27th Sugar 0 polarimeter −2 9 per 1000 and diacetic acid + Oct. 4th Sugar 0 polarimeter, −1 7 per 1000 and diacetic acid + Dec. 19th Sugar 0 polarimeter 1 4 per 1000 and diacetic acid, + Feb. 15th, 1901 Sugar, 0, polarimeter, −1 8 per 1000, and diacetic acid, 0 This constituted the maximum of improvement attained and from this time retrogression occurred For March 12th the report ran Sugar, by copper reduction, 37 per 1000, by polarimeter, 28 per 1000, and diacetic acid, ++ A loss of one pound in weight had taken place during the last week June 4th Sugar, by copper reduction, 46 per 1000, by polarimeter, 32 per 1000, and diacetic acid, +++ The patient now rapidly lost ground and died in a comatose state in September

CASE 14 —This patient was also eight years of age when first seen on Jan 25th, 1902. He was of an exceedingly high strung nerve organisation Some increased flow of urine had been noticed at the end of November, but the condition afterwards fluctuated and it was not until the middle of January that it received serious attention From this time urgent thirst, polyuria, and emaciation attended with weakness set in The examination of the urine on the 25th revealed the following condition Sugar, by copper reduction 71 per 1000, by polarimeter 60 per 1000, diacetic acid, +++, and acetone, ++ The patient was put upon the restricted diet with the exception of the allowance for a few days only of about a pint of ordinary, instead of sugar free, milk per diem Jan 30th Sugar, by copper reduction, 59 per 1000, by polarimeter, 46 per 1000, diacetic acid, +++, and acetone ++ Feb 6th Sugar, by copper reduction, 46 per 1000, by polarimeter, 36 per 1000, diacetic acid, +++, and acetone, ++ 13th Sugar, by copper reduction, 26 per 1000, by polarimeter, 23 per 1000, diacetic acid, +, and acetone, + The weight last September was four stones and two pounds, on Jan 23rd it had fallen to three stones and six pounds, on Feb 6th it was three stones and 10 pounds, on the 7th three stones and 10½ pounds, and on the 13th three stones and 11¾ pounds Feb 20th Sugar, 0, diacetic acid, +, and acetone, + 27th Sugar 0, polarimeter, −0·6 per 1000, diacetic acid +, and acetone, + On the 23rd the patient had a bad attack of sickness from which he had since recovered March 6th Sugar, 0, polarimeter, −1 6 per 1000, diacetic acid, ++, and acetone, + The patient's weight on this date was three stones and 13¾ pounds March 20th Sugar, 0, polarimeter, −1 8 per 1000, diacetic acid, +, and acetone + April 10th Sugar, 0, polarimeter, −5 7 per 1000, diacetic acid ++, and acetone ++ May 8th Sugar, 0, polarimeter, −3·6 per 1000, diacetic acid ++, and acetone ++ The weight of the patient had reached four stones and four pounds On May 26th it was found that the patient had contracted whooping cough and he had lost one and a half pounds in weight. Sugar 0, polarimeter, − 3 9 per 1000, diacetic acid + +, and acetone, + + On June 24th the whooping cough was better The loss of weight, which on June 11th amounted to three pounds, was now being recovered, and the weight stood at four stones and two pounds Sugar, 0, polarimeter, − 4 3 per 1000, diacetic acid, + +, and acetone, + + The last entry is for July 24th and stands as follows Sugar, 0, polarimeter, − 1 5 per 1000, diacetic acid, 0, and acetone, +

In the above case a riotous upset of metabolism had occurred The chemistry of life had fallen into a highly perverted order of procedure By bringing the system into a more natural state through the removal of the sugar things have for the time almost righted themselves and health so far has become re established, the boy to outward appearances being as well as at any time in his life The age, however, is the baneful point on giving heed to the future.

In opposition to the effect of restriction from carbohydrate food that has been noted, cases are frequently occurring in which the sugar disappears without evidence being presented of the products of the acetone series being developed One example of this line of case will suffice for illustration.

CASE 15 —The patient, aged 58 years, was first seen on June 24th, 1902 Sugar had been recognised in his urine four years previously Latterly his symptoms had grown worse and he had become anxious about himself. He was on a partially restricted diet, partaking of starchy food under the form of brown bread and toast. His urine contained 50 per 1000 of sugar and gave no reaction with the ferric chloride test for diacetic acid. On June 28th, four days after commencing the restricted diet, the sugar had become reduced to 13 per 1000 and diacetic acid was absent. July 5th Sugar, 5 per 1000, and diacetic acid, 0 12th Sugar trace, and diacetic acid, 0 26th Sugar, trace, and diacetic acid, 0

The acetone series may become present in the urine of the diabetic as a result of the supervention of some other disorder and subsequently disappear The following three cases represent instances of the kind

CASE 16 —Pneumonia was in this case the disorder that supervened The patient first came under my observation in February, 1899 She was then 60 years of age At the first interview the sugar amounted to 55 per 1000, but under treatment it soon disappeared, and later six ounces of ordinary bread per diem could be taken without leading to the passage of sugar The urine gave no reaction with the ferric chloride test for diacetic acid In the early part of November, 1900, the patient took a chill which resulted in the development of pneumonia. On Nov 10th the condition of the urine was as follows Sugar by copper reduction and by polarimeter, 33 per 1000, diacetic acid, +, and a trace of albumin and granular and hyaline tube casts. 12th Sugar by copper reduction, 48 per 1000, by polarimeter, 39 per 1000, and diacetic acid, ++ 13th Sugar by copper reduction, 43 per 1000, by polarimeter, 36 per 1000, and diacetic acid, +++ 14th Sugar by copper reduction, 27 per 1000, by polarimeter, 21 per 1000, and diacetic acid, ++ 15th Sugar by copper reduction, 21 per 1000, by polarimeter, 19 per 1000, and diacetic acid, + 16th Sugar by copper reduction, 15 per 1000, by polarimeter, 12 per 1000, and diacetic acid + From Nov 30th there was a disappearance of diacetic acid, but a slight amount of sugar with a trace of albumin and casts persisted till March, 1901 On April 18th the report ran Sugar, 0, diacetic acid, 0, albumin, 0, and no casts The patient has since continued in a satisfactory state and has regained her former tolerating capacity for six ounces of ordinary bread per diem She was last seen on July 11th, 1902.

CASE 17 —In this case excess of alcohol and dietetic deviation were at the foundation of the "composite" condition that became developed. My history of the patient begins with April, 1893 He was then 39 years of age. There was a strong family history of the disease and, as often happens in these circumstances, the diabetes commenced in a mild form and was, indeed, first recognised through examination for life assurance For a considerable time there was only a certain amount of impairment of assimilative power over carbohydrate In 1897 a curtailment of the carbohydrate previously taken was required to keep the urine free from sugar In 1900, through dietetic deviation, sugar was sometimes present in considerable amount and diacetic acid began to show itself Whisky was also being taken to a pernicious extent. The condition of the urine on Oct 4th, 1900, stood as follows Sugar by copper reduction, 25 per 1000, by polarimeter, 17 per 1000, and diacetic acid + March 13th, 1901 Sugar by copper reduction, 32 per 1000, by polarimeter, 25 per 1000, and diacetic acid, + On Oct 4th the patient was in a thoroughly disordered state He was feeling ill and losing weight. His liver was to be felt three inches below the margins of the ribs and his urine contained albumin with hyaline and granular casts Sugar, 41 per 1000, and diacetic acid, ++ Alarmed about his condition he almost abstained from whisky and resumed the proper dietary for his disease Nov 27th Sugar 0, and diacetic acid, 0 Jan 10th, 1902 Sugar, 0, diacetic acid, 0, albumin, 0, and no casts Up to May 9th the reports continued to be good When seen on July 4th he had relapsed into his former mode of life with a return to his previous condition. The report upon his urine was as follows Sugar by copper reduction, 56 per 1000, by polarimeter, 54 per 1000, diacetic acid, ++, and albumin and granular casts were present.

CASE 18 —This was a case of diacetic acid following a severe attack of sciatica. The patient had been under treatment for diabetes since February, 1895, when she was 57 years of age. At first it was not difficult to keep the urine free from sugar under the allowance of a moderate quantity of starchy food in the form of bread. Latterly less toleration of bread had existed and the amount of sugar, from insufficient restriction being exercised, had grown to an undesirable extent When the patient was seen in July, 1901, there was, as previously an absence of diacetic acid At the beginning of October she took a chill from walking in thin shoes on damp grass and contracted a severe attack of sciatica For several nights she was unable to remain through the night in bed and had to rest in a chair She was convalescing when I saw her on Oct 22nd. The urine then contained 50 per 1000 of sugar with diacetic acid represented by +++ On Nov 27th the diacetic acid had disappeared and its absence has since been noted at interviews on Jan. 23rd April 14th and July 20th of the present year

The passage into the composite" state thus supervening upon the development of another disordered condition may rapidly run on to the production of coma The following is a case in point.

CASE 19 —The patient was first seen in March 1898, when she was 67 years of age The absence of sugar was easily susceptible of being maintained by limitation of starchy food There had never been any indication of the presence of diacetic acid and on Sept. 20th, 1901 its absence was noted. In November the patient took cold and became the subject of bronchial trouble and of a severe attack of muscular rheumatism affecting the back of the neck and shoulders and giving rise to an extreme amount of distress. On Dec. 2nd the urine contained 31 per 1000 of sugar diacetic acid corresponding with +++ and acetone ++ On Dec. 9th the following condition was found Sugar by copper reduction 45 per 1000 by polarimeter 38 per 1000, diacetic acid +++ and acetone, + a trace of albumin was also present with the distinctive casts associated with diabetic coma. The patient died in a comatose state on the following day

In the cases that have been alluded to the composite state has arisen with the occurrence of a supervening malady If the composite state should already exist the supervention of another malady upon it is attended with the greatest danger and thus the insecure tenure of life known to be associated with advanced diabetes is in part to be accounted for The following is an illustrative case

CASE 20 —The patient first fell under my notice in June 1901. He was then 53 years of age and had been for many years the subject of diabetes Sugar was found to the extent of 21 per 1000 and a certain amount of diacetic acid was present I was asked to see him on March 3rd 1902. He had just arrived from abroad and had contracted influenza from the inmates of the house at which he was staying The examination of his urine revealed the following condition Sugar by copper reduction 41 per 1000, by polarimeter 30 per 1000 diacetic acid +++ acetone +, and albumin in decided amount accompanied with numerous casts Two days later the patient died in a comatose state.

The information given by the acetone series is of much prognostic value. Indeed, the knowledge they supply in connexion with a case furnishes an insight into the future which cannot be obtained by looking solely to the sugar Sufficient already has been said to show that it is not to be concluded that their presence is indicative of imminent fatality but at the same time their presence to a pronounced extent and without any outside influence to account for them must be regarded as of exceedingly bad augury Weintraud[1] states that he noticed the presence of diacetic acid in one of Naunyn s cases five years before death occurred. I may in connexion with this matter cite from my own experience the following case.

CASE 21 —The patient was first seen in September 1885 He was then 48 years of age. After progressing in a fairly satisfactory manner till December 1899 diacetic acid then showed itself in his urine. The report ran Sugar by copper reduction, 22 per 1000 by polarimeter 22 per 1000 and diacetic acid + On April 5th, 1900 the following condition was found Sugar by copper reduction, 34 per 1000 by polarimeter 28 per 1000 and diacetic acid ++ My next record is for Nov 1st, 1901, when the report stood Sugar by copper reduction, 34 per 1000, by polarimeter 33 per 1000 and diacetic acid + I have not seen the patient since, and as far as I am aware he is still alive.

When the acetone series of products are discoverable to a large extent in a case it may be safely concluded that life is not likely to last long On March 5th of this year a patient came to me bringing urine that yielded on examination the following results Sugar by copper reduction, 61 per 1000 by polarimeter 37 per 1000 and diacetic acid, +++ I felt that the patient could not in this condition last long and I wrote accordingly to the local medical attendant. She died in coma 12 days after The difference between copper reduction and polarimeter values here amounted to 24 per 1000 These are about the highest figures I have met with, and when brought into terms of actual oxybutyric acid give 53 per 1000 as the quantity present.

The following case also affords a good illustration of the value of the information derivable from a detailed examination of the urine for the acetone series

CASE 22.—The patient, aged 38 years, first fell under my observation on April 14th 1902. He had noticed in the previous autumn from his Turkish bath weighings that he was steadily losing weight and through this he sought advice when the existence of diabetes was recognised. There had been no urgent thirst or great flow of urine and the condition had not been regarded as one to call for immediate anxiety A partially restricted diet was being followed. The full examination of the urine showed at once the grave state existing The following were the results obtained Sugar by copper reduction, 50 per 1000, by polarimeter 39 per 1000 diacetic acid +++ acetone, ++, and a trace of albumin with granular and hyaline casts Several subsequent examinations were made which showed some fall in the sugar but the acetone series persisted to about the same extent and the patient grew gradually worse till July 9th when death took place.

The testing for diacetic acid is a matter of easy accomplishment and it gives a certain amount of information, but the value of the information conveyed is not to be compared to that obtained from the quantitative determination of the oxybutyric acid by the agency of copper reduction and the polarimeter This, however requires experience and time, but the result may be considered to repay the labour undertaken A double process is involved. It is possible, however by fermenting away the sugar to make the polarimeter alone serve for giving the required information. If this is done confidence has to be placed in oxybutyric acid possessing the power of fully resisting destruction during fermentation, which is doubtful

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MYOMA OF THE VAGINA

BY W ROGER WILLIAMS F R.C.S ENG

CANCER of the vagina is rare sarcoma is rarer still, and myomatous tumours are the rarest of all. Although the vaginal musculature is much thinner than is that of the uterus in other respects there is much similarity between them except that the former lacks the post-embryonic developmental potentiality of the latter It is owing to this functional difference, and consequent diversity in the number and arrangement of its blood vessels &c. that myomatous tumours arise so very much less frequently from the vaginal than from the uterine walls. The musculature occupies an intermediate position in the vaginal parietes, between the corium of the mucosa" and the fibrous tissue of its outer coat, to both of which it sends processes. It is most abundant in the lower part of the vagina, especially anteriorly in the vicinity of the base of the bladder, and it is significant that these are just the localities where vaginal myomata are most prone to develop Blood-vessels lymphatics and nerves also enter into its composition.

As in the case of their uterine congeners the precise structure of vaginal fibroids" has been much debated and as Virchow long ago remarked, the reports of cases rarely enable us to determine with certainty whether we have to do with myomatous fibro-myomatous or merely with fibromatous formations To a certain extent this criticism is still valid. No doubt the relative proportions in which myomatous and fibrous structures enter into their formation is very variable but, in spite of difficulties of this kind—and the rarity with which observers have resorted to the special reagents and technique necessary for the discrimination of leiomyomatous elements—it appears that the great majority of recently recorded cases have been myomatous. This was obviously so in 19 of the 29 modern cases tabulated by Phillips Probably future investigation will show that nearly all vaginal fibroids" are myomatous *ab origine*

Vaginal fibroids differ from their uterine congeners in their comparative rarity (only three to 1073 cases) and in that they are nearly always solitary Instances of multiple vaginal myomata have however been reported by Odenin and Strassmann Odenin s patient was a peasant, aged 32 years who when only 18 years old had twins and subsequently one miscarriage At several sittings no less than 10 myomatous tumours were removed from the vaginal walls

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[1] Archiv für experimentelle Pathologie und Pharmakologie Band xxxiv

These tumours were of variable sizes—the largest being as big as the fist, two others were of the size of hen's eggs, and the rest were smaller Some of the tumours were stalked, others were sessile. They were circumscribed, hard, lobulated, and whitish on section Histologically examined their structure was that of "myoma lævicellulare." In Strassmann's case two small, partially calcified, tumours were present. Leisering has met with over 20 tumours of this kind in the walls of the vagina of a dog In cases reported by Stumpf and Strassmann the tumours were multinodular Hastenpflug, Byford, Oliver, and Taubert have found tumours of this kind coexisting in the vagina and uterus Schroeder and Pillore have met with the like concurrence in the vagina and ovary, while Virchow has described an instance in which the vagina, the uterus, and the ovary were concurrently affected. An instance of vaginal myoma in an unmarried woman, 21 years old, who was the subject of double uterus and vagina, has been reported by Emmet. Most vaginal fibroids are of intra peritoneal origin, springing from the musculature, but exceptionally they arise in neighbouring tissues (paravaginal) Aberrant uterine myomata, sequestrated from their original matrix, sometimes acquire a paravaginal *habitat* The great majority of vaginal myomata originate anteriorly, this was the condition in 25 of Kleinwächter's 39 cases and in 23 of Phillips's 29 cases Veit believes that many myomata originate in connexion with Wolffian "rests" In support of this view Pick has described a remarkable myomatous tumour of the posterior vaginal fornix which contained epithelial lined tubules similar to those found by Recklinghausen in uterine myomata. Krönig and Poupinel have also met with structures of this kind in tumours of this vicinity At an early stage of development the vaginal "fibroid" presents as a small, hard, circumscribed, mobile tumour in the vaginal wall As it increases in size it usually tends to project into the vagina, being covered by its muco-cutaneous lining membrane. The tumour is at first sessile and it may continue so, but more commonly it gets involved in the vaginal lumen and so acquires a pedicle which is generally short and thick. Sometimes, however, the pedicle undergoes such elongation as to admit of the "fibroid" hanging from the vulva, and large tumours have been known to reach even as low as the knees, of which Paget has cited instances The implantation area of large tumours is generally well supplied with blood vessels, which may bleed freely when divided.

Vaginal "fibroids" increase slowly, several cases of over 12 years' duration having been reported, but they seldom attain large size. When first noticed they are commonly no bigger than a hazel nut or a walnut, but specimens of the size of a child's head and weighing over 10 pounds have been met with. Large tumours cause great distension of the vagina and by their bulk interfere with the functions of adjacent organs, such as the bladder, the rectum, &c These large tumours constitute a serious malady, but the small ones seldom cause any special inconvenience Extruding tumours are apt to be complicated by inversion of the vagina, and in displacements of this kind the bladder or rectum may be involved. Such tumours may even separate spontaneously and be expelled per vaginam, of which several instances have been reported. In their morphological characters vaginal myomata resemble their uterine congeners, as they are generally encapsuled, circumscribed, nodulated, and of dense quasi fibrous texture Softish varieties are, however, met with which may be telangiectasic or lymphangiectasic, as in cases reported by Boutin, Hofmokol, Flunderberg, and others. Calcification is rare, but instances have been reported by Taubert and Strassmann

By far the commonest of the superinduced changes met with in these tumours are those that result from *septic infection*—viz , congestion, œdema, inflammation, necrosis, and gangrene, which are usually consequent on some form of injury Salpingitis, pyosalpinx, peritonitis, and septicæmia are frequent concomitants of this kind of accident.

Any form of malignant disease originating in vaginal myomata is most exceptional, but sarcomatous changes have been reported by Homs and Cartlege, and myxomatous by Kleinwächter and Péan. With regard to the age incidence of 20 cases tabulated by me the youngest—when the first indications of the affection were noted—was 20 years and the oldest 46 years, and their mean age was 33 4 years When these same patients sought surgical advice owing to the supervention of more or less urgent symptoms their average age was 34 6 years Thus vaginal myomata occur on the average several years earlier than do their uterine congeners The age distribution of these 20 patients at the onset of the disease was as follows from 20 to 30 years in six cases, from 30 to 40 years in nine cases, from 40 to 45 years in three cases, and from 45 to 50 years in two cases This shows a preponderance of cases arising during the fourth decade—i e , prior to the menopause R. R. Smith's analysis of 69 recently reported cases agrees with this, for 40 5 per cent of his patients belong to the fourth decade According to Kleinwächter, however, the period of maximum liability is considerably later—viz., at about the time of the menopause. It is alleged that these tumours may be congenital or appear during early infancy, but anyone who cares to study the reports of the cases commonly cited in support of this statement—viz., those of Martin, Traetzl, and Wilson—will see, as I have elsewhere pointed out,[1] that none of the polypoid formations in these cases were really of the nature of myomata. A considerable proportion of those affected with these tumours are single and among the married the ratio of sterility is in excess of the normal. Vaginal "fibroids," even when of some size, seldom cause menorrhagia or other menstrual derangement, for of R. R. Smith's 69 cases menorrhagia was noted only in seven. Irregular hæmorrhagic vaginal discharges are occasionally met with (15 times in 101 of R. R. Smith's cases) The liability to conception is but little affected, hence the tumours are often concomitant with pregnancy, and instances of dystocia from this cause have been reported (Pelletan, Gensoul, McClintock, and others) In McClintock's case the tumour was gangrenous The projection of the tumour at the vaginal orifice is usually the first indication of the disease, and it is for this rather than for special symptoms caused by the tumour that most patients first seek professional advice Painful and difficult micturition, with blood-stained urine in some cases, are among the early symptoms, and at a later period there may be retention of urine, but this is rare except with large tumours Difficulty in defecation may also occur but severe obstruction is very exceptional. Leucorrhœal discharge, painful coitus, lumbo-sacral pain, and sanious discharge are also among the initial symptoms occasionally observed. At a late period the surgeon is often consulted on account of inflammation and necrosis of the tumour as well as for its troublesome bulkiness

In making the diagnosis of vaginal tumours it is well to recollect that this part of the body is prone to originate localised invaginations and prolapses (cystocele, rectocele, enterocele, &c) which at first sight often present a certain resemblance to myomatous and other tumours, cysts, &c. In displacements of this sort the bladder and urethra are often involved while the rectum generally escapes Vaginal displacements are especially apt to occur during labour complicated by the presence of vaginal tumours. Cysts of the part, especially when circumscribed, thick-walled, and tense, may closely simulate vaginal myoma. Usually, however, vaginal myomata are easily diagnosed. Myomata of any size, especially when they interfere with natural functions or present signs of septic infection—inflammation, œdema, sloughing, &c —should be removed. Similar treatment is required for tumours that have been extruded from the vulva or that obstruct the vaginal outlet. Aseptic technique should be observed.

In dealing with polypoid tumours if the pedicle is of no great thickness, and accessible, it should be transfixed, ligatured in two places, and divided between the ligatures. Before effecting division it is well to ascertain that no diverticulum of the vagina, bladder, or rectum is involved in the pedicle In all other cases enucleation is the best method of treatment The bladder and rectum having been evacuated the vaginal walls are separated by retractors and the tumour is seized with the toothed volsella and brought into view Should it be very large and the vagina narrow vaginal *débridement* may be necessary For anteriorly situated tumours the catheter is retained in the bladder to guard against injury of the urinary tract, while a deep and free incision is made into the presenting part of the tumour, laying open its capsule. With the handle of the scalpel, an enucleator, or other suitable blunt instrument the tumour is gradually separated from its bed and removed To effect this with large tumours morcellation may be necessary During the enucleation of posteriorly situated tumours a guiding finger or bougie should be kept in the rectum The hæmorrhage attending the removal of vaginal myomata is often free. Bleeding points should be seized with pressure forceps and ligatured The redundant margins of the tumour bed having been resected deep sutures are passed with a handled needle so as to close the gap and at the same time to surround and compress the bleeding areas. The closure of the wound is then completed with superficial sutures. Finally the vagina is lightly packed with iodoform gauze. In exceptional cases it may be necessary for the arrest of hæmorrhage to gauze pack the bed of the tumour Tumours of this kind concomitant with pregnancy should not be interfered with unless they seem likely to cause dystocia or unless they have become septically infected sloughy &c. when they should be promptly removed, the pregnant uterus being interfered with as little as possible.

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[1] British Journal of Obstetrics and Gynæcology April 1902.

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Clifton Bristol

A CASE OF SADDLE-NOSE TREATED BY SUBCUTANEOUS INJECTION OF PARAFFIN

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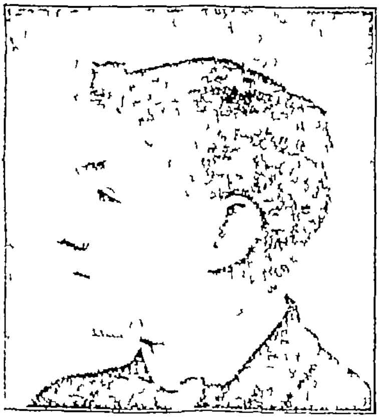
A MAN aged 20 years, gave the following history At the age of 14 years he had an injury to the nose which resulted in an abscess of the septum This was treated but in the process of healing it was noticed that the bridge of the nose became depressed and the final result is shown in Fig 1. This photograph was taken at the request of a surgeon who proposed to correct the deformity by operation. Nothing was however done at this time and the nose remained in the same condition until the patient was sent to me recently by Dr R Marsh. When I saw him there was a typical saddle-nose deformity the profile view of which is shown in Fig 1. In the front view the deformity was not quite symmetrical there being a depression over the situation of the extremity of the right nasal bone. The case appeared to be a favourable one for treatment by the paraffin method, as the skin was thin and easily pinched up between the finger and thumb and there was no scar tissue.

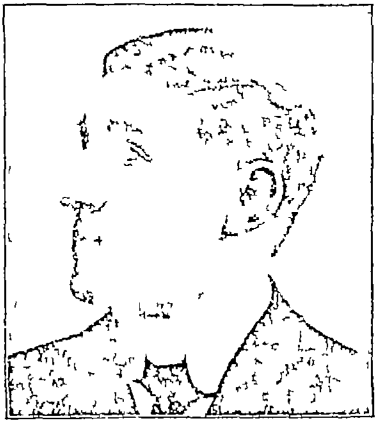
FIG 1.



Before operation.

The patient was chloroformed by Dr Marsh as he appeared to be of a nervous temperament and it was not certain how much pain would be caused by the injection of the hot fluid. The sterilised paraffin used was prepared by Martindale and had a melting point of 110° F About half a drachm was injected by means of an ordinary antitoxin syringe the above-mentioned depression being selected as the point for the insertion of the needle. The nose was then moulded into shape. For four or five days there were considerable œdema and redness of the nose but there was no pain. These subsided under cold applications leaving the nose in the condition shown in Fig 2. In the front view the nose is now symmetrical but of course it is still as broad as before.

FIG 2.



After operation

Remarks —The anæsthetic was probably unnecessary, but a case has been reported in which severe pain was caused by the procedure when performed under local anæsthesia. With regard to the melting point of the paraffin used, at first a paraffin of low melting point—e.g about 104° F —was used (Gersuny) It has been shown that this does not always give permanent results and it is found that paraffins of higher melting point—e.g from 120° to 130° F —are more satisfactory (Eckstein). In this case I chose a paraffin melting at 110° F as this seemed to me to be free from most of the defects of the low melting paraffin and easier to manipulate with simple apparatus than the high melting paraffin. It is advisable to have a special short thick needle to the syringe In conclusion, I would point out that patients are apt to be disappointed in the result at first as the front view is not much affected and they cannot at once realise the change in profile.

Hove.

THE DIAGNOSIS AND TREATMENT OF MALIGNANT STRICTURE OF THE ŒSOPHAGUS[1]

BY CHARTERS J SYMONDS, M S. LOND , F R.C.S ENG ,

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To put the subject of this debate briefly it may be said that the diagnosis of malignant stricture of the œsophagus resolves itself into the passage of a bougie, to ascertain the presence of an obstruction, and the treatment in deciding the best way of introducing food. However one sees so many cases treated for dyspepsia that it is necessary to consider a few of the early symptoms. In speaking to an audience of experts I will limit myself to what appear to me to be essential points and endeavour not to weary with unnecessary details

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[1] A paper read before the Laryngological Society of London on June 6th 1902, in opening the discussion on the above subject

A gradually increasing dysphagia is the common history in most cases In by no means a small number the onset is sudden—e g , at a particular meal a man choked over a mouthful of meat and from that moment had difficulty Another, after shouting himself hoarse in welcoming the men from the *Powerful* in the City, had choking the same evening and developed cricoid obstruction In one instance a loathing for food so great as to require feeding by a tube was the leading sign for some weeks. In another the man complained of pain as the food passed the centre of the gullet I have seen one instance where there was no dysphagia , the man was anæmic and was thought to have cancer of the stomach, and when his evacuations were black this view was strengthened At the necropsy we found the greater portion of the œsophagus occupied by an ulcerating carcinoma, which had enlarged and not constricted the lumen at any point.

Before a bougie is passed a good many patients are treated for dyspepsia and much valuable time may be lost. One sees such patients losing flesh not so much on account of inability to swallow as because the diet has been restricted on the view that the disease was gastric It must be remembered that so called dyspepsia—i.e , loss of appetite, "tightness at the chest," waterbrash, some pain, and distension with irregular bowels—may be the result of œsophageal obstruction. The restricted diet usually prescribed tends to increase the symptoms A diagnosis can generally be made by asking the patient to swallow liquid This, when marked, is characteristic , he makes one ordinary effort followed by one or two smaller ones and these are accompanied by certain peculiar movements of the neck Then he brings up a little gas, often hits his chest and says it has gone Kussmaul's sign—viz., listening to the back to hear the fluid arrested at the stricture and then trickling through—is always interesting and when the observer does not pass a bougie is sometimes valuable I am sure from what I see that an unnecessary fear exists as to the dangers attending the use of a bougie in the minds of many Provided that a fair size be employed and no force used, and especially that no pressure be made when the patient strains to extrude the instrument, *there is no danger* The bougie should be advanced in a deep inspiration or on an act of deglutition and held still on any expulsive effort and again advanced on inspiration. That there are dangers with fine bougies and in advanced disease one cannot deny In passing the cricoid one must wait for the inspiration which follows the first glottic closure or make the patient regurgitate by passing the left forefinger far back on the tongue. To press at this moment may in close cricoid stricture send the bougie into the trachea. Once more it may be added that in impermeable cricoid obstruction, where the patient is particularly tolerant there is special risk of entering the trachea. It is remarkable to note how a patient will bear the pressure of a large bougie in the windpipe for some time without coughing In any doubt we must pass the bougie not more than 12 inches and examine its position with a laryngoscope. These special points refer rather to treatment but it seemed right to refer to them here.

With these general remarks I will next ask you to consider diagnosis of the disease as it affects the three situations—viz , the upper third and cricoid orifice, the lower end and gastric orifice, and the central region

The upper third —Stricture at the cricoid or beginning just below the ring is, in my experience, always malignant. It begins at from eight and a half inches to nine inches from the teeth and usually involves two or three inches. The chief peculiarity is the tendency to cicatrise and contract , so marked is this feature that a specimen may be indistinguishable to the naked eye from a chronic syphilitic or other ulcer If the margin of such a specimen, however, be examined microscopically squamous epithelial growth will, I believe, always be found. The contraction is irregular, so that a bougie in passing may have *to turn several corners* In the diagnosis of disease at the cricoid I have found four conditions give rise to confusion

1 The one most closely resembling organic disease is dysphagia occurring in elderly people In the first instance that came under my notice the patient was a woman, aged 70 years There was dysphagia for solids and fluids caused trouble , a bulb passed with difficulty, there was a streak of blood and altogether I thought gravely of the case and gave a serious prognosis The symptoms soon disappeared and the patient after some years is still well. A similar instance came before me again in a woman over 70 years of age and another in a man over 80 years of age In the persistence in the indefinite obstruction to a bougie, and in the age of the patient, there is sometimes a close resemblance to malignant disease There is also an absence of the nervous symptoms seen in younger people. The condition suggests some organic change, giving rise to temporary interference with deglutition I have thought that possibly an excessive cricoid ossification or some bony outgrowth interfering with movement might explain these cases

2. The nervous form, especially when occurring in men, and in medical men of all others, can only be settled by time Suddenly such a patient has difficulty at a meal over a mouthful of food and later cannot swallow a pill or a crust of bread He has to be more careful in eating than before It is well known that such is often the history of the early stages of malignant stricture The passage of a bougie is not easy, a little blood may result to further confuse the issue, or one may fail to pass the bougie beyond the cricoid without undue force Where such symptoms occur in a man of the age of 49 or 50 years the diagnosis is not easy In both affections the freedom of swallowing varies, in both soft solids are better dealt with I would say, however, that in malignant disease the patient almost always permits the passage of a bougie and that there is found irregularity of the surface indicating disease of some standing Practically in the majority there is no great difficulty, but in a few cases—especially if they happen to be medical friends—it may give rise to no small anxiety

3. The third condition is that of a pharyngeal pouch When well marked the symptoms of this complaint are so defined as to clear up quickly any difficulty The subject has been so well dealt with before this society that I need only refer to Mr H. T Butlin's communications

4 Malignant disease of the lower end of the pharynx, involving the arytenoids, cannot be excluded from a discussion upon œsophageal stricture, and as the same treatment is required I must refer to it here. The main distinctions are the pain accompanying dysphagia , the voice early has the peculiar sound produced by the presence of œdematous arytenoids , again the growth usually can be seen in the early *stages It appears first as a pale cushion* below the arytenoids and gradually advances, giving rise to early œdema of one or other arytenoid. These patients often continue to swallow fairly well and can, so far as I have seen, always be relieved by a soft tube. The direct extension to the larynx is the special feature of disease in this situation Those who have seen many of these cases will have observed the greater frequency in women and in many at an age nearer 30 than 40 years I may add that in one instance—that of a woman also—the early mass seen below the arytenoid disappeared under iodide of potassium. I have not myself encountered syphilitic disease lower than the pharynx. I have one patient with slight obstruction just above or at the cricoid who had originally—some 30 years ago—syphilitic ulceration involving the larynx.

The middle third —A sarcoma and a myoma may occur and may give rise to obstruction In one of my cases a sarcoma was found as a localised tumour, but clinically it was indistinguishable from the ordinary carcinoma. With *such rare exceptions as these all obstructions* of any moment in this section of the œsophagus are due to carcinoma It is very noticeable that aneurysm and mediastinal growths rarely give rise to serious dysphagia. Once only have I passed a bougie in a case of aneurysm and the sensation communicated to the hand was, I thought, diagnostic of the disease The patient was sent on to me with a diagnosis that mediastinal pressure was absent. The bougie passed over a convexity and smoothly descended without any difficulty Œsophageal pouches occurring in the middle and lower sections are sometimes very difficult to detect. In one patient, aged 72 years symptoms of obstruction had existed for several years , a bougie was arrested 14 inches from the teeth , *on one occasion it slipped past* and there seemed abundance of room Under chloroform the largest bougie was several times guided past the orifice. At this time he regurgitated a good third of his food For another two years he went on much the same and died somewhat suddenly from another malady There was no doubt a pouch in this case. The long duration was a strong point against malignant stricture the second that he could always take solids. In another instance a man was sent to me for pyloric vomiting , without going at length into his case I may say that the symptoms pointed to obstruction low in the gullet and the large quantity of food retained to the existence of a pouch. He was fed by a tube and the vomiting ceased. I thought it better that he should learn to feed himself in this way than undergo a gastrostomy After a year of such treatment he is in good health and able to do his work.

The lower end.—The lower end—i.e. a point from 15½ to 17 inches from the teeth—is, in my experience, the only locality where we find a simple obstruction. One is justified in saying that as the obstruction is in this situation the cause may be simple and that, the mechanical difficulty being overcome the future carries more hope than does obstruction in any other situation. I have notes of five such cases, two with pathological evidence, while three are clinical. In the first two the symptoms were those of obstruction only and they died unrelieved. One of the three living patients has had symptoms for some years and is relieved from time to time by the passage of a coudé bougie another has swallowed well since a gastrostomy was performed over a year ago never having required to use the artificial opening, while the third has had symptoms for 20 years and has required a bougie from time to time. I will again refer to the use of the coudé bougie in obstruction at the lower end let me here in referring to diagnosis insist upon its great value When a small straight bougie will not pass a large coudé may slip through easily The two specimens referred to showed a simple fibrous thickening allied no doubt to that seen in the pylorus. Slighter degrees of obstruction occur in this situation which may be called spasmodic I have seen only one marked case that of a woman aged 30 years, who when I saw her had had obstruction for 24 hours. A bougie encountered resistance, which yielded as would a tight sphincter The obstruction was definite, not a purely nervous form.

This brings me to the whole question of spasmodic stricture so-called. Personally I must express a disbelief in such a complaint, apart from the hysterical cases. Of these latter the worst two that occurred were in a boy aged seven years and in a man aged 35 years both hospital patients, and both of whom were greatly emaciated. The boy was cured by the temptation of a penny currant bun the man took a pair of the largest bougies All the cases brought to me for spasm except the hysterical, have a basis of malignant growth. I have mentioned before that in a growth in any situation there may be in the early stages much difficulty from added spasm and varying mechanical alterations in the growth itself permitting the taking of solids on one day and of fluids only with difficulty on another

When the stomach is infiltrated by malignant disease and so reduced as to hold but a couple of ounces—the so-called leather bottle stomach—the resemblance to obstruction at the cardiac end of the gullet is very close In one instance the patient could retain about one and a third ounces any larger quantity being rejected. But this amount, taken frequently was retained and the diagnosis was thus established. This was confirmed by operation. In another with obstruction at the cardiac orifice I found on performing gastrostomy only a small portion of the stomach free and available for establishing a fistula. I have no doubt that we had entered the stomach through the œsophagus and that the inability to retain fluid was due to the reduced capacity After the operation we were never able to introduce more than two ounces at a time.

Of œsophagoscopy I have no personal experience. Its value was recently demonstrated to me by Professor Mikulicz of Breslau who showed me a case of actinomycosis recognised by this method A piece of growth was removed by *forceps* and examined.

I may summarise the diagnosis in the following way:— 1 Among early symptoms we may have so-called dyspepsia, nausea, and repulsion for food pain alone when the central district is affected 2. The passage of a bougie is the only way to clear up the case and its employment need not be feared. 3. Extra-œsophageal disease rarely gives rise to serious dysphagia. 4 Spasmodic obstruction apart from the hysterical form, has always, when decided, an organic cause and this would be better called intermittent dysphagia. 5. With regard to the three special districts it may be said (*a*) that all organic obstruction in the upper third is malignant and has a special tendency to cicatrise (*b*) that in the central half of the gullet a sarcoma or a myoma, both rare diseases, may cause fatal obstruction and here also a pouch may give rise to difficulty in diagnosis but can generally be excluded and (*c*) that in the lower end alone does simple stenosis occur and here there may be difficulty in distinguishing from cancer of the stomach causing great reduction of the cavity (leather bottle stomach) 6 Finally in estimating the extent of the disease the special value of the steel bulb is noted and also the use of the coudé bougie in obstruction at the lower end.

TREATMENT

Speaking generally it may be said that we can relieve by mechanical means only and that two methods are available, one to overcome obstruction by inserting a tube of some kind and the second to open the stomach below the obstruction—i.e. to perform gastrostomy I would put the general *question of treatment in the following way as applying to* all cases 1. While the patient can swallow fluids and semi solids and while a bougie can be passed and plenty of nourishment taken he may be left alone so long as (*a*) he can swallow well or (*b*) a small bougie, No 12 catheter gauge can be passed. 2. If the dysphagia increases, even though a bougie can be passed then a tube must be inserted or gastrostomy must be performed. These conditions are seen in the soft fungating forms. 3. If a bougie cannot be passed or goes with difficulty then the same course must be followed as we know that complete closure may occur at any time. 4 If both conditions arise—i.e. the patient cannot swallow and a bougie cannot be passed—then immediate mechanical treatment is required. Probably most have summarised their treatment in some such fashion.

I have not advocated the passage of bougies with a view of dilating the stricture. It is injurious in that it irritates and leads to increase of obstruction It may split a hard stricture and set up rigor and fever from absorption. In my own practice I have abandoned this method in all malignant cases The object of the small bougie, to which I have referred is simply to secure the route, so that at any time a tube can be passed for feeding purposes or the time fixed for gastrostomy More than this has *in my experience* proved injurious As applying to all cases, I would here again refer to the advantage of attempting the passage of a tube after a night's rest and a dose of opium.

Turning next to each region in the upper third we have to note the great tendency to rapid closure and to the certainty of complete obstruction sooner or later Two methods are available here—the long feeding tube and gastrostomy Though I have successfully employed a short tube it does not, as a rule, rest comfortably unless the highest part of the stricture be at least one and a half inches below the cricoid. Of the long tubes the best is that made from rubber drainage-tube introduced by the whalebone director When this cannot be passed the retention of a silk web tube for a few days will so enlarge the passage as to enable the other to be inserted, or an ordinary urethral catheter will answer and sometimes the coudé variety will pass. If the patient be fairly tolerant the method is a useful one. The tube will last a long time—for so long as nine months. If it comes out it can always be replaced if the attempt be made at once. Should the tube, when rejected be soft and have lost its elasticity then a fresh piece must be used It should never be removed for cleaning as reinsertion may be difficult. I have conducted many such cases to the end with this tube the main objection is that saliva cannot, as a rule be swallowed, though some patients will sip fluid by the side of the tube. Another objection is that it does require some dexterity perhaps, to insert in difficult cases and much patience, but not more of either than does the passing of a catheter in stricture of the urethra. The form that I have for many years used *is somewhat* roughly made, the end of a piece of ordinary No. 10 drainage tube being sewn up with silk and a big eye cut above. Note that the end of the introducer is passed into the eye and a small plug of wool is inserted into the closed end to prevent the introducer slipping through The proof that the thinnest walled rubber tube would keep a malignant stricture dilated was first pointed out by Mr J Berry We must contrast this method with gastrostomy and I would *say that where the patient* is low and unable to bear abdominal section it is our only plan As an alternative I find that it has sustained life in comfort equal to the most successful gastrostomy and greater by far than when the stomach contents escape and cause excoriation. When the patient is intolerable and objects then we can only offer gastrostomy The longest time I have known one of these rubber tubes to remain unchanged was for 13 months. The obstruction was at the *cricoid* and great difficulty was encountered in passing the first long feeding tube The rubber form was easily introduced after a few days residence of the silk web tube From time to time small pieces of the rubber tube had to be removed, as it split near the silver cannula The patient died with the original tube in position Others have worn it for varying periods In two cases patients have also worn tracheotomy tubes One now under treatment has had a tube in for 11 months and a tracheal tube for four and a half months The same method answers admirably in disease of the larynx. In this form the obstruction to a bougie is never very great and I have had patients fed by a member of the family three or four times a day Its application is limited. After many trials I have no doubt that the best tube is the gum elastic silk-web, with a closed end and two large eyes, and the best sizes are Nos 10, 12, and 14 Smaller ones are of little use for permanent wear and dilatation up to 12 is best conducted by the long tube. The vulcanite pattern introduced by Renvers I have found of no value, it is too hard and too short The most suitable cases for this method are those where the stricture is short and has a tendency to contract, then a four inch tube answers admirably The position and length of the stricture are ascertained by a steel bulb In the central portion—i.e, for obstruction occurring from a point from 10 to 14½ inches from the teeth—we can use a short tube in addition to the long one. When introducing this method in 1884[2] I said that I hoped it would give relief in a certain number of cases, and it has fulfilled this forecast and no more The experience published in two former papers[3] represents very well the value and use of the short tube, and later experience has confirmed it. Of recent cases I may cite the following

A man, aged 55 years, had dysphagia early in 1898 On Feb 24th, 1899, a short tube was inserted The stricture, a short and contracting form, was situated 14 inches from the teeth On April 21st the tube was removed at the patient's request and there was great difficulty in inserting another On May 2nd a tube was inserted. On July 28th a new tube was introduced by Mr F J Steward On March 3rd, 1900, the tube was still in and acting well—i e., over seven months Some time later the patient showed signs of extension to the lung and died on June 3rd, 1900 Thus one tube was in for 10 months The duration of the disease before tubage was 12 months and under tubage it was 16 months, of which certainly 13 months were passed in comfort, and the man was able to attend to his business In another case the short tube acted perfectly up to the time of death, the treatment covering a period of more than a year

Disease involving the lower end and cardiac orifice I have found difficult to treat by a tube I admit that occasionally one has been successful with a short tube or a long one, but as a rule it is rejected on account of the contraction of the diaphragm. Early gastrostomy seems to me to be the best advice. I advise that this be done while the patient's general condition is good One very strong point in favour of this course is that, as I have said earlier in this paper, simple stenosis may occur in this situation Given, therefore, a successful gastrostomy life may be indefinitely prolonged. Moreover, it may be possible, especially with the coudé bougie, to dilate the obstruction after the gullet has had a good rest We may at least anticipate some return of swallowing Of course, as in other situations, operation would not be undertaken so long as a bougie could be passed freely and the patient could swallow Early gastrostomy applies especially to malignant disease in the situation I must mention one remarkable case—referred to before—that of a woman with great dysphagia and emaciation and obstruction at the lower end in whom a bougie could be passed As she lived in the country and as dysphagia was increasing I performed gastrostomy From that moment the power to swallow returned and though the second stage of the operation was completed it has not been necessary to use the stomach opening The woman remains so well now, more than a year from the operation, that I think the case must have been one of simple obstruction Dilatation could not have been effected by suturing the stomach to the abdominal wall and the only other suggestion one can offer is that a tortuosity has been straightened

In view of the occasional occurrence of simple stenosis at the cardiac orifice it seems to me our duty to press operation upon our patients when the dysphagia is marked

The use of chloroform to facilitate the introduction of a tube is a question for discussion Personally I have always had an objection to it, but I must admit that in cricoid strictures it has been of great service and deserves a wider employment. So easy is it, however, to pass a small bougie or tube into the trachea that I make it a rule after passing a tube for 12 inches to examine with a laryngoscope to see that it is really in the œsophagus In one case, when this precaution was omitted, after waiting some time and there being no spasm or cough milk was poured down and passed into the lung with disastrous consequences In another the tube passed through a tracheal fistula.

Reviewing the whole question of treatment, and contrasting tubage and gastrostomy, one may say as regards the latter that it at once disposes of all difficulty as regards swallowing, that in obstructions at the cardiac end it should be performed early, and that in all patients intolerant of the tube and bougie time should not be wasted In advanced cases, where leaking can be prevented and immediate feeding undertaken, the operation may be successful, and there is reason to expect that such a method has been found. Unfortunately, many cases among the poor are obtained in too advanced stage for operation to be considered and there are others who decline operation It is necessary, therefore, to perfect as far as possible the alternative method of tubage. With regard to cricoid strictures and disease in the lower part of the pharynx I am quite satisfied with the rubber tube and believe it to be superior to gastrostomy We want a tube so constructed that it will not be easily regurgitated and I believe this will be produced. Once a tube has been retained it is never wise to dispense with it even for a day I have several times yielded to the patients' wishes in order that they may enjoy the luxury of a solid meal and been unable to reinsert another tube. The insertion of the new tube should immediately follow the withdrawal of the old one, be it a short or a long tube The short tube has, as I said, a limited use, being of little service in disease of the two orifices But in the central section I still find it valuable It is open to the objection that it is liable to get blocked and that, again, some skill is required to insert it With cases where there is no cough I have known it remain unchanged for 10 months and in another for three months There is no necessity to remove these tubes for cleansing purposes The silk, protected as is now done by fine rubber tubing, will last for months and the security of the silk is the only anxiety When cough arises from extension of growth and hæmorrhage occurs the tube will get blocked and then a long feeding tube must be used, either a silk-web or a rubber tube

It is unnecessary on this occasion to go into details, so I will put the question of tubage as follows The short tube is useful in strictures occurring from a point 10 inches to a point 14 inches from the teeth It is of no use when there is cough on swallowing indicating perforation It is of little value when the growth occupies a long stretch of the gullet. It is seldom of use in strictures involving the cardiac orifice and cannot, as a rule, be borne in disease involving the cricoid level. In suitable cases it has, however, given good results up to the time when perforation occurs, and then as a rule a long feeding tube answers for the few weeks that remain A word must be said as to the dangers of intubation I have had accidents, fortunately, in only one case was life much shortened In one case a tube was passed under chloroform through a perforation into the trachea. This showed the danger of chloroform. In another a tube in a tight cricoid stricture passed into the trachea. The man did not cough and gave no sign that such an accident had occurred until signs of pneumonia developed In another a soft and ragged œsophagus was perforated, the man being in the last stage of the disease. These accidents occurred some years ago when I was endeavouring to improve the method of treatment Since I have systematically used the laryngoscope to ascertain the position of the tube in cricoid strictures several similar accidents have been avoided It is essential to use this check when operating under chloroform

Summary of treatment—1. In cricoid obstruction the long rubber tube gives excellent results When not well borne gastrostomy, if selected, should be performed early 2. In disease of the central portion the short tube is serviceable in a fair number of cases and when it acts well is superior to any other method It must be replaced by the long feeding tube when pulmonary symptoms arise 3. In disease of the cardiac orifice tubage is so uncertain that gastrostomy should be performed when dysphagia becomes serious.

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[2] Transactions of the Clinical Society of London vol xviii

[3] THE LANCET March 30th (p 622) and April 6th (p 669) 1889 Brit Med Jour April 23rd (p 870) 1887

Portland-place, W

ON PANCREATIC CALCULUS,

WITH NOTES OF A CASE.

BY B. G. A. MOYNIHAN M.S. LOND F.R.C.S. ENG
ASSISTANT SURGEON LEEDS GENERAL INFIRMARY; CONSULTING SURGEON TO THE SKIPTON HOSPITAL AND TO THE MIRFIELD MEMORIAL HOSPITAL.

THE occurrence of stone in the pancreas was first recorded by Graaf in 1667 Morgagni in 1765 and, in England, Cawley in 1788 refer to instances observed by themselves. In 1883 Johnston collected the notes of 35 recorded cases. The fullest account was given in 1896 by Giudiceandrea and was based upon 48 recorded cases and two observed by the author

The stones are generally white, greyish white or yellowish white in colour and rounded ovoid or elongated like a date stone They are found in all parts of the duct of the pancreas, though much more frequently in the head in the tail of the gland they are rarely seen. The calculi may be branched like coral, the trunk of the stone lying in the main duct and its offshoots in the secondary ducts. At times the canal of Wirsung is found packed with a coarse mortar or with sand or fine rounded pellets. The largest stone, measuring two and a half inches by half an inch, was seen by Schupmann Calculi may be single or multiple one of the most striking examples of the latter is in the museum of the Royal College of Surgeons of England (specimen 2834 Curnow s case) As many as 300 stones have been found in one case. The stones are chiefly composed of phosphorus and carbon salts. One case of oxalate of limestone is reported by Shattock. Johnston gives two analyses —

I.

Phosphorus salts	72·30
Carbon salts	18·90
Organic matter	8·80

II

Carbon salts	91·65
Magnesium carbonate	4 15
Organic matter	3·00

It is clear from this analysis that the pancreatic secretion during or before the formation of a stone is altered in quality for carbon salts are not normally present. Schmidt, quoted in Schäfer s text-book, gives the following as the composition of the ash obtained from the pancreatic juice flowing from temporary and permanent fistulæ —

—	From temporary secretion.	From permanent secretion
Soda (Na_2O)	0·58	3 31
Sodium chloride...	7 35	2·50
Potassium chloride	0·02	0·93
Earthy phosphates with traces of iron ...	0·53	0·08
Trisodic phosphate...	—	0 01
Lime (CaO) and magnesia (MgO)	0·32	0·01

The antecedent condition necessary for the deposit of stone is probably retention of the secretion. This may be produced by inflammation of the canal of Wirsung extending upwards from the duodenum, or by a chronic interstitial pancreatitis however arising Many attempts have been made by partial obstruction of the duct by ligature, by the injection of paraffin and in similar ways, to give rise to an artificial lithiasis So far as I am aware the only attempt that has succeeded was made by Thiroloix. He injected sterilised soot into the duct of Wirsung At the necropsy the pancreas was found to be atrophied and in the tail a cystic swelling containing clear watery fluid surrounded by chronic inflammatory tissue had developed. In the cyst, and in the duct also small concretions had formed.

Nimier attributes to micro-organisms a causative influence in the production of calculi. Galippe, on examining a stone, found numerous organisms distributed throughout, and Giudiceandrea discovered an organism very similar to if not identical with the bacterium coli commune.

Associated with calculi are found at times certain more or less profound alterations in the pancreas. Of such are acute and chronic interstitial inflammation, atrophy dilatation of the duct cyst, abscess fatty degeneration, and carcinoma. *Examples of cyst, dilatations of the canal of Wirsung are* recorded by Gould and Michailow Acute inflammation dependent upon calculi and subacute inflammation leading to abscess have been observed by Roddick, Körte, and Caparelli, and carcinoma by Cawley Portal, Schupmann and others.

Symptoms —So few carefully observed cases of pancreatic lithiasis have been recorded that it is impossible to give any accurate portrayal of the symptoms In the majority of examples pain, or at the least a sense of great discomfort, has been felt in the upper part of the abdomen, generally at or near the middle line and but rarely as in Minnich s case under the left costal margin. The pain frequently comes in *sharp collicky attacks, similar to, but less severe than, those* due to gall stones. A sense of soreness or stiffness is noticed for a day or two after the attack. When the pain is at its height vomiting hiccough, rigors, cold sweats, or collapse may be noticed. After the attack some fragments of stone may be found in the motions (Minnich Leichtenstern) Diabetes has been often observed. Hansemann in 72 cases of diabetes associated with pancreatic disturbances found that in 12 stone was present. Oser in 70 cases of lithiasis observed that diabetes was recorded 24 times The probability is that the onset of diabetes is due to the chronic inflammatory changes instituted in the gland by the calculus, but it must be remembered that such inflammatory alterations produce in the gland *and its duct* precisely *those changes which are* most likely to cause the deposit of calculous material. Fatty stools have been occasionally observed and in one case Lichtheim saw an abundance of fat-crystals in the fæces Rarely jaundice may be caused as related by Giudiceandrea and Pearce Gould by the pressure of the stone upon the common duct. Lancereaux states that in each attack of pancreatic colic a temporary diabetes is produced by an inhibition of the secretion analogous to the inhibition observed when one ureter is obstructed by a calculus. The cardinal symptoms of pancreatic calculus, then, are pain collicky in character similar to but of lesser intensity than, gall stone colic, and generally most intense in the epigastrium pain or *tenderness and occasionally a feeling of resistance over the* pancreas the passage of fragments of stone marked bodily wasting fat diarrhœa and in the later stages diabetes. It is rarely that all these are seen in association.

Diagnosis —Claessen in 1842 first suggested the possibility of a correct diagnosis of pancreatic calculus being made. Friedreich though he considered the occurrence of pancreatic colic not unlikely wrote The diagnosis of pancreatic calculus is impossible Material for a diagnosis was afforded by the cases of Lichtheim Minnich Körte and others In Minnich s case the pain began as a heavy pressure in the epigastrium and along the left costal margin as it increased in intensity it passed round the left side and backwards to the spine. The patient who had previously suffered from hepatic colic remarked that the character of the two pains was identical. Körte has related a very interesting and remarkable case The patient suffered from biliary colic for which the abdomen was opened a large gall stone was removed from the gall bladder which was drained by a tube While bile was still being discharged the patient suffered from what he took to be a recurrence of his attacks of biliary colic. The patient died and a tumour in the head of the pancreas which had been diagnosed as malignant at the time of the operation was found to be an abscess with large concretions within it Kümmell records an almost exactly similar case in which cholecystotomy had been performed pain recurred and at the necropsy a large soft calculus was found in the canal of Wirsung That pancreatic colic is associated with the passage of stones down the duct seems clearly to be proved by the case observed at different times by Minnich and Holzmann, for it was only after each attack that fragments of stone were found in the motions

The presence of sugar in the urine may be observed at intervals. Holzmann found it intermittently in his case. While the same patient was under Minnich s observation at an earlier date, no sugar was found though regularly sought. It is probable that it is only when advanced interstitial inflammation of the interacinar type is present and the islands of Langerhans are therefore affected that glycosuria is present. Caparelli records the case of a woman who developed, after many attacks of acute epigastric colic an abscess above the umbilicus. The abscess burst and discharged some pus and gritty material. Through the fistula which persisted for six years many small stones, over 100 in all, were expelled. After the spontaneous closure of the fistula diabetes developed and the patient died. Lancereaux's statement that in each attack of colic there is a temporary glycosuria is not borne out by the history of the case now recorded. Very careful and continuous examinations of the urine were made but sugar was never once discovered.

It is probable that the presence of fatty stools may be dependent upon the condition of the gland with regard to its ducts. If two ducts, those of Wirsung and Santorini are both present, as in the normal condition, the pancreatic secretion will not be wholly prevented from entering the duodenum by a calculus blocking the canal of Wirsung. If a single duct is present a stone impacted therein will cause a temporary complete arrest of the outpouring of pancreatic juice.

Treatment.—There is but little to say with regard to treatment. According to the results of the experimental work of Kühne and Lea the subcutaneous injection of pilocarpine incites the flow of the pancreatic juice. A case is reported from Eichhorst's clinic of "undoubted pancreatic lithiasis" in which the subcutaneous injections of pilocarpine were tried. "The attacks of colic disappeared completely and the patient was better than for many months before."

So far as I can ascertain there has been only one case of pancreatic calculus treated by operation. The case is related by Mr Pearce Gould. The patient was a man, aged 46 years, whose only previous illness was an attack of influenza four years before. In September, 1895 he noticed some failure in health and in November he suffered for a few days from severe pain which he referred to the umbilicus, chiefly felt on walking up hill. He became jaundiced and this persisted until February, 1896, when he came under observation. The liver was then enlarged nearly down to the umbilicus, the gall bladder could be felt distended as a cylindrical swelling in the right lumbar region and there was no ascites. The motions were clay coloured. On Feb 14th the abdomen was explored. Through the vertical incision to the right of the rectus muscle half a pint of fluid was withdrawn from the gall bladder by aspiration. A lump was felt at the back of the small omentum which proved to be a coral like stone in the dilated duct of Wirsung, and other smaller calculi were found and removed. The operation did not relieve the obstruction to the flow of bile and on March 3rd he had an attack of agonising pain in the right hypochondrium. Mr Pearce Gould reopened the abdomen and with some difficulty was able to feel a stone in the head of the pancreas close to the duodenum, which he removed by incising the pancreas from the front and he was then able to pass a probe through the duct into the duodenum. Soon after the operation the patient vomited bile the stools became coloured, and bile ceased to flow from the incision in the gall bladder. Notwithstanding this, vomiting persisted and he died from exhaustion on the twelfth day after the second operation. At the post mortem examination a little pus was found underneath the gall bladder and also behind the ascending colon. The pancreatic duct was found to be dilated and ulcerated. There was a hydatid cyst at the liver. The calculus was composed of phosphate and carbonate of lime.

In the discussion which followed the reading of Mr Pearce Gould's paper at the Clinical Society of London Mr T H Kellock mentioned the case of a man, aged 56 years, who was seized with acute abdominal pain followed at once by jaundice. Two weeks later he had a second attack. When admitted to hospital under the care of Dr W M Ord he was extremely jaundiced and the liver reached from the third rib to below the costal margin. On the tenth day he had a rigor followed by severe pain in the right hypochondrium and three days later he passed a small concretion, and then the jaundice became less marked but he became exhausted and gradually sank. At the necropsy the liver was found to be enlarged and the gall bladder to be dilated. Embedded in the head of the pancreas in a dilated portion of the duct was another calculus of the size of a cherry stone.

The following case has recently been under my care and as the condition of pancreatic calculus was diagnosed and successfully treated, a full account of the history may be given. I saw the patient with Dr H. M Robertson of Roundhay.

NOTES BY DR. ROBERTSON

The patient was a married woman, aged 57 years. She had had no children. She was first seen on Sept. 12th, 1901, in an acute hysterical attack. The attack subsiding careful research disclosed a multitude of symptoms chiefly of a neurasthenic type, prominent among these were the gradual and steady loss of health the loss of weight, and the development of bronzing or pigmentation very similar to that in Addison's disease which was mainly confined to the external surfaces of the forearms, the back and sides of the neck, and slightly round the nipples. A varying but slight amount of this pigmentation dates back 10 years. The patient also complained that for a long time her motions were never properly formed, either she had loose frothy stools with the occasional passing of white membranous pieces like skin, or constipation with the stools in the form of hard pellets, the colour was natural in both cases. Pruritus, both anal and vaginal, was a distressing symptom and the urine, though usually "thick" and small in quantity, was occasionally clear and excessive in amount. By physical examination nothing abnormal could at the time be detected. The patient was a well nourished woman with a fair amount of fatty tissue, despite the fact that she was seven pounds under her average weight of nine stones and four pounds and that the loss of seven pounds had occurred since the beginning of the year. The heart and lungs were normal. There was no enlargement of the liver or of the spleen. The general average of urine passed was small in quantity, under 30 ounces in 24 hours, it was of relatively high specific gravity and concentration, acid reaction, free from albumin or sugar but loaded with mixed urates and some crystals of calcium oxalate. Clinical examination of the blood and the blood count gave red cells 96 per cent., or 4 750,000, hæmoglobin 94 per cent., no leucocytosis, the percentage varying within the normal limits, the leucocyte count being 7000. The blood cells were free from degenerative changes.

With these data a provisional diagnosis was given that all the digestive, urinary, and nervous symptoms could be accounted for by the apparent lithæmia *plus* the unstable nervous equilibrium, and treatment was directed by dietetic and medicinal means towards improving the disturbed chemical and cellular metabolism that appeared to account for her condition. At the same time her husband was advised that one had an uncomfortable suspicion that some serious abdominal disease, probably in connexion with the pancreas, might be present. For six weeks treatment on the above broad lines was carried out with indefinite results. The pruritus was relieved, the condition of the stools and the regular action of the bowels were materially improved, but the old flatulence, indigestion, and slight attacks of colic were more frequent and the amount and condition of urine remained *in statu quo*. She continued to lose weight and strength and the pigmentation increased in area and depth of colour.

On Nov 4th she had a severe attack of colic, with excessive pain, sickness, collapse, &c., requiring one third of a grain of morphia hypodermically to obtain relief. The colic was so acute that it might have been either hepatic or renal, but as she had foolishly partaken freely of goose the evening before accuracy of diagnosis was not easy. Dr T Churton of Leeds, who saw her with me in consultation on that day, preferred to blame the goose, and after a careful historical survey, physical examination, and mutual discussion, he was of opinion that neurasthenia with hysteria were the more apparent causes of her condition, with the cautious reservation that while no growth or unusual condition could be detected by manual examination of her abdomen, yet there was good reason for being suspicious and careful in one's prognosis. Special measures to meet the nervous exhaustion and general debility were adopted. Rest, feeding, and massage alternated with the faradic current and the intramuscular injections of glycero phosphate of sodium (Jacquemaire's preparation). This treatment was continued for a month also with indefinite result. In some things there was improvement but there was still a steady loss of weight, an average of three or four pounds a month, her weight at this time being seven stones and 12 pounds and persistence if not increase, of pigmentation. Blood counts and examinations were made fortnightly with special reference to the leucocyte count and qualitative changes in the cells as indicative of malignant disease, always, however with negative results, and throughout the whole illness the blood count did not vary outside a 10 per cent. limit.

The urine was tested and microscopically examined each week. During the last three weeks of December there was improvement, the appetite and the digestion became better abdominal uneasiness became less the sleep was better and less disturbed the strength was slowly coming back and the pigmentation was slightly clearing. But profuse night perspirations ensued which were best controlled by a five-grain tabloid of suprarenal extract, and under its influence the total quantity of urine increased to almost normal. The patient was able to go downstairs and to get out side occasionally and continued improving till the first week of January 1902 when she unaccountably began to fall back. A slight attack of colic occurred on Jan. 9th and 24 hours later there was a distinct trace of bile in the urine and a yellow tinge began to appear in the conjunctivæ.

The stools which had been watched daily for months and frequently examined for meat fibre, &c. still kept well coloured and the jaundice, which was never extreme varied from day to day and at times disappeared so far as colouring the urine was concerned. Despite the negative results of blood and manual examination I could not but fear from the patient's condition the strong possibility of some malignant development in the region of the head of the pancreas, and wishing the case to be considered from its surgical aspect Mr B G A Moynihan kindly saw the patient on Feb. 2nd, 1902.

Chloroform was administered as an aid to more efficient examination. After discussing the possible causes Mr Moynihan gave a diagnosis in favour of chronic pancreatitis probably non malignant and possibly due to a pancreatic calculus either in the pancreatic duct or now in, or approaching the ampulla of Vater. He advised operation as at least a means of clearing up the condition but did not feel enthusiastic about the result. As the patient and her relatives were at the time averse to surgical interference it was decided to give by the mouth pancreatin and salol and then in four weeks to reconsider the case. On Mr Moynihan's suggestion a sample of urine was sent to Mr P J Cammidge at Wakefield for special examination relative to the presence of pancreatic disease and his report was, "Not a typical sample, but affords ample ground to justify a diagnosis of chronic pancreatitis." During the four weeks the patient lost four pounds in weight—being reduced now to nearly six stones—and in view of the steady progress to the bad operation was again urged and arrangements were accordingly made but in the end abandoned. A former medical attendant at this time saw her in consultation and he also advised surgical interference.

Early in April the patient was moved to a hydropathic establishment in the Matlock district to see if change would effect improvement. On the night of her arrival she had a bad attack of colic lasting several hours with increase of the jaundice and for the first time during her illness the stools were slaty in colour. During her stay of four weeks there she made decided improvement. She gained three and three-quarter pounds in weight the appetite returned and she began to feel stronger the jaundice in great part cleared up but the pigmentation remained. The consulting physician in charge wrote "that he was strongly inclined to fear malignant disease but that beyond some feeling of resistance in the epigastrium he could detect nothing definite, certainly nothing inconsistent with pancreatitis." Two days after her return home she had another attack of colic and at last consented to seek surgical relief and on May 22nd Mr Moynihan operated with the interesting result of removing from the duodenum a concretion or calculus of about the size of a French bean.

Several factors stand out as of special interest. 1 The long illness of itself but specially the length of time ere jaundice appeared as proving the real origin of the condition. 2 The value of routine blood examination as an aid to diagnosis in this case as negative of malignant disease a differential method in obscure conditions hardly appreciated by surgeons. (See Cabot, p 350. The leucocyte count of three cases of cancer of the pancreas averaged over 17 000.) 3. The peculiar bronzing which might have led one to consider the case as one of Addison's disease the patient having many other symptoms in common and later the pigmentation *plus* the progressive emaciation gave the patient the appearance of suffering from some obscure abdominal malignant disease. 4 The origin of the stone.

NOTES BY MR. MOYNIHAN

I saw the patient on Feb. 2nd 1902, with Dr Robertson. To the full and lucid statement which he has given of her condition up to the time I saw her I have nothing to add. The symptoms I had to discuss the relative value and significance of which I had to determine were briefly these steady loss of health, gradual wasting irregular pigmentation of the skin in patches of the colour of *café au lait* (very closely resembling the pigmentation of molluscum fibrosum) persisting attacks of epigastric pain and uneasiness of the type of hepatic colic though less severe and unattended until very late in the history by jaundice which was then always trivial though unmistakeable, and pain passing through from the front of the abdomen to the middle of the back. There was no rigor or any complaint of sensations of heat or cold. The stools were occasionally frothy and "greasy." On examination under chloroform some indefinite swelling could be felt above the umbilicus and a little to both sides of the median line though chiefly to the right.

I considered that the evidence warranted a diagnosis of chronic pancreatitis. To explain the onset of this condition I suggested that a pancreatic calculus was present that its transit down the canal of Wirsung had been attended by the attacks of epigastric colic, and that as it approached the ampulla an inflammatory condition had been started in the common duct and a slight jaundice had thereby resulted. Upon this diagnosis I felt justified in basing my suggestion for operative treatment. If chronic pancreatitis were found and no cause was discoverable the condition could be relieved by drainage of the gall bladder. If a pancreatic calculus were found it could be removed either from the pancreatic duct or from the ampulla of Vater if it had travelled so far. I was bound to admit the difficulties of the case and though I pressed the question of operation I felt that I could give no definite undertaking as to its result. When I saw the patient a second time after her visit to Matlock I felt convinced of the approximate accuracy of my former diagnosis and operation was at once accepted. I should like to bear tribute to the support I derived from Mr Cammidge. His examination of the urine made me feel secure in the diagnosis that I had given of chronic pancreatitis. In other cases before this one and since, I have derived considerable help from Mr Cammidge's test. One feature of the case which may perhaps be accidental is the invariable slowness of the pulse. The rate was almost always less than 60 and never higher than 64 its character was good.

Dr Churton tells me that on referring to his notes he finds that the stools were described as being at times "oily" but that he had no opportunity of verifying this observation. The husband of the patient described them to me as "greasy" but the motions that I saw showed nothing unusual.

Operation.—Operation was performed on May 22nd 1902. The abdomen was opened two inches to the right of the median line by an incision about seven inches in length and the fibres of the rectus were split. On opening the abdomen the gall bladder at once presented it was tense well filled, and free from any adhesion the cystic duct, hepatic ducts and common duct were all thoroughly examined the liver being rotated for that purpose. The ducts were all free from adhesion and nothing abnormal was felt. The head of the pancreas was very much enlarged and hard the body less so but still larger and denser than the normal. The chronic pancreatitis affected the whole gland but chiefly the head and in least degree the tail. The duodenum and the head of the pancreas were carefully examined and a small lump was then felt as it seemed between the two. The swelling did not feel like a stone and I expressed a suspicion that it might prove to be a growth deep in the ampulla of Vater. I therefore opened the duodenum and exposed the papilla Vateri this was quite normal in appearance. The lump, however was felt to be only a short distance beneath the mucous membrane. The papilla was therefore laid open and the cut edges were seized with a small French vulsellum and held apart. At the bottom of the ampulla a small object could be seen and the knife touching it could be felt to be impinging upon soft stone. A small scoop was therefore passed into the ampulla, pressure was made upon the head of the pancreas close to the duodenum and the stone was lifted out. So far as I could judge—and the ampulla was well opened—the stone lay in the termination of the pancreatic duct with its end projecting into the ampulla.

It was certainly not wholly in the ampulla, for it was not at once exposed on slitting up the papilla, equally certain it was not in the end of the common duct. The duodenum was stitched up with continuous sutures The gall bladder was aspirated and drained, and the wound was closed in the usual way The tube was removed on the seventh day and the wound then slowly healed The condition of the liver was normal. There were no adhesions around it or any trace of pigmentation

The pigmentation of the skin is one of the most interesting, and certainly the most obscure, feature of the case Interstitial pancreatitis and pigmentation of the skin are found associated in the condition described by Hanot as "diabète bronzé," but in addition a deep pigmentation of the liver with hypertrophic cirrhosis and pigmentation of the pancreas and other viscera are seen In this disease Hanot and Schachmann consider that the primary etiological factor is the diabetes, that a certain alteration in the blood, due to the diabetes, results in a disturbed nutrition of the hepatic cells in which pigment as a result becomes deposited. The carrying of the pigment to the other parts of the body to the skin and the viscera, is supposed to be in the nature of embolism Many other theories, carefully enumerated and epitomised by Opie, have been broached, but our acquaintance with the subject is at present vague and distant. The recorded cases of hæmochromatosis do not show an instance of the disease occurring in the female Within a month of the operation upon this patient the bronzed patches had shown evidence of fading especially the stained areas upon the wrists and thigh

Description of the stone removed —The stone in shape very closely resembles a French bean It is exactly half an inch in length and about three sixteenths of an inch in diameter It is bile stained on the surface The stone was cut in two for me by Mr Cammidge and the pieces were subsequently glued together after the kernel had been removed. Mr Cammidge reported that the surface layers of the stone "for about one-eighth inch are of a homogeneous consistency and light brown in colour They leave but little ash on ignition and seem to consist chiefly of cholesterin and bile pigment with some calcium salts The central portion is quite different and consists chiefly of hard granules of irregular shape On ignition they leave a large quantity of ash which seems to be chiefly calcium "

I sent a small portion of the centre of the stone to Dr J A. Milroy of Edinburgh who reported as follows "The stone contains nearly 50 per cent. of calcium carbonate. A small portion of the solution in which the magnesium was estimated was unfortunately used for qualitative testing so that I cannot state the exact quantity of magnesium present. These were the only inorganic substances found I was somewhat surprised to find phosphates absent. The organic substances consisted almost entirely of proteid Traces of organic substance soluble in alcohol and ether were present In the residue from the alcoholic and ethereal solutions cholesterin and fat were the only bodies identified Purin bases and uric acid were absent. The quantity of the original powder was rather too small to allow of an accurate estimation of the constituents "

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Leeds

HYPOPLASIA OF THE AORTA AS A CAUSE OF ANEURYSM

BY W LEE DICKINSON, M D CANTAB, F R C P LOND,
ASSISTANT PHYSICIAN TO ST GEORGE'S HOSPITAL.

SOME years ago it fell to my lot as curator of the museum at St George's Hospital to perform two post-mortem examinations in rapid succession on cases of ruptured abdominal aneurysm in both of which the most careful inspection failed to find any ordinary explanation of the aneurysm, such as syphilis, atheroma, or strain, but the aorta and large arteries were in a state of hypoplasia—that is *to* say, constructed upon a small and delicate scale, narrow in calibre and thin in the walls, though in all other respects practically healthy These two cases put me on the look out for arterial hypoplasia in general and as a cause of aneurysm in particular, but among upwards of 2500 post-mortem examinations that have been performed at St. George's Hospital since that time, only some three or four cases of hypoplasia have been noticed by myself or succeeding pathologists One happened to be that of a patient of my own who died from the external rupture of a thoracic aneurysm, another—also a case of thoracic aneurysm—was under the care of Dr Cyril Ogle, who kindly allows me to publish it. The first three cases have been fully described in the Transactions of the Pathological Society, vols xlv and xlix and need only be briefly recapitulated

CASE 1 —The patient was a well built man, aged 29 years, who gave no history of great exertion or strain The aneurysm, of the size of an orange, occupied the lowest two and a half inches of the aorta and the whole of the right common iliac artery, it proved fatal by rupturing into the peritoneal cavity The rest of the aorta was almost entirely free from atheroma but unusually thin and narrow, as were also all the large arteries.

CASE 2 —A woman, aged 30 years, died from the retroperitoneal rupture of an aneurysm which consisted of a fusiform dilatation of the lowest two inches of the aorta and the greater part of the left common iliac artery Immediately below the origin of the renal arteries the aorta presented a saccular aneurysm of the size of a walnut. A third, of smaller size, was found upon the left renal artery and a fourth upon the superior mesenteric The aorta was almost papery in its thinness. In the recent state it was fully elastic and faultlessly smooth but so narrow that the thoracic portion would hardly admit the little finger

In both of the above cases the large arteries were examined microscopically with the result that no fatty or other degeneration was found

CASE 3 —The patient was a coachman, aged 39 years, who had lived temperately and quietly There was no history or suspicion of syphilis The aneurysm proper was larger than a cocoanut and of true saccular form, springing from the first part of the aorta. It had caused absorption of the overlying bones and cartilages and had given rise to a secondary sac immediately beneath the integuments The fatal hæmorrhage occurred externally from the secondary sac The aorta was remarkably free from atheroma, of which, indeed there was no trace except a little roughening near the mouth of the aneurysm The vessel was somewhat small in calibre and conspicuously thin walled It was estimated that at the end of the arch the wall was not more than three fifths of the ordinary thickness The various coats were present in normal proportion and no degeneration could be detected under the microscope

CASE 4 —This case, which I owe to Dr Cyril Ogle, is of essentially the same kind as Case 3 and need only be briefly related The patient was an omnibus conductor, aged 31 years, who had been a soldier, he died in September, 1901 from the rupture of a large saccular aneurysm of the first part of the aorta into the right auricle The post-mortem examination was performed by Dr R. Salusbury Trevor, who remarked an unusual thinness of the aorta and used the expression "aortic hypoplasia" in the pathological record Dr Trevor was under no suggestion from the previous cases and his record fairly stands as the independent observation of a skilled pathologist Certain cutaneous scars were found which raised a suspicion of syphilis, but of alcoholism or undue strain there was no evidence, clinical or pathological, and the aorta was perfectly free from atheroma. The case in short was one of aortic aneurysm in which the initial lesion was possibly syphilitic, but hypoplasia was the dominating influence.

It goes without saying that congenital delicacy of the arteries when it exists, must predispose to the formation of aneurysm and favour its development, though the influence of this factor has hitherto been almost entirely overlooked Virchow, indeed, remarks upon the liability of the hypoplasic aorta to fatty degeneration of its middle coat and so to spontaneous rupture and dissecting aneurysm, but he appears not to have met with fusiform or saccular aneurysms of a chronic type in this connexion, nor is there any consideration of the subject in the formal treatises upon aneurysm of the aorta. However, the four cases given above, occurring within ten years in the experience of a single hospital, suggest that the association of aortic hypoplasia and aneurysm though rare to be sure, may yet be worth looking for in the future, especially perhaps in those cases of aneurysm which are least susceptible of explanation by ordinary causes such as aneurysms in women and young persons

As for aneurysms in women I have consulted the considerable number of reports of cases which are to be found in the works of Hope, Stokes, Walshe, Balfour and others, and in the Transactions of the Royal Medical and Chirurgical Society and of other societies, but without meeting with any mention of hypoplasia. One thing however is very striking about aneurysms in women they go from bad to worse more rapidly than in men and are much more prone to end in rupture. External rupture in particular is nearly as common in women as in men, notwithstanding the relative great rarity of aneurysm. Stokes relates three cases of external rupture two of which were in women Crisp tabulates six four in men and two in women. The records of St George's Hospital contain three in men and again two in women. We thus have 14 several cases of external rupture, six of which were in women.

Now women are notoriously more liable to hypoplasia than men and the suggestion presents itself that some degree of hypoplasia, not necessarily to be seen unless looked for may be the reason for the more untoward course of their aneurysms And so it may be with children and young persons when they suffer from aneurysm though here also the published reports are almost absolutely silent as regards hypoplasia. Still there is on record at least one case which may be quoted as showing an association of hypoplasia with aneurysm. This case is included by Mr R. W Parker in his Table of Cases of Spontaneous Extracranial Aneurysm in Persons under 20 years of age.[1] The patient was a boy aged 16 years, who died from the rupture of an aortic aneurysm into the pericardium. "The walls of the aorta were as thin as paper soft, and easily torn, but free from every kind of morbid deposit."

In another way the association of aneurysm and hypoplasia is of sinister omen—I mean as regards the prospect of cure by the deposition of fibrin. Arterial hypoplasia has long been credited with a leading place in the rather scanty morbid anatomy of hæmophilia, a disease which modern clinical pathology has proved to depend essentially upon deficient coagulability of the blood. It must be admitted that hypoplasia does not always or even generally imply hæmophilia, but at least it constitutes an ominous link between aneurysm and the possibility of a most undesirable condition of the blood.

In conclusion, I have only to say that this short paper will have served its purpose if it succeeds in drawing attention to an occasional morbid alliance the practical importance of which four cases are all too few to establish

besterfield-street, W

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[1] Transactions of the Royal Medical and Chirurgical Society 18[illegible]

A PECULIAR CASE OF SCARLATINA HÆMORRHAGICA.

BY VIVIAN CHASTEL DE BOINVILLE, M B.
CH B EDIN

THE following case, on account of the peculiar nature of its course, may be of interest to the readers of THE LANCET and Dr N E. Roberts, visiting physician to the City Hospitals Liverpool has sanctioned its publication. The patient was a boy aged four and a half years, who resided in Liverpool and was admitted to the Grafton street City Hospital on June 21st, 1902. According to the mother's statement he fell ill on June 16th. The admission thus took place on the sixth day after the onset of the disease, which was characterised by the usual feeling of malaise, headache, and sore throat with a cough and pain in the chest rapidly followed by a diffuse scarlet rash. On admission this rash was still visible but was fading and the fauces and throat generally were congested and foul. During the 24 hours following admission the temperature ranged from 101° to 102 4° F, falling gradually in the course of the next six days to 99 6° on the 27th. On the evening of this day the twelfth from the onset of the disease it rapidly rose to 103°, when grain doses of sulphate of quinine were administered every four hours. The temperature then again fell reaching normal on July 1st.

Thus far the case had assumed a not unusual course. The patient during this period of observation was pale and rather weak the pulse was somewhat feeble, but there was no reason to expect anything but a favourable recovery The cervical glands were not swollen. There was neither thus far nor subsequently any albumin or blood to be detected in the urine. On July 2nd however (and this is the special point in the case) just as desquamation was setting in bleeding from the anterior nares commenced Hæmorrhagic spots a dozen or so and measuring about three millimetres in diameter appeared on the anterior aspect of the scalp Similar spots presented themselves in the neighbourhood of the knee-joints. The evening temperature rose to 99 6° and the patient became generally feeble and in fact showed a tendency to collapse Perchloride of iron applied as a styptic to the nose only partially checked the hæmorrhage during its actual application. On the following day an eczematous rash appeared on the buttocks and the spots thus formed bled on the slightest friction. Tincture of hammamelis was no more successful than the former styptic in allaying the obstinate epistaxis. Iron was administered internally and brandy was cautiously exhibited. Posturing and other methods were of no avail in checking the bleeding It must be remarked that the total quantity of blood lost was very small The cause of anxiety was the symptom *per se* suggesting a markedly impoverished or poisoned state of the blood not an actual loss in quantity Desquamation which had commenced on the hands and feet, became entirely arrested The patient grew progressively weaker and the temperature rose higher—never above 103 2° however which it reached on July 6th. Tepid sponging was now employed. On the 7th, at 3 A.M. the thermometer recorded 103° Tepid sponging was again resorted to, causing the temperature to fall to 98 9° At 10 30 A.M. the patient vomited, the vomit containing a little unaltered blood At 11 A.M he died in a state of collapse.

The interesting feature of the case is of course that the hæmorrhagic symptoms did not appear at the onset of the disease as in an ordinary case of scarlatina hæmorrhagica, but at a period when convalescence was to be expected. In other words a profound toxæmia set in at a time when it was to be supposed that antitoxin in the ordinary course of *events would be forming* and immunity becoming established. Can it be that nature had as it were, surpassed herself in her process of healing that the antitoxins had become excessive and that a "reactionary anti toxæmia," if one may use such a term had set in? Or can it be that, after the supposed toxins had been sufficiently eliminated to permit of a fall of temperature and partial recovery a fresh supply of toxins hitherto combined with other material or otherwise rendered inert had suddenly become let loose in the blood and set up a secondary toxæmia?

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VERBAL OBSESSIONS

BY JAMES SHAW M.D, M CH R.U I.

MAGNAN[1] defines an obsession as being a mode of cerebral activity in which a word thought, or image rises into consciousness—involuntarily and without discomfort when physiological, but forcibly and with painful persistence when pathological Verbal obsessions are those in which isolated words—mostly obscene or blasphemous—constitute the morbid besetment. They should be distinguished from coprolalia, obscene speech from the blasphematory mania of Verga,[2] which he described *as a special variety of obsession taking the form of oaths blasphemies, or indecent utterances* and from the onomatomania of Charcot and Magnan,[3] in which a word cannot be recollected without a painful searching of the memory or a word or phrase is ever present in consciousness and *must be emitted at intervals* its utterance being repressed for a short space only at the cost of extreme and constantly increasing mental pain In my cases the besetting words were never uttered. The words differed from psychical or psycho motor hallucinations in that they were never spoken of as "voices in the head" nor as "voices" at all Verbal obsessions may constitute the leading feature of a sort of obsessional aberration, as in the second case below, or an early symptom of a form of insanity, an obsessional melancholia, which appears to me to be as much an entity as hypochondriacal melancholia is The first case exemplifies the induction of obsessional melancholia by verbal obsessions

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[1] Annales Médico Psychologiques, Mars-Avril, 18[illegible] quoted by V Bourdin

[2] THE LANCET April 20th 1901, p. 11[illegible]

[3] Annales Médico-Psychologiques Mars-Avril, 18[illegible]

CASE 1 —The patient was an unmarried female, aged 46 years, and had ceased to menstruate for two years She had always been "nervous," her father had suffered from neurasthenia, and her brother was "nervous" 14 months prior to my first seeing her she had had, as I was informed by her medical attendant, a slight vulvar trouble resembling balanitis in the male This had been followed by what appeared to have been an attack of influenza, for which she had not sought medical advice She had become depressed during that attack or soon after it and the depression had been increased by business worries and a monotonous solitary mode of life. When I first saw her the state of her mind had changed very little for about six weeks Her face was pale with a worried, anxious expression The left pupil was slightly larger than the right, both reacted to light Her right hand grasp was 40 and her left hand grasp was 20, her pulse rate was 96 She picked her dress with her fingers incessantly and her feet were in constant motion Neither these movements nor prolonged walking induced fatigue Her voice was low, her speech was slow and hesitant, her memory was good and her consciousness was clear She had no hallucinations She said that she was guilty of a great and unpardonable sin On close inquiry it was elicited from her that the sin was that certain words came into her mind incessantly in spite of herself. These words she did not and would not, utter She said they were irrepressible (in her mind), obscene, blasphemous, unutterable, and that the distress occasioned by them caused her to refuse food, prevented her sleeping, and had driven her to make two suicidal attempts She recovered eventually, convalescence having been preceded by some blurring of consciousness and much increase of motor agitation

CASE 2 —This case was that of a married male school teacher, aged 33 years His brothers and sisters were all "nervous," and one sister, also a patient under my care, was irritable, eccentric, incoherent of speech, and possessed of queer ideas almost amounting to delusions The patient had had influenza four years before my visit and about three years before the latter he had been much worried by an inimical female fellow-teacher After this quarrel he became weaker and less sociable Nine months prior to my visit his condition was rendered worse by the death of his brother (from Bright's disease) and his undertaking the cares of the funeral During the last three months he had deteriorated considerably and had not taught for three weeks His pulse rate when I examined him was 96, his temperature was 98 4° F, his right hand grasp was 85 and his left hand grasp was 90 (he was partly left-handed), his cutaneous sensibility, tested with a feather for touch and pain was good on the forehead and hands although he complained of feelings of numbness He wandered about restlessly putting his hands to his head, shaking his hands and gesticulating in a peculiar way, sometimes as if he were writing words in the air There was tremor of the fingers His demeanour and facial expression denoted mental pain, but motiveless laughter was frequent. Consciousness and memory were good though the patient could not fix his attention He said that obscene words arose in his mind and he could not repress them This caused him great anguish as he and all his family were very religious He said also that when he looked at any thing he could not get the image of it out of his mind (visional obsession) He fancied that fixed or heavy objects, such as pieces of furniture, moved and he would put out his hand to steady them This might have been caused by fine ocular tremor There was however no visible nystagmus On one occasion he asked to have pictures removed from a wall on which there were none He exclaimed frequently, "Oh Lord 'Oh, Lord' fell often on his knees and prayed aloud to be delivered from his evil thoughts and their cause—the obscene words These words he never uttered. He could not sleep without hypnotics and they, when their somniferous effects passed off, increased his agitation An attempt was made to obtain asylum treatment for him He was detained a few weeks in a workhouse hospital and then discharged slightly less agitated but with his obsessions as well marked as ever In that condition he remained when I heard of him two years after

Taking these two cases as types of two forms in which obsessions are prominent it will be seen that the prognosis as to mental recovery is much less favourable in the aberration almost purely obsessional than in the seemingly more formidable obsessional melancholia with its blurring of consciousness, greater mental pain and diminution of self-control, difficulty of inducing fatigue, and its presentation of a distinct fixed idea or so called faith delusion of having committed an unpardonable sin.

Liverpool

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed et Caus Morb* lib iv Proœmium

RADCLIFFE INFIRMARY, OXFORD

A CASE OF TUBAL PREGNANCY, LAPAROTOMY, RECOVERY

(Under the care of Dr T L KENNISH and Mr R. H. ANGLIN WHITELOCKE.)

AT the present day it is acknowledged that laparotomy is the best treatment in ectopic gestation in almost all cases The mortality from the operation is surprisingly low—for instance, Professor Mayo Robson had 22 recoveries in 23 cases and Dr J W Taylor[1] had 41 recoveries in 42 cases—that is, a mortality of less than 3 per cent.

The patient was a married woman aged 28 years She had had scarlet fever, St Vitus's dance, and rheumatic fever Before marriage which took place on Dec 27th, 1897, she had been irregular in her menses, but since then and up to the first week in October, 1900, she had always been quite regular She had had no children or miscarriages In the third week of December, 1900, she was suddenly seized with severe pain in the left side of the abdomen and was repeatedly sick and fainted A medical man saw her immediately and gave her morphia hypodermically to relieve the pain Two days later, as the patient did not improve, another medical man saw her in consultation Her account is that the diagnosis was "inflammation and stoppage of the bowels" At the end of 15 days (Jan 2nd) she was conveyed to a neighbouring hospital where she remained until the end of February Soon after her admission to the hospital she came on unwell—she had not been regular since the first week in October—and passed first a large clot and then several small ones for over a week, the discharge continuing irregularly not more than two days clear, until two days before leaving the hospital at the end of February Three weeks after entering the hospital she was she said, "put under ether and operated on for hæmorrhoids" The bowels were very constipated from the beginning She had to have repeated enemata, and in the first week the urine was withdrawn with the catheter After removal to the hospital the pain and sickness continued for six weeks She was evidently very ill, her relatives being sent for in the belief that she was in imminent danger She left the hospital on Feb 25th, 1901, and was taken to her sister's home. Dr Kennish was in bed at the time with influenza and his locum tenent saw her on the day that she went home He believed that she was suffering from pelvic cellulitis Dr Kennish saw her for the first time on March 13th and after hearing a history of amenorrhœa for two months, followed by collapse and sickness, with later the passage of clots (cast ?), and menorrhagia the symptoms appeared to him to be pathognomonic of extra uterine pregnancy, with rupture of the sac, and this was confirmed by a subsequent examination

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[1] Extra uterine Pregnancy, 1899

On inspection of the abdomen no visible swelling was noticed but on palpation a distinct swelling of about the size of one's fist was felt in the left iliac region, slightly tender dull on percussion and evidently coming out of the pelvis. No movement or sound could be heard over it on auscultation nor could any movement be felt within it. On vaginal examination the swelling felt like a tense cyst in the left fornix and gave one the impression on bimanual examination of being of about the size of a cocoa nut The cervix was not patulous and felt normal to the touch it was drawn distinctly towards the left side—the side of the swelling The body of the uterus could be distinguished to the right and was not markedly enlarged. No sound was passed No doubt remained from the history and examination of the nature of the case and Dr Kennish accordingly asked Mr Whitelocke if he would kindly take her into the Radcliffe Infirmary for operation

On admission to the infirmary a bimanual examination revealed the existence of a large cystic mass fixed in the pelvis, adherent to the uterus extending considerably into the lower portion of the abdominal cavity and pressing unduly on the rectum. The swelling was dull on percussion and somewhat tender to the touch. No movement could be made out in it nor was there a distinct feeling of fluctuation. On describing the state of affairs to the patient she readily consented to undergo an operation Accordingly on the succeeding day after due preparation, and with the strictest aseptic precautions, Mr Whitelocke opened the abdomen through a linear incision made in the middle line between the umbilicus and the pubes. As soon as the peritoneum was opened there escaped much fluid blood containing many soft and friable clots almost black in colour These clots floated freely in the cavity intermingling with the omentum and small intestines In addition to the dark clots were to be seen others much larger firm and tough in consistence, resembling in colour a new marine sponge. These were removed from the right side of Douglas's pouch whither they seem to have gravitated as the result of a former hæmorrhage. They were removed without any difficulty In all about one and a half pints of blood were removed from the peritoneal cavity The mass could then be clearly seen to be of the nature of a tubal pregnancy The left Fallopian tube was enlarged and lay prone upon the swelling which protruded into and was incarcerated between the layers of the meso-metrium. It stripped up the peritoneum from the bladder in front and from the rectum and posterior wall of the uterus behind and extended upwards into the left side of the abdominal cavity The fundus of the uterus lay to the right of the structure. The attachments to the rectum and posterior surface of the uterus were very firm while there was perfect freedom as far as the small intestines and omentum were concerned

Finding it impossible to remove quickly the mass by reason of its firm attachment to the bowel upon which it pressed causing obstruction and judging that the projecting portion was for the most part made up of the placenta placed uppermost and that the fœtus was below Mr Whitelocke passed a large trocar into what appeared to be the amniotic cavity From this some clear fluid escaped. Following the trocar as a guide a small incision was made through the placenta and a finger was passed into the space. The manœuvre was instantly followed by an alarming hæmorrhage. Being unable to extract the fœtus which though disproportionately small could not be readily brought through the wound in the placenta Mr Whitelocke proceeded with as little delay as possible to pack the amniotic space with sterilised gauze. The bleeding which had been truly appalling ceased almost at once. The patient's condition by this time was so serious that it was obvious that she could not stand a more prolonged operation. Leaving a piece of a gauze plugging to act as a drain Mr Whitelocke proceeded as quickly as possible to close the peritoneum. But before doing so completely one and a half pints of warm saline solution were poured into its cavity This in a very few minutes had the desired effect of increasing the force of the pulse The wound was closed and the patient was sent back to bed.

The gauze packing was allowed to remain *in situ* for 72 hours. By this time the patient had completely recovered from shock and it was assumed that the sinuses in the placenta had been sealed off and a sinus-track established from the placenta to the skin wound At the first dressing when the plug was removed only about one drachm of blood escaped The sinus was kept from closing by the use of a gauze packing and the wound was dressed every 48 hours for some days. Primary union resulted except at the place kept open and there was never a higher temperature than 100° F There was no suppuration in the sinus only a little blood stained serum escaping for nearly four weeks when small pieces of placenta clots, and fœtal remains began to be extruded. This continued in varying quantities for a fortnight or more, but by the end of a month it was so scanty that she was allowed to leave the hospital. This she did on May 10th By July 15th the wound was quite healed and by a bimanual examination only a small thickening could be detected in Douglas's pouch The constipation had been quite overcome the patient was rapidly gaining in weight, and she expressed herself as feeling perfectly well.

The patient went to see Dr Kennish on Dec. 27th 1901 on account of a swelling at the site of the operation. This proved to be a hernia due to stretching of the cicatrix for which she was ordered an abdominal belt She was in perfect health and had experienced no trouble of any kind and had become quite regular again

Remarks by Dr KENNISH.—During the last 10 or 12 years a considerable number of cases of this condition have been published and the etiology has been considerably advanced The present position appears to be that the pregnancy is essentially tubal in origin and that the so-called abdominal form is but an evolutionary stage of the tubal. The possibility of primary ovarian pregnancy has frequently been disputed but cannot now be denied since the advent of the specimens of Dr Catherine Van Tussenbroek which have been personally examined and verified by Bland Sutton and others. The importance of diagnosing the condition at an early period before rupture has taken place is self-evident, but it must be chiefly by accident if it is discovered before rupture or internal hæmorrhage has taken place. The treatment is essentially surgical in all stages with the possible exception of a case when the child has reached a period near a viable age and there is good hope of preserving the lives of both mother and child[3] then in the absence of immediate symptoms the operation might be delayed. But in any circumstances the risk to the mother must be great in the early period before the fifth month from rupture and hæmorrhage and after that time, if the fœtus is living from hæmorrhage at the operation or if dead from the risks of peritonitis septicæmia or suppuration following On these grounds and from the evidence that the mortality in the pre-operative days was enormous[4] while under modern aseptic conditions it is comparatively small the balance is overwhelmingly in favour of immediate laparotomy

Remarks by Mr WHITELOCKE.—Through the kindness of Dr Kennish of Winslow I was enabled to have the care of this case at the Radcliffe Infirmary and to be responsible for the operative treatment. The patient was sent by him as a case of extra uterine gestation with a clear history of amenorrhœa for nine weeks, symptoms of internal hæmorrhage with collapse on two occasions and the passage of what was probably a decidua, followed by amenorrhœa for three weeks On admission she complained of constipation so obstinate as to amount to chronic intestinal obstruction of pain in the left side of the abdomen, and of sometimes having difficulty in passing urine A history so clear and definite taken together with the local condition would seem to have rendered the diagnosis one of simplicity yet the intestinal symptoms, obstinate constipation &c. led those who saw the case first even to operate for piles

Anatomically the case was undoubtedly one of gestation in the left Fallopian tube Rupture occurred the first time at the ninth week The shock and collapse from loss of blood seem to have been severe and her life had apparently been despaired of yet she recovered and the embryo became extruded between the layers of the meso-metrium with the placenta uppermost The fœtus still surviving the mass increased in size stripping the peritoneum from the bladder uterus and rectum and becoming so adherent to the last viscus as to cause intestinal obstruction Between the fourth and fifth month the placenta was pushed up into the abdominal cavity and then there seems to have been an ulterior extensive hæmorrhage into it. The fœtus remaining in the meso-metrium filled up the left side of Douglas's pouch and pressed upon the viscera, causing constipation and difficulty in urination. The placenta was much the larger in proportion to the fœtus.

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[2] Ii ill ted by Lawson Tait Brit Med. Jour., [illegible] 1884
[3] Pozzi's Gynecology vol iii p 19[illegible] Sydenham Society, 1893
[4] Bernlets and Goupil [illegible] Sydenham Society 1865

The operation presented difficulties. To begin with, the patient was in a precarious state from loss of blood and continued confinement to her bed. The clearing out of the blood clots from the abdomen took some little time and probably increased the shock. The placenta being uppermost and adherent to the bowel it was impossible to remove it entirely or to reach the fœtus without passing through its structure. This proceeding caused alarming hæmorrhage, which, however, readily ceased when the cavity was plugged. The collapse was much diminished by the use of hot saline infusions and injections at the time of operation and afterwards. By keeping the sinus open for weeks and treating it thoroughly aseptically pieces of the mass were extruded piecemeal and satisfactorily. I am of opinion that if any more time had been lost in trying to remove either the placenta or the fœtus the patient must have died on the table; that the expedient of stuffing the cavity rapidly with sterilised gauze was a happy one, since the bleeding ceased at once; and that the subsequent drainage through a well established sinus was a less dangerous yet equally effective means of checking the gestation and removing its ill effects.

Considering the extreme danger of hæmorrhage from a tubal pregnancy bursting into the peritoneum during the advanced stages of gestation, especially when the placenta is placed uppermost, either when left alone or when dealt with by the operator, the termination of this case was fortunate. The arguments for incising and draining in these desperate cases rather than attempting to remove the placenta at one sitting seem to be supported alike by the inherent difficulty of the operation on the one hand, and the almost absolute certainty that the placenta will disappear in time if left alone, provided the fœtus perishes. From the experience gained in this case I am fully convinced that the destruction of the fœtus and the subsequent drainage constitute a safer procedure than that of attempting the removal of an adherent placenta provided thorough aseptic principles are carried out. The marked symptoms of intestinal obstruction were a troublesome complication of the condition and of themselves would have sooner or later demanded the serious attention of the surgeon.

Reviews and Notices of Books.

Charles Darwin: his Life Told in an Autobiographical Chapter and in a Selected Series of his Published Letters. Collected by his Son, FRANCIS DARWIN, Fellow of Christ's College, Cambridge. London: John Murray. 1902. Pp. 348. Price 2*s.* 6*d.* net.

THIS is an admirable book which should be read by all medical men and by all those who are interested in the progress of science. The great work done by Charles Darwin is, of course, acknowledged by everyone and no one with any knowledge of the history of the advances made in science during the last century could do otherwise than assign to him a prominent place amongst the greatest men of his time. It is, however, doubtful if more than a very small minority of those who are ready to accept these statements as truisms, could give a rational account for the faith that is in them on these points.

Most people have, in fact, accepted the doctrines which have been set before them and they know of Darwin and of his work only by reputation. Before the publication of this book a busy man might readily excuse himself on the ground that he had no time to study the question for himself. For many readers biographies are usually too long. In this volume, which the author says is practically an abbreviation of the "Life and Letters" his aim has been to retain as far as possible the personal parts of those volumes. The book contains Darwin's autobiography and reminiscences of him by his son. There are chapters on his life at Cambridge and on the voyage of the *Beagle*, and these are followed by a selection of letters connected with the great work of his life.

The autobiography is intensely interesting and the reader will immediately see in it that Charles Darwin was not only an extremely genial, kind, and loveable person, but that he had also a keen sense of humour and was by no means dull. The happiest part of his time, he said, was that which he spent at Cambridge, but in later life, in his autobiographical notes, he was inclined to speak as if he had wasted his time there; but at the date at which he wrote, he was, according to his interpretation of the Ouless portrait, "a very venerable, acute, melancholy old dog," and his remarks on his earlier adventures are no stronger than an acute old gentleman might fittingly make for the benefit of his family for whom they were written.

At one time Charles Darwin's father thought that he cared for nothing but "shooting, dogs, and rat-catching," and that he would be a disgrace to himself and to all his family. He did, in fact, become an excellent shot and whilst he was at Cambridge he adopted an unusual method of improving his eye. He got a friend to wave about a lighted candle, at which he fired with a cap only on the nipple of his gun. When the aim was true the little puff of air put out the light. Darwin's tutor thought it a remarkable thing that he should spend hours in cracking a horse whip in his rooms. He was very fond of hunting and he naturally got into a sporting set. At the same time he learned something about art, was fond of music, and collected beetles. The most important turning point of Darwin's life was undoubtedly his appointment as naturalist to the *Beagle* which sailed for the Southern Seas under the command of Captain Fitzroy.

Darwin's character became manifest by the way in which he won the respect and the love of those who went on this expedition. The commander must have been a trying companion at times, especially in the early part of the day, and the first lieutenant, Wickham, who was of course responsible for the smartness of the ship, sometimes objected to the results of the manipulative parts of Darwin's scientific investigations when his specimens littered the decks. Lieutenant Wickham considered it "d——d beastly devilment," and said "If I were skipper I would soon have you and your d——d beastly mess out of the place." To the mere "scientist" such language might have been considered opprobrious, but on the *Beagle* they jogged on very well together, the captain keeping all smooth "by rowing everyone in turn." The voyage of the *Beagle* lasted for nearly five years, and off the coast of Chili Darwin came across a curious form of barnacle, an incident, as it afterwards turned out, which profoundly affected his life.

In 1846 he began a serious study of barnacles (cirripedia), which occupied him for eight years. This prolonged and laborious work gave him the training of a scientific naturalist, and after it the work which he did became easier to him. Sir J. D. Hooker recognised three stages in his career as a biologist; he was first the mere collector at Cambridge; secondly, the collector and observer whilst on the *Beagle* and for some years afterwards; and thirdly and lastly, the trained naturalist after, and only after the cirripede work.

Much of Darwin's later work had reference to problems in botany, and he undertook these investigations untrammelled by the dead weight of technicalities which have deterred so many men who have commenced the study from pursuing it. Darwin, who disclaimed any right to be regarded as a "professed botanist," made some of the greatest discoveries of the last century. His intellect had not been dulled or his interest in natural phenomena quenched by following the botanical "scientists." "He turned his attention to plants doubtless because they were convenient objects for studying organic phenomena in their least complicated forms, and this point of view," says Sir William Thiselton Dyer, "had something of the amateur about it." He had at least the advantage of having an open mind, for from not being till he took up any point familiar with the literature bearing on it, his mind was absolutely free from any prepossession."[1]

The history of the inception of the growth and of the writing of the 'Origin of Species,' of the publication of the book, of its first reception and of the spread of its teaching is clearly and concisely given in the present volume. Charles Darwin was a man of peace who hated controversy and there can be no doubt that the book would not immediately have produced the enormous effect which it did had it not been for the vigorous championship by Huxley and the most injudicious and unfortunate attack upon it by Samuel Wilberforce, Bishop of Oxford, at the meeting of the British Association in 1860 By a strange series of chances this proved to be a great day in the history of science. Huxley had not intended to go to the meeting, he despised Wilberforce, he thought the audience incapable of forming a correct judgment on the question at issue and he had not great confidence in himself as a speaker The incident is worth recalling Towards the end of his speech Wilberforce said that he would like to ask Professor Huxley is it on his grandfather's or his grandmother's side that the ape ancestry comes in? Huxley's spirits had risen when he found that the Bishop was profoundly ignorant of his subject and on hearing this insolent question he said to Sir Benjamin Brodie The Lord hath delivered him into mine hands. He saw that the game was his. In reply to the Bishop Huxley said that in his opinion a man had no reason to be ashamed of having an ape for his grandfather, If there were an ancestor whom I should feel shame in recalling it would be a man—a man of restless and versatile intellect, who, not content with success in his own sphere of activity plunges into scientific questions with which he has no real acquaintance, only to obscure them by an aimless rhetoric and distract the attention of his hearers from the real point at issue, by eloquent digressions and skilled appeals to religious prejudice. In the course of the debate, Admiral Fitzroy remarked that he had often expostulated with his old comrade of the *Beagle* for entertaining views which were contrary to the first chapter of Genesis. There is little cause for wonder that the Oxford meeting of the British Association did much to spread the teaching of Darwin and from that time no eminent English ecclesiastic has openly attacked the teachings of modern science.

Mr Francis Darwin's book shows that Darwin must have been a man of angelic temper He went so far as to allow his morning studies to be interfered with by members of the household who entered his room for a foot rule or for a piece of sticking plaster The patience he displayed under such provocations is truly wonderful. It seems curious that a man of his intellectual capacity should have had confidence in water quacks, he suffered cures" both at Waverley in Surrey and at Malvern.

The book is extremely well written it is sympathetic and candid. It deserves to be read carefully Those who have not time to give the book a prolonged study would do well to read the autobiography (Chapter 2) the reminiscences (Chapter 4) and the chapters which relate to life at Cambridge and on the *Beagle* (Chapters 5 and 6) In regard to the letters which appear towards the end of the work all of them contain matter worth reading and this part of the book may be opened at random with the certainty of finding something of human interest. Of few books can such a thing be said. The volume is well printed and has a good index and an excellent reproduction of a photograph of Darwin taken by the late Mrs. Cameron.[2] Its price half-a-crown, puts it within the reach of everyone, and it is a book worth keeping

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La Santé de l'Ecolier By Dr G. DELVAILLE and Dr A BREUCQ Paris Fernand Nathan. Third edition. 1902. Pp. 281.

THE need in France for a work on school hygiene, such as that before us, is probably more urgent than in this country for to a large extent the natural instinct for physical recreation which is so characteristic of English school boys and in a lesser degree of English school-girls also constitutes an effective prophylaxis against the evils which inevitably occur from the close segregation of a large number of children in class rooms. In France hygienic methods have not heretofore received the attention which they have in this country, and with a declining population and a low birth rate it is a matter of national importance to protect in every possible way the health of the rising generation. The fact that French children take little delight in organised games renders the task of maintaining discipline during school hours a doubly difficult one and at the same time makes it all the more necessary to press into the service of State pedagogy every device of practical hygiene which can better the conditions of school life. This little treatise has been mainly written for the use of teachers in Government schools or for those who are concerned with disciplinary management. It contains chapters on a variety of questions affecting the personal hygiene of the student, the care and examination of the organs of special sense, and the structure of school buildings and of class-rooms, their lighting decoration, and furniture. To the chapter on physical exercises is apportioned a totally inadequate number of pages—a number however which is possibly commensurate with the estimation in which this department of education is held in France. Gymnastics military drill skipping and bicycling (the last-named is mentioned as a new form of exercise since the publication of the last edition) are practically the only inducements held out for the physical recreation of the scholar If such be the programme of amusements offered to the children of France by those who are responsible for the direction of these matters it is little to be wondered at that the enterprise of youth discovers other and less healthy outlets for its energies The subjects so far mentioned are classified collectively as branches of school hygiene and are described in Part I Part II is concerned with the early symptoms of such contagious diseases as are incidental to school life and with the means by which they may be detected and treated Part III describes first aid in cases of emergency while the fourth and final part which will be of little interest to English readers deals with the official notices which are required by the Department of Education to be posted on the notice-boards of the schools for the efficient safeguarding of the health of scholars. Although in many respects this little volume is quite inapplicable to the conditions of school life as existing in this country it nevertheless contains many instructive suggestions for the maintenance of moral discipline which is such an important feature in the successful management of children.

Elementary Ophthalmic Optics including Ophthalmoscopy and Retinoscopy By J HERBERT PARSONS, B.S B Sc. Lond F R.C.S. Eng, Curator of the Royal London Ophthalmic Hospital. London J & A. Churchill. 8vo pp. 162. 1902.

THE object of this well written work is to enable the student to comprehend the principles which guide him in the diagnosis of errors of refraction, in the application of the ophthalmoscope, and in the employment of that mode of determining the refraction of the eye termed "retinoscopy." It is divided into 11 chapters which are successively devoted to the consideration of Light, Reflection, Refraction, Lenses, the Homocentric System, the Dioptric System of the Eye, Ametropia, the Ophthalmometer, the Ophthalmoscope (which occupies two chapters), and Retinoscopy. To read this book with advantage it is necessary that the student should possess some knowledge of trigonometry and algebra in order that he may follow the author's demonstrations, but scarcely more is demanded than a lad from the upper forms of a public school has acquired. Several figures are introduced into the text and these figures the reader should construct for himself. Many questions involving a knowledge of the laws of optics for their solution present themselves in the selection of glasses in ametropia, in the determination of the position of foreign bodies in the transparent media, and in the explanation of the phenomena observed in retinoscopy, and it would be well if all who intend to practise ophthalmic medicine and surgery were to make themselves familiar with the fundamental principles of optics. The importance of this knowledge has been clearly recognised by the opticians, and it is only necessary to point out that such knowledge forms part of their examinations and that instructive and sometimes very able articles, essays, and answers to inquiries are given weekly in the well-conducted but thoroughly business journal the *Optician*—answers that, we venture to say, could be given by but few of those students who leave our ophthalmic wards.

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[1] Charles Darwin Nature Series Thiselton-Dyer quoted on p. 236.

[2] This illustration the author says, was taken in the year 1868 by the late Mrs. Cameron reproduced in heliogravure by the Cambridge Engraving Company for the present work " Appendix II., p. [illegible]

Religio Medici, Religio Scientiæ, Religio Vitæ. By a Student of Science and Medicine, 1849–99. London: Charles Good and Co. 1902. Pp. 216. Price 3*s.* 6*d.*

ALTHOUGH of a small size this book contains a great many words, the type being small. We are led to refer to the large number of words because the main impression left by the book is that of a superfluity of language. And this is in spite of the fact that the writer has obviously spent much time in reflection and no little time in observation. Unfortunately, with the gifts of industry and meditation he does not combine that of clearness either of thought or of expression; moreover, his judgment appears to us to be often incorrect. The main thesis of his work is the absolute separation of all that is living from all that is not living. As a corollary of this separation the author to his own satisfaction, but certainly not to ours, appears to deduce the fact of a divine act of creation. We fear that men of science who take pleasure in pondering upon the mysteries of religion and of its relation to their own domains of thought—and there are many such men—will find little help from this Religio Medici. Nevertheless, the work contains some suggestive passages, gives evidence of considerable labours, and has, we may hope, provided no little consolatory meditation to at least one scientific gentleman. For ourselves, we feel after reading it like him who

> "... heard great argument
> About it and about: but evermore
> Came out by the same door where in I went."

LIBRARY TABLE

Medical Lectures and Aphorisms. By SAMUEL GEE, M.D., F.R.C.P. Lond., Honorary Physician to H.R.H. the Prince of Wales and Physician to St. Bartholomew's Hospital. London: Smith, Elder, and Co. 1902. Pp. 296. Price 6*s.*—This little volume contains a miscellaneous collection of lectures and a number of "Clinical Aphorisms from Dr. Gee's wards collected by Dr. Thomas J. Horder." The book has no preface and it is not stated whether Dr. Gee [illegible] is called "personally responsible" for the correctness of the aphorisms. Some of them should, we think, be read as apocrypha and we would not apply them all exactly as they stand "to establish any doctrine." The publication of the aphorisms will be of interest to Dr. Gee's old pupils and may well serve to recall the occasions on which the author delivered them. Many of Dr. Gee's contemporaries may also be pleased to see the book. For the majority of students the aphorisms are too condensed for easy digestion, but there are among them many wise words. We give one brief quotation on a matter the importance of which is usually under-estimated, especially by the more easy going members of the medical profession. "The risk run by bad sleepers arises not so much from want of sleep as from the temptation to fly to narcotic drugs: hypnotic is nothing but an euphuism for narcotic: the mischief lies in remedies much worse than the disease." Of the lectures, those on Asthma, Bronchitis, and Tubercular Peritonitis are perhaps the best, and the one on Sects in Medicine the most interesting. The book will prove of most interest to those who have had the most clinical experience. It is extremely suggestive.

Questions and Answers embracing the Curriculum of the Dental Student. By FERDINAND J. S. GORGAS, A.M., M.D., D.D.S. London: Rebman, Limited. 1902. Pp. 531. Price 25*s.* net.—This book consists of over 500 pages of printed matter devoted entirely to questions and answers in the various subjects embraced in the dental curriculum. In America books of this character seem to find favour but they are, we think, of little value from a true educational point of view. Text-books should give the student a clear account of the ground work of the subject treated and should make him think for himself; books of the character of the one under notice tend to make the student's learning of a parrot-like type. The printing and general "get up" of the volume are good and in addition to the ordinary index there is one arranged according to subjects.

The Roll call of Westminster Abbey. By Mrs. A. MURRAY SMITH. With Illustrations and Plans. London: Smith, Elder, and Co. 1902. Pp. 418. Price 6*s.*—Mrs. Murray Smith has produced a charming and instructive book at a very appropriate time. Bound, by the courtesy of His Majesty's Office of Works, in a cover which reproduces the blue and gold of the hangings with which the Abbey is to be draped at the Coronation of King Edward VII., this work makes a graceful gift for anyone who wishes to present a friend with a fitting memorial of the Coronation year. Moreover, the book itself provides a delightfully easy road to a very considerable knowledge of English history. We can imagine no more becoming volume for a school prize in history. Mrs. Murray Smith's writing gives that expression of ease which comes only from an author who is dealing with matters which are near to his or her heart and with which he or she is on the closest intimacy. That such is the relationship between Mrs. Murray Smith and Westminster Abbey with its numberless interests her previous works have, indeed, already assured us. To every Londoner who does not know the Abbey as he should and to every "country cousin" or foreigner who seeks a knowledge of England's Valhalla we can recommend no more pleasant, no more profitable companion, than this work of Mrs. Murray Smith.

The Tale of a Field Hospital.—Messrs. Cassell and Co. have issued a cheaper edition of Sir Frederick Treves's amusing and yet pathetic little work. The price of the first edition, a review of which appeared in THE LANCET of Dec. 1st, 1900, p. 1588, was 6*s.* The price of this cheaper edition is 3*s.* 6*d.* All the illustrations which appeared in the first edition are reproduced in the present one.

JOURNALS AND MAGAZINES

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., with the coöperation of

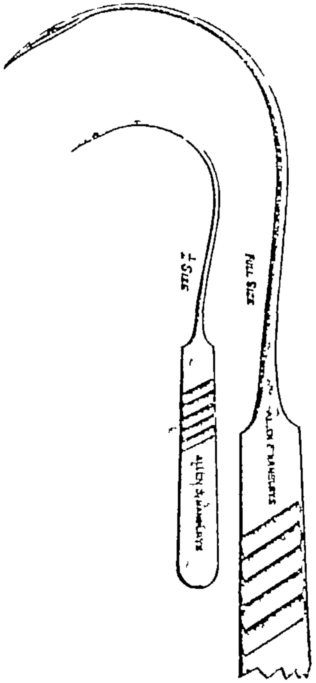
ADAM SEDGWICK, F R.S. W F R. WELDON F R.S. and SYDNEY J HICKSON, F R.S. With Lithographic Plates and Engravings on Wood. London J and A. Churchill. New Series, No 181 (Vol. xlvi. Part 1). July 1902. 8vo, pp. 143. Price 10s —The memoirs contained in this Part are 1. On a Free Swimming Hydroid, Pelago-hydra Mirabilis n. gen et sp. by Arthur Dendy D Sc. F L.S. Professor of Biology in the Canterbury College New Zealand with two plates. The specimen was picked up on the seashore at Sumner a small watering place near Christchurch on the east coast of the south island of New Zealand. It was translucent and of a pale blue colour Placed in water it presented a large balloon like structure or float " about an inch in diameter with tentacular motile processes and a proboscis which hung vertically and was about half an inch in length with a mouth at the extremity The surface of the float presented numerous branching processes or stolons which bore groups of small medusoids. The organism had a complex internal histological differentiation. The genus is closely related to the corymorphinæ of Delage and Herouard 2. Studies in the Retina Parts 3, 4 and 5 with Summary by Henry M Bernard M A. Cantab with three plates. Mr. Bernard regards the functional retina not as a structure built up of so many cells, each with some definite and permanent morphological value, but as a continuous cytoplasmic reticulum in which nuclei are suspended, and the nuclei are not stationary The rods he regards as protoplasmic vesicles thrust out against the pigment cells, which absorb the pigment granules and clarify them, the refractive contents of the rods stream away through the retina. The cases differ in the different classes of the vertebrata, but in the primates they are merely rods with swollen inner limbs. The refractive matter which fills the outer limbs of the rods is absorbed pigment, which is usually but not always clarified during the process of absorption. 3. Notes on the Relations of the Kidneys in Haliotis Tuberculata, &c. by H J Fleure, B.Sc. Aberystwyth, with a plate. 4 Notes on the Development of Paludina Vivipara, with special reference to the Urino-genital Organs and Theories of Gasteropod Torsion, by Isabella M. Drummond, with two plates. 5. Is Chemotaxis a Factor in the Fertilisation of the Eggs of Animals? by A H. Reginald Buller, B Sc., Ph.D Lecturer in Botany at the University of Birmingham.

The Veterinarian for July is deficient in original articles, being largely composed of summaries or extracts It commences with a chapter from Mr Dollar's work on Veterinary Surgery and is followed by an extract on Verminous Pleurisy in the Pig taken from the report of the chief veterinary officer to the New Zealand Government. This is succeeded by a continuation of Professor Mettam's report upon White Scour and Lung Disease in Calves, and another article on the Effects of the Liver Fluke upon Cattle, Sheep, and Swine. The Principal of the Lahore Veterinary College (Captain Perse I.C.V D) contributes an article on Suppurative Hepatitis due to Masses of Inspissated Bile, and Professor Duncan of the Ontario Veterinary College gives the result of his observations upon the weight of the kidneys in the horse. Major Ringe, I.C.V D reports upon the use of the inseminator in 28 mares, the results being entirely satisfactory as in 19 cases pregnancy was attained. Extracts from continental journals and a copy of the New Army Veterinary Warrant conclude the number In regard to the latter there is dissatisfaction expressed throughout the veterinary profession the slow rate of promotion and the decrease of pay, the invidious compound title and the want of a proper hospital staff being the main points of issue. The lack of response to an appeal for candidates to this branch of the service shows that it is very unpopular with the younger men.

New Inventions.

A NEW FORM OF PERINEUM NEEDLE

THE ordinary form of perineum needle is not well adapted to the precise needs of the situation. Most of those which I have seen are well curved but, curiously enough the curve is posterior to the handle, whilst towards the point the needle is nearly rectangular These defects greatly diminish its usefulness and I have often wondered why the instrument was made in this shape. In the needle made for me by Messrs. Allen and Hanburys, and here illustrated, the curve is anterior to the handle and is prolonged to the point With this instrument complete and accurate apposition of the margins of the laceration is readily obtained The difficulty often experienced in accurately placing the point in the right margin (when the needle is underneath the left margin and the base) practically disappears One practical detail, however needs attention. When the point is to be inserted in the left margin the handle must be well depressed to allow of the needle embracing the margin and the base this being effected the smallest amount of skill ensures the accurate inclusion of the right margin. If those accustomed to the old form will try this form of needle its advantages will I think be appreciated.



RALPH VINCENT M.D B.S Durh M.R.C P Lond.
Late Senior Resident Medical Officer Queen Charlotte's
Lying in Hospital, London.

Harley-street, W

NORTH DEVON INFIRMARY, BARNSTAPLE.—The annual report of this institution which has just been issued shows that for the year ended June 30th last the income amounted to £2135 and the expenditure to £2564 At the beginning of the year there was a favourable balance of £139 and after £250 had been taken from the reserve fund the 12 months closed with a deficiency of £40.

THE LANCET.

LONDON SATURDAY, AUGUST 9, 1902

The Coronation.

THE 9th of August, 1902, will be observed throughout the British dominions and wherever throughout the world British subjects are to be found as a day not only of national rejoicing but of deeply felt relief and thankfulness. If in THE LANCET of June 28th we had ventured to predict that the Coronation of King EDWARD VII would take place within six weeks from that date those best acquainted with the possibilities of surgery and convalescence would have held us to be over sanguine, while laymen would for the most part have frankly refused to entertain such a suggestion. Nevertheless shortly after these pages are in the hands of our readers the long expected ceremony at Westminster should be an accomplished fact, while many thousands of His Majesty's loyal subjects have been assured by ocular demonstration of their monarch's return to health and strength

Had the Coronation taken place on June 26th, the date originally fixed for it, King EDWARD and Queen ALEXANDRA would have been loyally and joyfully welcomed in their passage to and from the Abbey and during the more extended progress then planned for the following day. We can safely predict that the warmth of the greeting that will now be accorded to them will be of a different order, and that a different feeling will underlie it. The details of His Majesty's illness, of the operation performed upon him, and of his convalescence have been followed by high and low in accurate and candidly written bulletins, and these have been supplemented by such further particulars as we and our contemporaries have been enabled to give. As a result there has been impressed upon the minds of all the feeling that their King has gone through a period of great danger and acute bodily suffering, coupled with the knowledge that he has faced the one and endured the other with that courage and determination which Britons delight to honour under a monosyllabic definition as British "pluck." It was this pluck that caused him to fight against his illness until further delay would have been fraught with certain and imminent danger to life, while his reluctance to give way was caused, not by any physical dread, but by sheer sympathy with his subjects in the disappointment and inconvenience which postponement at the eleventh hour would, he knew, inevitably entail upon them. Queen ALEXANDRA ever since she was first hailed by her future subjects as her husband's bride has occupied a prominent place in their affections, but on the day of his Coronation she comes among them with her recent sorrow and anxiety fresh upon her, and the knowledge of the devotion with which she has aided in the nursing of the Royal Consort will find its expression in the enthusiasm which will acclaim her appearance.

We have referred to the episode, now fresh in the minds of all, as a period of great danger to our King. Our medical readers know well the full measure of that danger, but in the matter of the King's health we are aware that we are addressing many who are not of our profession. We wish none of those who laud His Majesty's courage and give vent to loyal expressions of congratulation up [illegible] of his illness as [illegible] disappointment sin [illegible] followed the operat [illegible] tion to health has [illegible] through which our [illegible] very real and the [illegible] ceding operation or [illegible] reminds his subje [illegible] and the artificial [illegible] modern existence in the more exalted or wealthy state of society are not the best possible prelude to an ordeal such as that through which His Majesty has come unscathed While the sinister reports concerning the King's condition were ludicrously false, we never attempted to disguise the fact that the danger was very real Those who let their memories travel back a few weeks will remember the intense anxiety which was felt by them during the week which should have been one of national rejoicing and festivity, and will perhaps recall almost with a smile the terrible rumours which were then circulated. We would impress on them that it was a time when anxiety might well be felt and expressed without those expressing it giving ground for any charge of pessimism, although it will be said, to the credit of the nation, that the public feeling was always one of dignified patience and hopefulness the expression of national anxiety never suggested the smallest approach to panic or visible excitement. It was not forgotten that to a sound constitution King EDWARD has always added a fondness for the out-of-door amusements and hardy exercise to which his subjects, whether inhabitants of cities or not, are devoted. And while the King has won popular affection as a sportsman he has no doubt done much to maintain the vigour of body with which nature has endowed him.

To the medical profession it will always be a source of congratulation and pride that the saving of the life of the King should have afforded to the world a conspicuous example of the attainments of modern professional skill. For over and above the fact of his kingship the King throughout his career has at all times used his great influence to the fullest extent, and in the most practical way open to him, for the benefit of the sick and maimed among his subjects, to procure them such aid as that which has now been afforded to himself. He has been a true friend to medicine because a true friend to the sick. On countless occasions, and notably in the institution of the Hospital Sunday Fund selected by him to commemorate the long and beneficent reign of his revered mother, Queen VICTORIA, he has gone out of his way (to use a popular expression) to show his interest in hospitals and their work. He has now reaped what he has sown, and the knowledge and skill gained in those hospitals which he has helped and encouraged have done what knowledge and skill can do towards the saving of his life. The Coronation of King EDWARD and Queen ALEXANDRA would have been in any circumstances a great national occasion unique in the experience of all but a few of their subjects. As it is it will be one unique in the experience of the world an occasion of joy and demonstrative loyalty but above all of relief and thankfulness, and of warm congratulation and welcome to our King and Queen. GOD save them both!

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The British Medical Association The Address in Obstetrics

FEW addresses on a special subject are likely to be read with more profit than the Address in Obstetrics by Dr WILLIAM JAPP SINCLAIR, which we publish in full at page 341. The subject of the address is Carcinoma in Women, chiefly in its Clinical Aspects," and Dr SINCLAIR claims for his subject the special interest that if the riddle of cancer is to be solved there is no form of that dread disease which is more likely than carcinoma of the uterus to lead to the explanation of the etiology of cancer

The frequency of carcinoma of the uterus and the pitiful character of its course from the social point of view lend it an interest and a pathos almost entirely its own. It affords also a promising field of clinical research from the extreme commonness of the disease, from the comparative similarity pervading the cases amidst individual differences, and from the facility with which operative and other measures can be employed. But most of all perhaps, should carcinoma of the uterus claim especial clinical attention from the extreme importance of early diagnosis and from the encouraging results which surgery offers when careful clinical examination places patients sufficiently early within the reach of hopeful operative interference. If it enforced no other doctrine Dr SINCLAIR'S address would repay careful reading for the emphasis with which he preaches this great lesson that physical examination must follow immediately on the practitioner's part when he is confronted by a patient whose age and symptoms render the existence of cancer of the womb in the least probable. Dr SINCLAIR is not of that school which takes a pessimistic view of the doings of surgery in this particular region. True he sees little encouragement in the recent radical operations by which an extensive dissection of the contents of the pelvis with removal of glands and lymphatics and re implantation of ureters damaged by the way seeks to ensure no recurrence of the disease Such an operation, if it removes all the disease unfortunately also removes all chance of a comfortable existence if not of existence at all Such irrational and unlimited proceedings do not appeal to Dr SINCLAIR. Nor have their results any encouragement to offer to the judicious observer From the *operation of* vaginal extirpation however results of constantly increasing hopefulness are now obtained and it is upon this operation, supported by the all important early diagnosis that Dr SINCLAIR bases his claim for an improved future as regards the treatment of cancer of the uterus. His figures show that at present we in Great Britain have not yet reached the position of success, as gauged by the figures that has been reached by surgeons on the continent. But early diagnosis of a large percentage of cases of cancer of the uterus will assuredly be followed by results as good as those shown by our continental *confrères*.

Dr SINCLAIR believes as a matter of fact that further scientific knowledge *of the exact nature and of the true* cause of cancerous disease awaits rather scientific clinical observation than purely experimental or microscopical work What may be termed the destructive part of his address is occupied with a critical survey of the results which have been obtained in these fields in the search for a fuller knowledge of the cause of carcinoma. Dr SINCLAIR places the value of microscopical and inoculation work in the investigation of cancer of the uterus far below the value of minute clinical investigation and this he does without belittling the services of bacteriological work in other directions. It is to clinical investigation that he strenuously directs the attention of practitioners and it is to this the practical the hopeful side of his remarks that we are particularly drawn. We would not, any more than would Dr SINCLAIR, for one moment undervalue the industry the honest endeavour and the talents that have embellished the labours of scientific explorers in the domain of clinical pathology But we may well ask with him, ' What *have investigations* and *researches* into the etiology and pathology of cancer done for clinical gynæcology?" More urgently still we would ask, What experienced gynæcologist can safely trust to the microscope and the microtome when his own finger and eye do not guide him in the diagnosis of cervical cancer? *And is it not of infinitely* greater importance that the practitioner of medicine should realise the importance of understanding the bearing of clinical facts should grasp the immense influence of early examination and should reap the knowledge that comes from an educated finger rather than that he should be aware of the possible value of obtaining a small specimen for microscopical examination? We trust that Dr SINCLAIR'S address will awake many of our readers to fresh efforts in investigating every clinical fact that bears upon the course and perhaps upon the cause, of the cases of carcinoma which they meet.

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The London Water Bill An Appeal to Mr Balfour

THE change in the Premiership gives the Government not only an excuse but a reason for giving a little careful consideration to the London Water Bill. Lord SALISBURY as Prime Minister and as Foreign Minister always and rightly gave his first thought to foreign affairs. No other English statesman has any knowledge approaching that which the late Prime Minister possesses of the complicated conditions which govern the relations of the great powers of the world. It was for that reason that he was able to maintain the position of this country in a time of dire distress with a calmness a dignity and a completeness which were entirely worthy of the successor of PITT It was because his mind, his constant thought, and his traditional interests were bound up with the governments of countries that he looked upon many of the domestic struggles in politics with a detachment which was practically indistinguishable from indifference. The true explanation of this attitude was that Lord SALISBURY believed that, for good or for evil, under a democratic form of government the people entrusted with the power must judge for themselves in all home affairs. On the alcohol question he pointed out that it was often useless to make new laws when those already in existence were not enforced, and he explained to the bishops that people with cellars of their own were not always ready to appreciate the position of others who relied on those of a public house.

When Lord SALISBURY received a deputation from some representatives of the Metropolitan Boroughs who desired that the London Water Bill should provide for the representation of the municipal authorities on the Water Board he pointed out that the London County Council held that it ought to be the water authority and that the Metropolitan Boroughs thought otherwise, and he told the deputation in effect that he thought each party had the right to its own opinion and that they must fight it out. It did not appear that he took much interest in the matter, the question was eminently one which should be decided by the "parties interested." Such an attitude is one which Lord SALISBURY had a right to take, but it is not one which can be rightly adopted by his successor. Mr BALFOUR will be expected by the enormous number of persons who are interested in the matter to understand the London water question. But he will not be able to understand it without devoting some time and thought to it. And it is quite time that he should begin to do so. Up to the present time his remarks on the subject have not been fortunate. In one of his election speeches he said that he would not allow the London water supply to be treated as an Imperial question. It is not an Imperial matter, but it deeply concerns the people of London, and their patience has been so unwearied that both of the great political parties appear to agree in one thing, if in one thing only—that the interests of the London people may be safely ignored. In one of his latest speeches Mr BALFOUR said that we should hear less about London water if the Opposition did not wish to prevent the people in the country from being educated. The attitude of the Opposition does not concern us in the least, we have no political bias, the Opposition cannot pass a Bill, moreover it favours the acquisition of the water supply by the London County Council and we have given our reasons for believing that this policy is opposed to the interests of the people of Water London.

We wish briefly to call the attention of Mr BALFOUR and of his Government to some points in the London Water Bill as it stands in its amended form. We have already shown at length why the Bill as originally drawn was a thoroughly bad Bill. It is in some respects worse in its amended form. It may be well for us to repeat that we entirely disapprove of purchase of the present water businesses at the present time on behalf of the London people. But, supposing for a moment that purchase were desirable, the scheme for payment for the undertakings which was devised by Mr BANBURY and adopted in the original Government Bill was a better plan than that provided for in the Bill as amended. The water companies naturally supported the amendment. In the second place we must call attention to the way in which the hands of the arbitrators are tied. The question is a financial one with which we do not feel it necessary to deal, but we may at least ask Mr BALFOUR whether it is not the fact that the proposed Water Board is to be compelled to purchase the undertakings at a price which is to be determined by the dividends paid by the companies during the last few years? If Mr BALFOUR does realise the effect of such an arrangement it is evident that some supporters of the Bill do not, for one of the Wandsworth borough councillors in a letter to the *Times* has suggested that the only thing necessary for the protection of the financial interests of the London people is that they should be properly represented at the arbitration. Lord LLANDAFF thought it would be fair that a company which had a prospect of increasing its dividends should receive compensation on that account, and that in case of prospective decrease of dividends a corresponding deduction should be made in the purchase price of the business. Is Mr BALFOUR aware that some of the companies have only been able to pay their present dividends because they have neglected to spend money in providing sufficient plant for the adequate treatment of the water which they distribute? and is it not a fact that the arbitrators, far from being "free and unfettered," are not allowed to take such matters into consideration in assessing the amount of payment to be made to the companies as dividends till the discharge of compensation?

When there has been much discussion on any subject people often say "Something must be done." Then they do the wrong thing. London Conservative Members of Parliament wish to be quit of the London water question. Mr WHITMORE, for example, was eloquent for days at the Llandaff Commission against purchase of the undertakings, now he favours their purchase. Yet the water-supply is the same. Unnecessary as it may seem, it cannot be too clearly insisted that a change of ownership in itself will neither increase the quantity of the water nor improve the plant at present in existence. The great problem which will have to be solved is whether the present sources of water are adequate in amount. Lord BALFOUR'S Commission advised that they were sufficient. It has since been proved that the evidence on which that opinion was formed was contrary to the facts. The engineer to the New River Company gave evidence which he has since acknowledged was erroneous and he is unable to account for the mistake. The New River Company and the Kent Company have persistently declined to give information as to the state of their wells. There is a general opinion amongst independent water engineers, and a universal opinion in the districts themselves, that Hertfordshire and Kent are being depleted of their water and that the supply in the future (especially in the former county) will be less than it has been in the past. Lord ROBERT CECIL could probably convince Mr BALFOUR on this point in less than five minutes. It would be manifestly unfair to force the London people to buy undertakings of the details of which they are ignorant. There is no doubt that as time goes on more water will be used in London. In the language of water engineers more water will be "wasted"; for example, the streets will be thoroughly washed. The water companies are under a statutory obligation to supply water at a reasonable price for this purpose and the present time with awakening London municipalities is not a judicious one at which to interfere with this arrangement, and it is not reasonable to form a Water Board to undertake duties which it would by the very nature of things be unable to perform.

There are, indeed, many reasons which show the inadvisability of purchase of several of the undertakings at the present time. We have lately described in detail some of the deficiencies of the present undertakings; it must suffice to recall a few of the points. The East London Waterworks Company has not sufficient sources of supply. At the present time it obtains water from other companies. For the water abstracted at Sunbury from the Thames by this company no provision is made for its storage and sedimentation. The filter beds are supplied by crude river water. The Grand Junction Waterworks Company is greatly deficient in storage and sedimentation reservoirs. The Lambeth Waterworks Company is deficient in storage and sedimentation reservoirs and in filter beds. It follows from these gross deficiencies that the company usually supplies dirtier water (or in diplomatic language "water of a deeper average tint of brown") than that supplied by any other company. The company has also failed to make provision for the continuous supply of water to its customers.

These facts are, we are quite ready to believe, new to Mr. BALFOUR. We call his serious attention to them and we ask him whether in the light of them he still thinks it fair that a new board can reasonably be required to purchase these undertakings and to become responsible to the London people for an adequate supply of water of good quality?

Annotations

"Ne quid nimis."

THE KING'S HEALTH.

THE return of His Majesty the King to London on Wednesday formed an ocular proof to thousands of his loyal subjects that his convalescence is established. He has borne the journey to London without fatigue and is in excellent health. The wound is practically healed.

THE KING'S SANATORIUM: THE PRIZE COMPETITION FOR THE ERECTION OF A SANATORIUM IN ENGLAND FOR TUBERCULOSIS.

THE Advisory Committee appointed by the King in connexion with the erection of a sanatorium for tuberculosis in England announce that 180 essays were sent in in competition for the three prizes sanctioned by His Majesty. The terms of the competition will be found fully announced in THE LANCET of Jan. 4th of this year. The Advisory Committee—Sir William Broadbent, Sir R. Douglas Powell, Sir Felix Semon, Sir Hermann Weber, and Dr. Theodore Williams—are unanimous that the following essays are the best, and with the approval of His Majesty the prizes will be awarded in the order mentioned:—

FIRST PRIZE.—Value £500.

Motto: "*Give him air, he'll straight be well*."—Dr. Arthur Latham (London), with whom is associated as architect Mr. William West (London).

SECOND PRIZE.—Value £200.

Motto: "*If preventable why not prevented?*"—Dr. F. J. Wethered (London), with whom are associated as architects Messrs. Law and Allen (London).

THIRD PRIZE.—Value £100.

Motto: "*Vis medicatrix naturae*."—Dr. E. C. Morland (Croydon), with whom is associated as architect Mr. G. Morland (Croydon).

Dr. Arthur Latham is assistant physician to St. George's Hospital and to the Brompton Hospital for Consumption; Dr. F. J. Wethered is assistant physician to the Middlesex Hospital and to the Brompton Hospital for Consumption. Dr. Morland has somewhat recently completed a distinguished career at St. Bartholomew's Hospital by taking many prizes and holding the coveted junior appointments. We congratulate these three gentlemen on their success.

The following four essays being judged by the Advisory Committee to be "of great excellence" are awarded honourable mention:—

Motto: "*Fac recte nil time*."—Dr. P. S. Hichens (Northampton), with whom is associated as architect Mr. R. W. Schultz (London).

Motto: "*Open air everywhere*."—Dr. Turban (Davos), with whom is associated as architect Herr J. Gros (Zürich).

Motto: "*Honesta quam magna*."—Dr. Jane Walker (London), with whom are associated as architects Messrs. Smith and Brewer (London).

Motto: "*Humus*."—Dr. J. P. Wills (Bexhill), with whom is associated as architect Mr. Wills (London).

DR. JAMES GREY GLOVER.

WITH unfeigned regret we have to announce that Dr. Glover has intimated to us his wish to retire from active work as a member of the editorial staff of THE LANCET. His connexion with our staff commenced in June, 1862, under the editorship of the late Dr. James Wakley and has continued uninterruptedly to the present time. During this long period of more than 40 years we have invariably found him to be a true, trustworthy, and sagacious colleague and a personal friend of sterling worth. As happily he will read these words we must refrain from the full meed of praise that is his due, but he knows, we think, how highly his services have been appreciated by us and he has been so kind as to tell us that the appreciation has not been wholly on one side. Dr. Glover's many friends will be glad to hear, as we are to relate, that his health continues good, that he is still actively engaged in professional work, and that his interest in all that concerns the reputation of the profession and the welfare of its members is unabated. In the name of our predecessors in the editorial chair and for ourselves we thank him for the work which he has done and for the time which he has expended in the service of THE LANCET. Perhaps we may go further and thank him for all that he has accomplished or tried to accomplish, on behalf of the profession which he loves so well. May he be spared for many years to come, no longer, it is true, as a [illegible] of the General Medical Council [illegible], but still as a [illegible] general [illegible] man of honour, probity, and good [illegible] the best interests of his fellow creatures generally and his brethren in medicine in particular. Our [illegible] but is tempered by the knowledge that we shall still have the benefit of his criticism in the future as in the past, for it should be known that, greatly to his credit as an independent thinker, Dr Glover has never spared us criticism (considerately conveyed) when the editorial policy has not fully met with his approval In the words of Rip Van Winkle "May he and his family live long and prosper "

AN AGE LIMIT IN ELEMENTARY EDUCATION

No one who approaches the subject with an open mind and some knowledge of the facts related to it will deny that there are weaknesses in our present system of public education which call for effective treatment. It has done good but it has by no means realised the expectations founded on it. On the other hand, it has done many things which the majority of persons probably neither expected nor desired that it should do Nevertheless, there is health in it and some hope of better administration under a more intelligent policy To arrive at the basis of such a policy should constitute the starting point of a much needed reformation in its modes of operation For this reason the opinions of careful and suggestive critics are worthy of consideration as much by school boards or their prospective representatives as by the people of this country Dr Arthur Newsholme, medical officer of health of Brighton, is a critic of this kind In a paper entitled "The Lower Limit of Age for School Attendance " he discusses the propriety of admitting children under five years of age to public elementary schools, and states the reasons which have led him to decide in favour of their exclusion The first seven years of life, he reminds us, are years of rapid growth and are clearly intended by nature to be allotted practically to the fulfilment of this purpose alone More particularly is this true of the five earliest years To exact from the brain any systematic work during this period is to use it altogether prematurely and to induce a corresponding exhaustion of its working material He argues further that liability to infectious diseases and the fatality resulting from them are both markedly more noticeable before the age of five years Tables quoted from the ninth and latest annual report of the medical officer of health of the County of London and from a paper by Dr Laing of Aberdeen in *Public Health* for July, 1902, alike bear out this contention Consequently, it is of great importance to the well being of these children that they should be as little exposed as possible to the danger of infection This danger is more unavoidably present in public elementary schools than elsewhere. Such are the chief objections urged in this paper against the school attendance of very young children Some of the advantages alleged to result from such attendance are quoted also It is said to suit the convenience of working mothers that their younger children should be for some part of a day off their hands By the same arrangement the attendance of the older children in a family is more or less assured Finally, the infants are early introduced to the regularity and the work of school life In the opinion of Dr Newsholme neither of the two former considerations ought to be allowed any weight in comparison with the physical and mental requirements of the infant scholar The last he does not regard as an advantage but the contrary He shows that even the kindergarten work scheduled by the Board of Education as being suited to children between three and five years of age, though it does, of course, appear very simple from the adult standpoint, is too complex for the very unformed brain of a young child Such work as "word building," "recitation" arranging "pictures of number" and counting on beads implies a kind of mental occupation too regular and sustained for an infant whose brain tissue is still in this early developmental stage. As a matter of fact we are assured that the school-work of infancy goes beyond this and that a large amount of instruction in reading, writing, and arithmetic is got through before the close of the fifth year The course pursued in England as compared with that in Scotland is suggestive in this connexion In England 10 9 per cent. of the total number of children in elementary schools are under five years old, in Scotland the percentage during the same period is 2 2. After the sixth year the Scottish ratio rises above the English, and according to the report of the Royal Commission on Elementary Education for 1897 the percentage of scholars who passed in specific subjects amounted in Scotland to 26, as compared with 2 3 in England. Thus it does not appear that a much earlier introduction to school life carries with it a promise of educational advantage, but rather that its effect, if any, is prejudicial Certain it is that the relative lack of an early forcing bed for the mind has not prevented the exhibition of thinking power during the most fruitful years of the school period. We have no hesitation in indorsing the view taken by Dr Newsholme in this carefully studied paper that the systematic school-training of children under five, and even under six, years of age confers no appreciable educational advantage but may easily become, and probably does become, in a number of cases a cause of premature brain exhaustion and tells against, not in favour of, the later progress of the scholar It is a hopeful sign that opinions as rational as those expressed in this paper are so firmly supported by one whose official position brings him into frequent contact with the sanitary aspects of school life In these days of superabundant zeal, when reflection is apt to appear but a secondary consideration, it may not be found a waste of time to pause awhile to ask whether a plan of elementary education a good deal simpler than that which we have now, and seemingly somewhat slower but not less thorough (which, after all, is more like nature s way), would not be found the most useful in the end

MEDICAL ASPECTS OF MOUNTAIN TUNNELLING

AT a meeting of the North of England Institute of Mining and Mechanical Engineers held in Newcastle last April, Dr Thomas Oliver of that city gave an interesting account of a visit to the works now in progress at the Simplon tunnel This tunnel will be traversed by a railway connecting Brigue in Switzerland with Domo d'Ossolo in Italy The distance between the two portals of the tunnel is 12 26 miles or 64,692 feet, it was commenced in November, 1898, and the contractors have undertaken to complete it in May, 1904 Of the long Alpine tunnels already in use, the Mont Cenis tunnel is eight miles in length and required 13 years for its construction, the St. Gothard tunnel is nine miles in length and required less than 10 years, the Brenner tunnel consists in reality of a series, no separate member of which is so long as the foregoing During the construction of the St Gothard tunnel (1872–80) 600 workmen perished, including the engineer and the contractor This enormous mortality was attributed to a combination of insanitary conditions, such as insufficient ventilation, the high temperature, which at one time often rose to 107° F , excessive moisture of the atmosphere, exposure of the miners to an Alpine climate on emerging from the tunnel and want of care on their part in not changing their wet clothes, the inferior quality of the food, and the ankylostomum duodenale, which, owing to the uncleanly habits of the men was conveyed from one person to another through the medium of the drinking-water Dr Oliver s visit to the Simplon tunnel works was undertaken mainly with the view of learning something of the hygienic and medical problems raised by the massing together of thousands of workmen in a remote valley He found that the conductors of the enterprise were strongly impressed with the importance of having healthy men for the work, sufficient house accommodation for them and their families, and good ventilation in the tunnel. The temperature in the tunnel was at first often as high as 98° but by driving in air with fans it might be brought down to 68° For every cubic foot of air that was sent into the St. Gothard tunnel 50 cubic feet are being introduced into the Simplon tunnel. At Iselle, on the Italian side, nearly 2000 men are employed, of whom 1500 work in the tunnel divided into three batches working an eight-hours shift, so that there are always 500 men in the tunnel. On leaving off work they are brought out in a train from which they pass directly into a large wooden building suitably warmed where they have a warm bath, put on warm dry clothes, and leave their wet working clothes to be dried in readiness for wearing next day The hospital at Iselle is a two-storeyed wooden building under the care of Dr Volante and contains 24 beds, the wards and operation room *were extremely clean and well kept, the antiseptic* treatment of wounds was carried out with scrupulous fidelity So far the construction of the tunnel has been remarkably free from loss of life, as from November 1898 to the end of May 1901 there were only six deaths from accidents, but there have been plenty of minor injuries. Bronchitis and rheumatism were the diseases of most frequent occurrence Intestinal catarrh was also common there had been no enteric fever or ankylostomiasis At Brigue, on the Swiss side of the mountain, the system was practically the same as at Iselle. More men were employed there than at Iselle and the hospital under the care of Dr Pommata was a little larger At the end of February 1902, the Brigue end of the tunnel had advanced four miles and a half while the Iselle end had advanced nearly three miles, or a total of 7 5 miles out of the 12 26 miles to be excavated

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OLEANSING WORK IN THE CITY OF MANCHESTER

MANCHESTER is by no means solely a water closet city It might be supposed that there was trouble enough with the disposal of the matter carried through its sewers but in addition to this there are the contents of thousands of privies to be dealt with and the other solid refuse of a great *population These are disposed of in great part at* Carrington Moss and Chat Moss. The latter estate comprises 2579 acres, is between six and seven miles from Manchester and has a frontage of one and a quarter miles to the Ship Canal. The total cost was £138,520 It was bought in 1895 and up to March last the amount expended for the works necessary for the development of the estate, for the building and repair of farmsteads, reconstruction of roads and drains for a wharf on the canal and for a light railway for the conveyance of manure to the tenants was £60 040 The rents received from all sources on the estate for the year ending March 31st amounted to £5081. From December 1898 when the wharf on the canal was first used to March 31st, 1902, 208 349 tons of material have been received there and despatched by the light railway of which there are about 10 miles, to various parts of the estate. The Carrington estate is about 10 *miles from Manchester and is in Cheshire. It* was bought in 1886 for £39 165, and since then £43,976 have been spent on drainage, light railways and farm and other buildings The valuation in March, 1901, was £118,354 This property comprises 1101 acres and at the time of purchase 600 acres were wild moss and plantations and the rest were only partially cultivated. Since that time the wild moss and the partially reclaimed area have been brought into a thorough state of cultivation, and if some one who only knew it of old could see it for the first time under its changed condition the transformation would appear almost magical. The corporation uses nearly 60 acres as a nursery on which it grows shrubs for the Manchester parks, while nurserymen and market-gardeners occupy a considerable area. The manure and refuse sent from Manchester by canal and rail during the 14 years ending March 31st last amounted to 661,236 tons. The rents received for the last year came to £1986. Chat Moss will no doubt be gradually converted into valuable agricultural land in a similar way and though the collectors of rare insects may lament, the people of Manchester need not do so. A few grouse lingered at Carrington Moss till quite recently It is difficult to see how Manchester could have dealt with her refuse without Chat Moss and Carrington Moss, and the scale of the Cleansing Committee's operations enable the mind to obtain some idea of the difficulties of sanitation where large populations are concerned

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EXPERIMENTS ON HEREDITY

A MEMOIR of exceptional interest has been recently published by the Royal Society dealing with the subject of heredity It is the first report to the Evolution Committee upon experiments undertaken by Mr W Bateson, F R.S. and Miss E R. Saunders Recognising the fact that variations of animals and plants may be distinct phenomena, according as they are continuous or discontinuous, they thought it desirable to ascertain in as many cases as possible which variations belonged to each of these categories. With this object in view they proceeded to test each character separately by direct experiment in cross-breeding Further they proposed to test the possibility that in breeding might have a specific effect in modifying the power of transmitting parental character to offspring This subject had already attracted the attention of a Silesian priest, named G J Mendel, who 60 years ago made a very large number of experiments upon the *Pisum sativum* varieties of which he crossed. His mode of procedure was to select pairs of varieties for crossing in such a way that the members of each pair differed from each other in respect of one definite character such as shape of seed whether rounded or irregularly angular and deeply wrinkled; colour of cotyledons whether yellow or green colour of seed skin whether *brownish or white* shape of pod, whether simply inflated or deeply constricted between the seeds colour of unripe pod, whether a shade of green or bright yellow, position of flowers whether distributed along the stem or crowded near the top in a false umbel and length of stem whether six or seven feet or about one foot. Between these various pairs of varieties crosses were then made, the female parent having the anthers removed. On the examination of the offspring Mendel found that in the case of each pair of characters one only was manifested in every cross-bred individual to the total or almost total exclusion of the opposite character The character which prevailed was termed the dominant the character which did not appear the recessive or shortly D and R. In each of the above pairs the dominant was the first. Reciprocal crosses gave identical results, so that D crossed with R or R × D gave offspring which in appearance are all practically D The next generation was obtained by allowing *the cross-bred* plants to fertilise themselves and Mendel found that this generation, instead of being uniform like their parents, broke up into the two original form but in such proportion that on the average there were three dominants to one recessive The recessives were thenceforth actually pure and if allowed to fertilise themselves gave rise to recessives only for any number of generations The dominants though apparently alike, could, if allowed to fertilise themselves, be shown to consist of pure dominant which on self fertilisation gave rise to dominants only individuals which were cross breds gave rise on self fertilisation to a mixture of dominants and recessives again in the proportion of three to one as before. The pure dominants were to the cross bred dominants as one is to two. Mendel considered that his facts pointed to the conclusion that in the cross bred each of its pollen grains and each of its egg cells was either a pure dominant or a pure recessive and that on the average there were equal numbers of each kind for each sex. If the assortment of pollen grains and egg cells was then supposed to take place at random, the most probable percentage result was 25 D 50 D R 25 R. But as cross breds resembled dominants in appearance the apparent result was 3 D 1 R at each successive self fertilisation of cross-breds. Analogous experiments have been made by Professor Correns, by Professor de Vries, by Professor Tschermak, Mr Trevor Clarke, and by the authors of the memoir, the plants experimented on being the common stock, lychnis, atropa, datura, and other plants. The essential result is the evidence that the germ cells or gametes produced by cross bred organisms may in respect of given characters be of the pure parental types, and consequently incapable of transmitting the opposite character, and that when such pure similar gametes of opposite sexes are united together in fertilisation the individuals so formed and their posterity are free from all taint of the cross, that there may be, in short, perfect, or almost perfect, discontinuity between these germs in respect of one of each pair of opposite characters. Mr Bateson and Miss Saunders, in the first part of their memoir, give the details of a large number of experiments which they have made on various plants, and these appear to support the statements of Mendel. In the second part of the memoir the authors took poultry as the subjects of their experiments, matching Indian game with brown Leghorn, white Leghorn, white Dorking, and a white Wyandotte hen. The results again appeared to support Mendel's statements. The new views naturally require a nomenclature, and this is introduced to the reader in the following terms. "By crossing two forms exhibiting antagonistic characters cross breds are produced. The generative cells of these cross breds are shown to be of two kinds, each being pure in regard to *one* of the parental characters. This purity of the germ cells and their inability to transmit both of the antagonistic characters is the central fact proved by Mendel's work. We thus reach the conception of unit characters existing in antagonistic pairs." Such characters Mr Bateson and Miss Saunders propose to call "allelomorphs" and the zygote formed by the union of a pair of opposite allelomorphic gametes they call a "heterozygote". Similarly the zygote formed by the union of gametes having similar allelomorphs may be spoken of as a "homozygote". Many facts are given, many authorities cited, and many conclusions drawn in the memoir for which we have no space, but the extracts which we have made will show the general trend of the authors' work.

SMOKY CITIES

WE were recently compelled to remark unfavourably upon the smokiness of Manchester and the injury which thereby accrued to both public health and public buildings. In doing so we were by no means unmindful of the fact that London is far from being as free from dirty smoke as it should be. The Public Health Acts and the efforts of the Coal Smoke Abatement Society have done, and are doing, something to make the atmosphere of London a little purer than it was in the middle of the last century, but still much remains to be done. This point has been brought forcibly before the notice of Londoners by a remark of General Lukas Meyer who, on being interviewed as to his impressions of England, said "Everything in England so far as I have been able to see it is pleasing except the soiling of your city buildings by black smoke." The factory chimney has been attacked with success, but there still remain offenders in the shape of electric lighting shafts, the chimneys of restaurants and hotels, the chimneys of small bakehouses, and in greater numbers than all the chimneys of private dwelling houses. It would be impossible to reform all the domestic grates at present in use, but surely the County Council, which is the building authority for London, might make it compulsory for every new house that is built within the metropolitan area to be fitted with a grate which at all events is calculated to emit as little smoke as possible. There is no perfect domestic grate, but the tests initiated by the Coal Smoke Abatement Society which were described in THE LANCET of May 10th, p 1342, show conclusively that some grates are much better as regards the emission of smoke than are others. We cannot hope that we shall ever get a South African atmosphere in London but a good deal might be done to free town dwellers from the *fumum strepitumque* which, if they annoyed Horace in Rome, would do so ten times more if he were with us in London.

THE DISTRIBUTION OF PLAGUE

THE weekly return of the Director General of the Sanitary Department in Egypt shows that for the week ending July 27th there were 8 new cases admitted, 1 of which occurred in a European. The deaths numbered 5, the recoveries 1, and 19 cases remained under treatment. With respect to sanitary measures, 15,696 rooms were disinfected and 613 were lime washed, 173 sacks of effects were disinfected, and 1432 sacks of rubbish were burnt. The number of rats killed and burned was 995.

TYPHOID SPINE

THE term "typhoid spine" was applied in 1899 by Gibney to a condition resembling Pott's disease, which occasionally follows typhoid fever.[1] 29 cases have now been recorded. Gibney thought that the condition was due to inflammation of the structures surrounding the vertebræ—perispondylitis. In the *Boston Medical and Surgical Journal* of July 17th Dr G W Moorehouse has recorded the following case. A man, aged 28 years, had a severe attack of typhoid fever with a relapse. He entered hospital at the beginning of the second week of the attack and was discharged on June 10th, 1899, after a period of 10 weeks. Widal's reaction was obtained. While in bed there were no symptoms referable to the back but when he sat up or walked about the back felt weak and ached. 10 days after his discharge the pain rapidly increased and occurred in attacks lasting for an hour or two, with intervals of three or four hours of comparative relief. Movement was liable to bring on an attack but one often occurred without assignable cause. The attacks were more frequent in the night than in the day. The pain was localised in the lower lumbar and sacral regions and in the buttock—most commonly in the right, sometimes in the left, but never in both buttocks. Periods of a few days of normal temperature alternated with similar periods of pyrexia in which the temperature sometimes rose to 103° F. On August 23rd, when the patient was readmitted to hospital, the pain had diminished and was confined to the lower lumbar region. He was somewhat emaciated. There was no spinal deformity or tenderness. The Widal reaction was negative. The temperature in the first month varied between 98° and 99.5°. Then it began to rise and on Sept 25th reached 103.6°. The febrile period lasted two weeks. On Oct 2nd the spleen which was said to be of normal size on re admission, was felt below the ribs and Widal's reaction was obtained. In the last week in October slow and steady improvement began. He was discharged on Dec. 13th having still some trouble with his back. He was soon free from pain but his back felt weak and on several occasions he feared a relapse He did not attempt to return to work in his office until May 1900, 13 months after the onset of the typhoid fever During the whole summer the back felt very sore for a day or two after any mis-step or over-exertion He is still liable to this soreness but in less degree.

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[1] New York Medical Journal 1899 vol i p 596.

THE PREVALENCE OF SMALL-POX

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned On Saturday August 2nd there were 6 fresh cases, on Sunday the 3rd there were no fresh cases on Monday the 4th there were 7 fresh cases, on Tuesday the 5th there were 10 fresh cases, and on Wednesday the 6th, there were 2 fresh cases.

THE CLOSING SCENE AT NETLEY

In the present number we give a short account of the proceedings at the last distribution of prizes in the Army Medical School at Netley The next session of the school will commence in London on Sept 1st and will be attended by the medical men on probation for both the Royal Army Medical Corps and the Indian Medical Service The abolition of the Army Medical School is not the only momentous change taking place at Netley for i has been determined that the office of assistant adjutant general shall not be refilled—an excellent arrangement, for the principal medical officer will now reign supreme in every portion of the great establishment and will for the first time assume the extensive responsibilities and position which should always have been his Lord Roberts who has the enviable faculty of always saying the right thing at the right time recalled in his address to the newly appointed officers the good works of their fathers in the Indian Medical Service There is perhaps no greater incentive to good work than for a man to feel that he belongs to a body with traditions. The Indian Medical Service is one of which we are all proud and we doubt not that its great traditions will be still further handed on by the most recently appointed members of that service.

A TERRIBLE EXPERIENCE

MR. MALCOLM M. MCHARDY, professor of opthalmology at King's College has recently passed through a thrilling experience, fortunately however attended with no worse result than that of a broken rib. He was yachting with a friend Mr Philip Herbert, in the Channel and on July 26th Mr McHardy and Mr Herbert, together with a paid hand left Netley for the Essex coast in a 10-ton decked yawl All went well until a gale sprang up at night when on a heavy sea striking the yawl Mr McHardy was jerked overboard. He was wearing oilskins heavy clothing and sea boots, so that his chances of escape seemed small. Although not an expert swimmer he is a stout man and therefore he did the best thing possible under the circumstances —namely turned on his back and floated. Mr Herbert on missing his friend turned the yawl round and sailed her back on her old course as nearly as he could guess Mr McHardy saw the yawl and hailed her upon which he momentarily sank. Mr Herbert then left the yawl in charge of the third hand cast off the dinghy and pulled toward Mr McHardy He was unable to get him on board, so he fastened a line under his arms and towed him back to the yawl. With great difficulty Mr McHardy was got on board, the dinghy meanwhile having sunk. His watch had stopped at 9 17 o'clock and it was 10 27 when he was finally got into the saloon, but except for his broken rib which probably was fractured by his being jammed between the yawl and the dinghy, he is we are glad to say none the worse We congratulate him and the other members of the crew upon the pluck and presence of mind which they displayed To be thrown into a stormy sea with heavy clothing on is by no means a pleasant situation, and yet perhaps the fact of Mr McHardy's clothing being so thick saved him from death when he was nipped between the yawl and the dinghy Mr Herbert is, we understand a skilled seaman but this in no way detracts from his pluck in going to the rescue in a small boat. The resolution which he displayed in his successful effort to save his friend's life is past all praise

MANCHESTER ROYAL INFIRMARY POLL.

THE voting papers for or against rebuilding the infirmary on the present site were returned on Saturday last and have now been counted. 1248 papers were issued, of which 757 were returned 199 trustees voted in favour of the motion to rebuild in Piccadilly 550 voted against it and eight papers were irregular The majority against rebuilding on the present site was therefore 351, a very decisive majority Whether the board will accept the mandate of the trustees and adopt a scheme for placing the infirmary elsewhere or—what would be very unfortunate—resign as a body remains to be seen. It is to be hoped that having been beaten they will still work loyally for the interests of the charity and help forward the building of an enlarged infirmary at Stanley Grove or on a more convenient and better site if one can be found

THE medical excursions to German watering-places and health resorts to which reference was made in THE LANCET of July 19th p. 171 are intended to give medical men an annual opportunity of visiting localities interesting from a balneological point of view Dr W H. Gilbert of Baden Baden, the general secretary now announces that applications from gentlemen desirous of joining this year's excursion will be received up to August 15th.

THE Select Committee appointed to inquire into the ventilation of the Houses of Parliament has presented an interim report in which the chemical and bacteriological tests made in the debating chamber during the session are referred to. At this stage, however the committee is not prepared to draw up any recommendations and it is proposed to continue the inquiry during the autumn

AT a meeting of the American Congress of Tuberculosis held in New York on June 3rd 4th and 5th a suggestion to hold a World's Congress of Tuberculosis in St. Louis in 1904 was approved, and steps are being taken to advertise this fact and to secure the aid of medical journals, societies physicians, and scientific men in making the movement a success.

MESSRS. M. N. ROTHSCHILD and Sons have given £1000 and the Leathersellers Company £250 towards the £100 000 required for cancer research by the Cancer Research Committee

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FACTORY GIRLS COUNTRY HOLIDAY FUND.—An urgent appeal on behalf of this fund has been issued by the committee No class of workers need an annual holiday more than do the factory girls of our great city As the committee point out The factory girls of London need a break in their lives—not for their own sakes alone but for the health and stamina of those who come after them. To contribute to this holiday fund is thus indirectly a contribution to imperial defence" Subscriptions and donations should be sent to the honorary treasurer Mrs Bedford, St Peter's Rectory Saffron hill London E C.

THE BRITISH MEDICAL ASSOCIATION

MEETING AT MANCHESTER.

OWING to the changes involved by the adoption of the new constitution of the Association there was no formal closing general meeting The recommendations sent up from the sections were considered at the Council meeting held on Friday, August 1st.

On Thursday, July 31st, the Anglo American Continental Medical Society gave a luncheon at the Grand Hotel. The chair was taken by Dr F M Sandwith of Cairo, and among other members present were Dr G Sandison Brock, Rome, Dr A. R Coldstream, Florence, Dr W Page May, Assouan, Dr Leonard N Robinson, Paris, Dr D W Samways, Mentone, and Dr Stuart A. Tidey, Florence Among the guests were Sir W Broadbent, Professor Clifford Allbutt, Dr J F H Broadbent, Dr H P Cholmeley, Dr G B Ferguson, Dr H. W Gardner, Professor J Symington, and Dr James Taylor The chairman proposed the health of the King and the health of the guests, to which latter Sir William Broadbent replied Professor Clifford Allbutt proposed "The Society" and referred to the value of the society as a bond of union This was responded to by Dr Samways and shortly afterwards the proceedings terminated. The annual luncheon of the Anglo American Continental Medical Society is a pleasant little function and affords an opportunity to members of the profession whose spheres of work are in widely separate orbits to meet each other and interchange ideas

The annual dinner was held on July 31st at Platt Hall, Rusholme, Manchester The chair was taken by the President of the Association, Mr Walter Whitehead, and the number of members and guests present was nearly 300 After the usual loyal toasts had been proposed and duly honoured Sir Thomas Myles gave the toast of "The Navy, Army, and Auxiliary Forces," which was responded to by Surgeon General Hamilton, whose remarks in regard to the excellent work rendered by the medical service during the late war were received with great enthusiasm Dr S Woodcock in a very witty speech proposed the toast of "The Bishop, Clergy, and Ministers of all Denominations," which was suitably acknowledged by the Dean of Manchester and by the Rev Mr Brown of the Roman Catholic Church of the Holy Name Sir Frank F Adam gave "The Houses of Parliament and the Colonial Legislatures," which was replied to by Sir James Graham and the Hon W G Rockwood. The toast of "The British Medical Association" was entrusted to Professor Rotch. Dr W A. Elliston submitted the toast of "The City of Manchester and the Royal Borough of Salford" which was acknowledged by the Lord Mayor of Manchester and the Mayor of Salford. Sir James Grant proposed and Principal A. Hopkinson replied to, the toast of "The Owens College" The remaining toasts were "The President" and "The Guests" which in spite of the late hour of the evening were received and acknowledged with great enthusiasm by the numerous company During the dinner a charming programme of music was executed by the Band of the 2nd Volunteer Battalion Manchester Regiment and was much appreciated

The closing entertainments on Friday, August 1st, consisted of a reception and conversazione given in the town-hall by the Lord and Lady Mayoress and a ball at which the guests were received by the President and Mrs Whitehead.

THE SECTIONS

MEDICINE

THURSDAY, JULY 31ST

DR THOMAS BUZZARD (London), in opening a discussion on

The Differential Diagnosis of Functional and Organic Paralysis,

remarked that the expression "functional" as employed in this country was scarcely ever met with in the writings of continental authorities, where cases of this class were always called "hysterical." Without attempting to define the word he thought that for the purposes of the discussion it would be convenient to consider it as applied to cases of paralysis which simulated more or less closely those arising from structural alterations of recognised character within the nervous system without being dependent upon any changes that the most advanced means of investigation enabled us to distinguish He also thought that the term should be limited to cases of paralysis of a kind which it would be possible for at least some healthy persons to produce by voluntary simulation This was not to imply that they were so produced (he entertained no doubt about the reality of the disorder) but in order to exclude from the category such examples as paralysis confined to the district of a single nerve root or trunk of a mixed nerve. Functional paralysis could sometimes (though by no means always) be removed rapidly or suddenly as a result of persuasion or physical or moral check. He enumerated many symptoms which were conclusive as to the existence of organic disease and thought that, on the other hand, there were probably none which, unsupported, could be relied upon to establish a diagnosis of functional paralysis Functional hemiplegia was rarely preceded by anything resembling apoplectic seizure, it was most commonly of somewhat gradual onset and was principally differentiated by its failure to present that gradual passage from flaccidity to contracture which was characteristic of the organic form It was prone to be associated with an amount of anæsthesia far exceeding that usually observed in organic hemiplegia, except of that form in which there was lesion of the sensory tract in the internal capsule The points of difference between organic and functional hemianæsthesia were considered Reference was made to the characteristic hysterical gait This had been well described by Todd, to whom they owed also the observation that hysterical hemiplegia rarely, if ever, attacked the face Apparent exceptions to this experience were described. Attention was drawn to Babinski's "flexion combinée de la cuisse et du tronc" as an important test. In organic hemiplegia an effort to sit up in bed without the aid of the arms caused the heel of the affected side to be lifted, which did not happen in the functional form Although a process of slow and gradual contracture was not prone to occur in the course of functional hemiplegia a strong contracture (without previous flaccidity) might take place often suddenly and might present a very strong *primâ facie* resemblance to the result of an organic lesion. In such circumstances a point which he (Dr Buzzard) had described many years ago was useful for differential diagnosis In true hemiplegic contracture of long standing, he had pointed out, the whole arm could not be passively extended at one moment, but in the functional form the arm, the hand, and the fingers could all by an effort be brought into one plane. He did not think that inequality of the deep reflexes on the two sides could be absolutely relied upon to prove that the hemiplegia was of organic origin, though it was, without doubt, a very strong indication in that direction, and the same obtained with regard to ankle clonus, which was sometimes, though very rarely, in the functional form, indistinguishable from that characterising organic lesion Dr Buzzard said that many years' continuous experience had entirely confirmed an observation published by him some 20 years ago as to the absence or difficulty in eliciting plantar reflex in functional paralysis, and he thought the symptom was of great service as a negative sign in differentiating functional from organic paralysis The "toe phenomenon" described by Babinski in 1896 was probably of still more importance since it gave positive evidence of organic disturbance Monoplegia of functional origin was then discussed and it was shown that although in many cases the character of the affection could be conclusively demonstrated its differentiation might sometimes present insurmountable difficulties Paraplegia, he thought, rarely presented any serious difficulty, especially because of the aid to diagnosis afforded by the Babinski toe phenomenon and his own symptom of absent plantar reflex. Some remarks were made on the electrical condition sometimes observed in muscles in cases of functional paralysis which might tend to cause misapprehension and the various signs indicating functional paraplegia were described. Some remarks on the comparatively moderate and often transitory paralysis of a limb or limbs in insular sclerosis concluded the address. Attention was drawn to the extreme frequency with which this was erroneously regarded as of functional character and how much deplorable injustice was thereby inflicted on the numerous sufferers from this disease. He combated the idea held by some that these attacks of localised paralysis were at first hysterical and eventuated in organic change, and expressed the opinion that it was the attack of structural disease in the central nervous system which incidentally caused also hysterical symptoms. Not only physical shock, but the shock of structural disease, was prone to induce along with its immediately resulting symptoms others of a functional and often transitory character In conclusion, he pleaded for the medical student receiving accurate instruction and study of the Babinski toe phenomenon as a most important means of differentiating organic from functional paralysis

Sir **WILLIAM BROADBENT** (London) remarked on the facility with which early cases of disseminated sclerosis might be mistaken for functional paralysis. His experience confirmed what Dr Buzzard had said on the diagnosis of the various forms of monoplegia and paraplegia. Sir William Broadbent wished to draw special attention to the extraordinary vascular changes which might be associated with functional paralysis—e.g the actual increase in the volume of the limb and the changes in colour which might occur in limbs the seat of functional paralysis.

Dr **E F TREVELYAN** (Leeds) referred to cases illustrating some points in the diagnosis between functional and organic paralysis. He mentioned cases of aphasia in Graves s disease, temporary hemiplegias in tabes, partial paraplegias and brachial and crural monoplegias. In a case of very localised paralysis of traumatic origin affecting the thumb simulation could be excluded. To illustrate the incongruousness of symptoms in functional paralysis he referred to a case in which a functional aphonia was accompanied by a typical and almost incessant hysterical cough.

Dr **JUDSON S BURY** (Manchester) thought that a sharp line of division should be drawn between cases of malingering and another group of cases which might be functional or organic in origin. He remarked on the impossibility of finding an infallible sign for distinguishing functional from organic paralysis and he would not like to regard Babinski s sign as an infallible sign of the presence of organic disease He referred to cases under his care which made rapid recovery which were certainly not functional Cases called functional were not really functional there must be some anatomical change, some change which came on and which could go away suddenly though its nature could not yet be defined.

Dr **E. S REYNOLDS** (Manchester) drew attention to the importance of the subject under discussion He thought that there was a marked increase in malingering and compensation cases since the enactment of the Workmen s Compensation Act. He referred to cases of malingering which could be readily detected by anyone with a knowledge of anatomy In disseminated sclerosis considerable difficulty sometimes arose but it was not insuperable. Ankle clonus with very rare exceptions, only occurred in organic disease Babinski's sign checked and counteracted this when it worked." A patient s gait should always be investigated with bare feet and then it afforded most valuable aid. It would then be noticed that the big toe instead of being turned up vertically as in organic contracture, was turned downwards quite flat upon the floor

Dr **T D SAVILL** (London) remarked that the chief difficulty in the diagnosis of functional paralysis (as distinct from malingering which belonged to a totally different category) lay in its distinction from syphilitic, embolic, and peripheral lesions all of which might occur at the same period of life and in the female sex. There were three features upon which he wished to lay stress The first was the absence of signs peculiar to organic disease, such as optic neuritis or valvular disease. Optic neuritis never occurred in functional cases, but there was nevertheless a very characteristic alteration in the vision in many cases—namely a concentric retraction of the fields of vision and an inversion of the red and blue fields Professor J M. Charcot had first drawn attention to this. Secondly there were certain special characteristics attaching to the individual symptoms in functional cases. A sudden onset in a female patient dating from a fright, worry or nerve-strain" was strongly suspicious Anæsthesia was very frequent. Sometimes it was scattered, sometimes it occupied one-half of the body and strange to say like functional hemiplegia, two-thirds of the cases were on the left side. Briquet s exhaustive analysis gave 85 per cent.[1] But in the third place, of all diagnostic features the variability and incompleteness of the motor or sensory symptoms were the most valuable. The symptoms might last on and off for an indefinite time in one case which he had seen recently they had lasted for 28 years but they varied widely in degree from day to day or hour to hour There was no other clinical manifestation which could appear and disappear so suddenly and so completely Did not this suggest a transient vascular lesion in the nervous structures involved? Moreover when thoroughly investigated these cases often presented transient erythemata and other neuro-vascular phenomena, such as the swelling of a limb to which Sir William Broadbent had just referred and in his (D Savill s) view the symptoms were due to a transient internal vaso-motor lesion of that kind—a view which was supported also by other investigations upon which he was engaged.

Dr **HARRY CAMPBELL** (London) found a difficulty in drawing a sharp dividing line between functional and organic disease. Taking myasthenia gravis, Landry's paralysis the ocular paralysis and Graves's disease by way of illustration were they he asked, organic or inorganic? Again was the loss of knee-jerk observed in the early stage of diphtheria and diabetes organic? Genuine ankle clonus and Babinski s sign he regarded as absolute signs of organic disease. The pupil might be temporarily fixed in hysteria. Diplopia was an equivocal sign. He had observed a degree of hemianopsia in hysterical hemiplegia and had read of fixed pupil recurring in hysteria from spasm of the sphincter pupillæ.

Dr **F W MOTT** (London) referred to the cholin test as a possible means of distinguishing organic and functional paralysis, but he would not like to claim infallibility for it. The proportion of cholin found in a person s blood bore a direct relation to the amount of nervous tissue which had undergone degeneration. Dr Mott and Professor Halliburton had examined cases of disseminated sclerosis, myotrophic sclerosis, beri beri and a very large number of cases of general paralysis of the insane. Traces of cholin had been found in normal blood and in the blood in other diseases by some observers, therefore the test was a proportionate one It was necessary to draw five or 10 cubic centimetres of blood from the arm. This was treated with six or eight times its bulk of alcohol to get rid of the potash salts, and the cholin crystals which formed were afterwards washed with alcohol This, the chemical test for cholin was comparatively simple but the physiological test could also be employed Cholin produced a fall in the blood pressure of an animal and this fall could be prevented by the previous injection of atropin

Dr **DAVID DRUMMOND** (Newcastle) wished to insist on the value of certain signs as indicative unequivocally of organic disease, such possibly as Babinski s sign and possibly ankle clonus though the latter might be present in hysteria, a case being mentioned in illustration. It had been stated that aphasia and relaxed sphincters were never met with in functional paralysis but this did not coincide with his experience.

Dr **PURVES STEWART** (London) said that he would confine his attention especially to one point—the postures assumed by patients in cases of organic paralysis as contrasted with those of functional disease and he illustrated his remarks with lantern slides First, as to organic paralysis they were familiar with the postures which were gradually assumed by the paralysed limbs whether hemiplegic paraplegic, or monoplegic in distribution. Those postures of organic paralyses were determined by anatomical rules Thus when one group of muscles were paralysed from a nuclear or infranuclear lesion (as in disease or injury of anterior cornua, anterior nerve-roots or peripheral nerve-trunks) the unopposed antagonists slowly fixed the limb in a definite

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[1] Traité Clinique et Thérapeutique de l'Hystérie Paris 1859

posture, which was not only easily recognised but could be predicted beforehand Several examples of such contractures were shown on the screen Again, if from a supra-nuclear lesion, the muscles of a limb or of a segment of a limb were all more or less paralysed and the "pattern" of contracture depended upon the relative strength of the different spastic and paralysed muscles The muscles which were normally more powerful were placed at an advantage, so that, for example, in hemiplegia the familiar posture of the upper limb was one of flexion with pronation, that of the lower limb being one of slight flexion at the hip and knee with extension and some inversion at the ankle and a tendency to dorsiflexion of the toes But in *functional paralysis* the conditions were different Hysteria, it was said, often simulated organic paralysis—e.g in a functional hemiplegia, paraplegia, or monoplegia. But on careful examination the posture was found to be not quite the same in organic and in functional contractures, the latter not being governed by the same definite anatomical laws Dr Stewart then exhibited a lantern slide of a case of functional hemiplegia in which, instead of the flexed pronated posture of the upper limb noted in the other case, the elbow and wrist were extended, the hand supinated, and the fingers half bent into a hook-like posture. And in the lower limb the inverson of the ankle was overdone, it was out of all proportion to the equinus condition. This contracture had developed quite suddenly, as it so often did in cases of functional contractures Lantern slides were next exhibited showing that the posture of the foot in walking differed in organic and in functional paralysis But although an organic type of contracture was always pathognomonic of organic disease the converse was not always true In disseminated sclerosis paralysis of a characteristically "functional" type would sometimes be observed In a certain proportion of cases a patient with disseminated sclerosis might have a coexisting paralysis of a "functional" type In fact, the existence of a functional type of paralysis should always lead them to consider the possibility of disseminated sclerosis in the background.

Dr John M MacCormac (Belfast) remarked that the differential diagnosis between organic and functional paralysis was often a most difficult problem and they had always to bear in mind that in organic disease symptoms of a functional nature might be present It was well known that in the earlier stages of certain degenerative diseases of the central nervous system (e g, disseminated sclerosis), symptoms apparently functional might coexist in their way In his experience paralysis of the external ocular muscles was almost absolute proof of organic intra cranial disease The only exceptions to this rule were those very rare cases of ocular palsy dependent on toxæmia, epilepsy, or migraine The loss of the pupillary reaction to light (in the absence of the influence of certain drugs), the Argyll Robertson pupil and well marked and persistent hemianopia, invariably pointed to organic disease. The eye condition in which Wernicke's sign was present invariably indicated a lesion posterior to the geniculate bodies Paralysis of the face and palate with very rare exceptions pointed to organic disease. A genuine loss of the knee jerk was almost conclusive proof of organic disease and so also was ankle clonus which had steady rythmic vibrations for a considerable time of six or seven per second. In hysterical palsy a clonus of very brief duration or with an inconstant rate of vibration was occasionally met with, and the abolition of pharyngeal and plantar reflexes coexisting with an increase of the other reflexes was proof that the condition was functional

Dr Julius Dreschfeld (Manchester) drew attention to the frequency of tremor as a symptom in functional cases Babinski's reflex sign could not, in his experience, be obtained in hysterical cases of paralysis, but he had observed it in other diseases besides organic paralysis, in a case of scurvy for instance. Nevertheless if on tickling the sole of the foot there resulted extension of the big toe and flexion of the other toes, this, he believed, was absolutely distinctive of organic disease

Dr Buzzard, in replying quite agreed with many of the remarks made concerning Babinski's sign It needed some experience and was sometimes difficult to obtain and different observers did not always succeed in eliciting it.

Mr Hastings Gilford (Reading) read a paper on

Infantilism and Senilism,

accompanied by photographs and cases The word "infantilism had been applied by the French to conditions of generalised delay or arrest of development and the word "senilism" was applicable to the opposite condition of precocious development. These words were, therefore, to development what dwarfism and giantism were to growth Infantilism, like dwarfism, might be due to natural causes It was merely a variation of normal development carried to an extreme degree, and it might be termed "normal infantilism" An instance of this was given in which a girl of 15½ years was of the height of a child of six years, but showed a sexual development like that which is usual at 12 years *Morbid infantilism* consisted of a marked delay of development associated with disease of the thyroid gland, pituitary body, sexual organs, and other parts Infantilism in fact, like dwarfism, might be produced by many causes There was, however, one condition in which the arrest was by far the most marked feature of the case, but for which no cause could be discovered This form of infantilism had received the name of "ateleiosis" It might be distinguished by its abrupt onset without perceptible cause, by conspicuous infantilism with retention of the intelligence, and by a special tendency to delay of development of the sexual system. About a dozen cases had been described The delay of development might be so conspicuous that a man aged 28 years affected with the disease might resemble a boy of six or seven years and might have a skeletal development which was usually met with at 14 years of age. The disease presented a distinct facial type A typical case was described and shown, together with photographs of five others Senilism, like infantilism, dwarfism, and giantism, might be merely a preternatural variation of normal development Instances of this *normal senilism* were given. In *morbid senilism* precocious development was usually associated with premature appearance of the sexual functions and it might be due to acromegaly, to mental shock, or to syphilis Instances of senilism due to the first of these causes were described, and a short account was given of the celebrated French dwarf Bébé After putting on one side cases of normal senilism and those which were the outcome of some known disease a form of senilism still remained to be accounted for This disease, which had received the name of "progeria," had certain distinguishing features Its onset was abrupt, it came on without perceptible cause, it gave rise to senilism of a very conspicuous character, and it did not affect the intelligence. Only two instances of this disease were known, but they were extraordinarily alike The patients strongly resembled each other in height, in form, in facial characters, and in nearly every other respect. They died, one at the age of 17 years from angina pectoris, and the other at the age of 15 years from influenza, combined with general failure of health and other indications of senile decay Their emaciated, wizened, bent, and feeble figures, combined with their baldness, their projecting veins, and an entire absence of elasticity of carriage caused them to present a caricature rather than a picture, of old age Photographs of these and other forms of senilism were shown

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SURGERY

Thursday July 31st

Discussion on the Treatment of Tuberculosis of the Testis, Vesiculæ Seminales, Prostate, and Bladder

Mr F A. Southam, Vice President, was in the chair, and in introducing Sir Thomas Myles, the opener of the discussion, congratulated him in the name of the section upon the honour of knighthood that he had received

Sir Thomas Myles (Dublin) said that the subject was a difficult one to deal with and hardly lent itself to picturesque framing The first point was the determination as to what was the precise primary site of tubercle of the genito urinary system. There could, however be no doubt that in the majority of instances tubercle of the prostate and vesiculæ seminales was secondary to tubercle of the epididymis, while that of the bladder was subsequent to that of the kidney Tubercle of the testis was a very important subject and there were two chief schools of thought with regard to surgical treatment—one believed in the early and entire removal of the organ, while the other adhered to partial excision of the affected parts The line of treatment depended greatly upon two queries, (1) as to whether tubercle of the testis was primary and (2) as to whether the disease was a great menace to life He believed that it was primary, in spite of the difficulty of excluding absolutely tubercle from other organs. To justify complete excision of the affected gland it was necessary to show that partial excision was a failure and that primary tubercle of the testis passed commonly to distant organs. Given a nodule of tubercle in the epididymis, and no evidence of tubercle elsewhere, he did not consider that complete removal was justified, but where the testis was destroyed by disease then entire excision was needed if any operation should be carried out. He would classify cases of tubercle of the male genital organs under six headings: (1) those in which one or two small nodules of a chronic type were present in the epididymis and constituted the whole of the mischief; (2) a similar condition but with some slight enlargement of the prostate and vesicles; (3) where secondary suppuration had supervened but there was as yet no evidence of infection of the prostate; (4) a like state, but with consecutive disease of the prostate and vesicles; (5) in which both testicles were the site of a tuberculous deposit; and (6) instances complicated with affection of the lung. In reviewing briefly the surgical treatment of these several classes he laid down the following practical suggestions as his line of action. In the first class partial excision with thorough application of a 5 per cent. solution of formalin gave a very fair proportion of good results. If it failed complete ablation was always open to the surgeon. In the second class he very much doubted whether operative measures ever really did much good. If they were to be of benefit it necessitated the removal of the testis, the vas, the corresponding vesicle, and half, if not the whole, of the prostate. But he could not consider this extensive operation justifiable in most of the cases, for if the disease had spread so far it was probable that it had invaded other organs as well. The third class presented no difficulty—complete extirpation of the testis was the right and proper procedure. The fourth class did not lend itself to operative treatment of a radical nature. In those instances where both testes were involved double castration was advisable, but due regard must be paid to possible mental after-effects. In the last series no operation was admissible. Passing to tubercle of the bladder, it was not by any means always that surgical treatment was an unmixed benefit. Suprapubic cystotomy was so simple an operation as almost to invite the surgeon to undertake it. But there was no true comparison between superficial tuberculosis of the skin and tuberculous ulceration of the wall of the bladder. The former could be scraped and treated with the utmost impunity, the latter only in many cases with grave danger. Partial resection of an infected area with suture he had never carried out, not having dealt with a suitable case. Of tuberculosis of the vesiculæ seminales as a primary lesion he had no personal knowledge. If such a condition did occur excision was clearly indicated. He was afraid that he had been somewhat conservative and pessimistic, but he had candidly stated his opinions, for the opinion of every individual observer was of use in obtaining an aggregate knowledge. He had uttered a warning note against extensive operations, for he felt his responsibility in opening the discussion.

Professor N. SENN (Chicago) admired the paper for conservatism. No doubt in the surgical treatment of tuberculosis of the genito-urinary tract there were well-marked and definite limitations, and this dictum he would pronounce from an extensive experience. With regard to origin, he felt sure that tubercle here was not a primary lesion in some instances. He thought that the classification of cases was good and he was glad to have it. In the descending infections he insisted on the necessity of very careful examination of the urine before operation. The surgeon should also be a physician. Proper hygienic treatment might advisably precede, accompany, and follow operation. The inducement of active phagocytosis was no mean factor in the cure of the affection. Iodoform did all that was desired of it. It was a tissue stimulant, exciting phagocytosis. In simultaneous disease of both testes he did not agree that any radical operation could be performed. In tuberculosis of the kidney he had found that exposure of the organ and the local application of chloride of iodine to the interior of the pelvis and calices of extreme value. He was still hopeful that further patient investigation of tuberculosis would cause the discovery of a remedy which would obviate the necessity of operative measures.

Professor F. VALENTINE (New York) desired to deal rather with the prophylaxis of tubercle. He considered that an ascending infection was probably more frequent than a descending one and he was convinced that the field was prepared by a previous gonorrhœal infection. He therefore urged the need of systematic treatment of gonorrhœa as an important prophylactic measure. He counselled that the urethral discharge should be always stained for the tubercle bacillus as well as for the gonococcus.

Mr. P. MURPHY alluded to four cases of tubercle of the bladder which he had treated by suprapubic drainage, but he confessed that he was not at all satisfied with the results. In tubercle of the testis he advocated incision, scraping, and the application of iodoform.

Mr. JORDAN LLOYD (Birmingham) said that tuberculosis of this area opened up a great field in which much work yet remained to be accomplished. There was yet a want of accurate knowledge in many details. He insisted on the separation of the two systems, one genital and the other urinary, and stated that tubercle appeared distinctly in one or the other and only coalesced at quite a late period. Primary genital tubercle commenced in the epididymis and often altogether apart from preceding gonorrhœa, tubercle of the body of the testis being very rare except as a secondary infection. He believed, however, in primary tubercle of the prostate and of the vesiculæ seminales. It was easy to miss early disease in these latter by careless rectal examination, the finger being carried far too high up. The vesicles should be excised in primary disease. It was important to make a free incision and thoroughly to expose the vesicles before proceeding to enucleation. In primary tubercle of the prostate removal of the same by the perineal route should be adopted. Primary tuberculosis of the urinary system practically always began in the kidneys and there was a descending infection. It was not by any means always that such cases should be submitted to surgical interference.

Sir WILLIAM MACEWEN (Glasgow) agreed with the necessity of recognising that there was tubercle of two different systems, the genital and the urinary, but that they met in the bladder when they had spread far enough. In primary tubercle of the testicle he advised a splitting of the epididymis from the body of the testis, incision of the tuberculous foci irrespectively of any anatomical considerations, scraping and the free application of iodoform, with subsequent suture of the epididymis to the testis proper and closure of the wound without drainage. In cases where the vas was infected he always drew upon the structure by slow traction until he had brought most of its length out of the wound and then divided it and sterilised the cut end. The vesicles, if infected, he removed through the perineum. He had also employed an injection of an emulsion of iodoform into the epididymis without incision. All surgical treatment should be combined with thorough hygienic measures. When the bladder became involved he considered that all treatment was only palliative, with perhaps a cure in a few instances.

Mr. J. RUTHERFORD MORISON (Newcastle-on-Tyne) felt that he was not so pessimistic, perhaps, as some of the preceding speakers had been. Tuberculosis of the genito-urinary tract was not an affection that progressed straight forward to death. There was one symptom, however, which was seldom got rid of—namely, frequency of micturition. He was sure that if it was possible an operation should be undertaken with a view to the removal of the whole affected area. This was impossible when the prostate was involved. He believed that the removal of the testicle even in advanced cases gave relief, for castration secured rest to the corresponding vesicle. There was a great lack of the after-history of cases. He had never seen any good whatever come from the use of iodoform in tuberculosis. It did not cure when applied to tubercle of the skin and he failed to see how it could do so even when hidden in the tissues by injection.

Mr. F. A. SOUTHAM believed that the necessity for double castration often arose, for of 10 recent cases of tubercle of the epididymis in no less than eight was the infection bilateral. He knew that such high authorities as Senn and Watson Cheyne were averse to double castration, but he had carried this out in several instances with the best results. Such a castration for enlargement of the prostate had been followed in several cases by severe mental disturbance, but he had not seen it arise in these instances of tuberculosis. In the former the patients were frequently old men with already senile cerebral changes, but in the latter the patients were usually between 30 and 40 years [illegible] age In one instance he had excised the epididymis alone on one side and the testis and epididymis on the other, with the result that the remaining body of the testis did not atrophy and the patient continued in good health and retained his sexual power He was quite certain that after removal of the tuberculous testis the corresponding infected vesicle had a marked tendency to become shrunken In tubercle of the bladder he was not satisfied by the results of suprapubic drainage

SIR THOMAS MYLES, in his reply, said that he did not consider that gonorrhœal infection of the epididymis had any causal relation to the invasion of the organ by tubercle He quite agreed as to the desirability of keeping the two systems—the genital and the urinary—distinct, but it must be clearly recognised that they became one in the region of the prostate He felt that the removal of only a few inches of the vas was of very little use and strongly advocated its entire excision by extending the inguinal incision

Chronic Pancreatitis Treated by Laparotomy

MR EDMUND OWEN (London) read a paper on this subject based upon the record of two cases The first was that of a man, aged 62 years, on whom he had operated for a septic empyema some years previously The patient was found to be extremely ill with symptoms resembling those of malignant disease of the liver or the head of the pancreas Dr Hale White had also seen the patient and concurred in the probable diagnosis and agreed with the suggestion of an exploratory laparotomy The incision revealed that the head of the pancreas was large and hard and evidently pressing against, and occluding, the common bile duct, thus inducing the jaundice which was present The rest of the pancreas was also greatly enlarged and equally hard This was taken to confirm the adverse diagnosis and the abdomen was closed However, immediately after the operation the patient began to improve and eventually he made a complete recovery The second case was that of a married woman, aged 30 years She had three years previously suffered from septic endometritis For a year she had much flatulence but no vomiting Then jaundice supervened and she lost weight On examination a tender swelling was observed below the ninth right costal cartilage. A provisional diagnosis of impacted calculus was made and an operation was advised This was performed, when it was found that the obstruction was not complete as bile could be squeezed from the gall bladder Further examination showed that the head of the pancreas was almost as large as a fist and that the body and tail were also greatly increased in size The question of establishing a communication between the gall bladder and the duodenum was raised, but in the light of the previous case this was abandoned The patient progressed well and left the hospital at the end of the third week. As to the cause of chronic pancreatitis Mr Owen was ignorant. Were there several forms of the disease, and if so, was one simply catarrhal, and got well spontaneously or after a laparotomy, or was it infection from the duodenum, or was it associated with obstructed jaundice and could not improve without drainage of the gall bladder? Even if it was true that some forms were spontaneously recovered from, yet an exploratory laparotomy might be needed to establish a correct diagnosis and might in some way also effect a cure What should be done with the distended gall bladder in these cases was a matter of difference of opinion.

DR T D GRIFFITHS (Swansea) alluded to the case of a woman who after enteric fever began to have jaundice and loss of flesh Operation exposed a distended gall-bladder without calculi but with an enlarged head of the pancreas He drained the bladder and there was a good recovery in three weeks and the patient remained in good health He questioned the exact cause of the biliary obstruction, possibly it was the inflamed head of the pancreas

SIR THOMAS MYLES said that he had recently had] under his care a woman with a dilated stomach and swelling in the epigastric region, loss of flesh, and severe attacks of pain At the operation the pylorus was found to be free but there was a hard mass in the head of the pancreas, together with a long narrow, distended gall bladder The latter he opened and removed 72 calculi, and closed the incision in the organ with sutures The patient did excellently well He was not at all sure that in some of these cases but that the rest in bed and the semi starvation did not aid the recovery

MR KENNEDY DALZIEL (Glasgow) believed that there was usually a common cause for the jaundice and the pancreatitis, the latter being essentially due to obstruction of the pancreatic duct. He had removed biliary calculi in a case which later showed signs of enlargement of the pancreas, for which he again operated, but did nothing more than the manipulation of the region The patient did well at first but the symptoms recurred and another operation was undertaken, and this time a calculus in the pancreatic duct was discovered and was successfully removed through the duodenum He thought that manipulation might in some of the satisfactory cases cause the dislodgement of a minute calculus from the pancreatic duct.

MR OWEN, in his reply, said that the cases mentioned illustrated three modes of treatment draining the gall-bladder, opening it and closing it immediately, and leaving it untouched. He congratulated Mr Dalziel on his most successful case.

MR RUSHTON PARKER (Liverpool) read a paper on

Experiences in the Extirpation of Tuberculous Lymph Glands during the last 30 years, comprising over 300 Operations

Having seen Professor Billroth perform excision of enlarged tuberculous glands in Vienna in 1871 Mr Rushton Parker began the practice himself in Liverpool in 1872, in which year he performed 28 excisions on 18 young persons, six males and 12 females, from seven to 15 years old, communicating the results to the Liverpool Medical Institution in a paper published in 1873 in the Liverpool and Manchester Medical and Surgical Reports During the 30 years that had elapsed he had performed the operation 318 times on 224 persons, 93 males and 131 females, aged from one and a half to 60 years. The situations operated on were the axilla (15 times), the inguinal glands (10 times), the femoral (once), and the neck in the rest The cases first published by other surgeons, after his own in 1872, were those of Mr T Pridgin Teale from 1878 to 1881 and onwards, and there were some from Mr W K Treves (from 1884 to 1887) who said that he had then practised the operation for years [1] The best account of the class of case requiring operation was that given by Professor T Clifford Allbutt in the reports of the International Medical Congress held in London in 1881 and in the *British Medical Journal* of Nov 25th, 1893 Other writings referred to were those of Mr Teale,[2] Mr W K. Treves and Mr Bertram Thornton,[3] and Dr Keen of Philadelphia,[4] all of whom agreed with Mr Rushton Parker in regarding other treatment as useless trifling Mr Rushton Parker had carried extirpation to considerable lengths and had performed long and difficult operations in many advanced and extensive cases of the disease with the best results in restoration of health and strength, often in previously feeble and delicate persons Though the practice was widely known and adopted it had not received by any means the encouragement that was its due, so he considered that all members of the profession should realise more fully the desirability of its adoption with less delay in the less severe cases, the effect of which would be to diminish the number of neglected and severe cases, and furthermore urged operators more readily and thoroughly to undertake such severe and extensive cases as might occur and not be deterred by attendant difficulties.

MR MCADAM ECCLES (London) read a paper on

The Value of the Imperfectly Descended Testis

He said that almost every instance of imperfect descent of the testis was associated with a patent processus vaginalis testis and often with descent of the viscera into the same Almost all cases of hernia associated with an imperfectly descended testis should be submitted to operative treatment It was thus that the value or non value of the organ which had failed to pass into the scrotum became of great moment and the method of dealing with it of the highest importance The function of a testis was primarily to produce spermatozoa for the reproduction of the species, but there was probably at least one subsidiary use. Without either testis in early life the individual would never acquire the full development of the male characteristics, but although he would have no power to produce spermatozoa, yet if he had testes he would still be capable of acquiring most, if not all, the manly peculiarities Further, although possessing testes, yet the individual might not acquire the male characters showing that these organs were lacking in both their proper functions

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[1] THE LANCET, July 21st 1888 p 105

[2] Brit. Med Jour Nov 25th 1893

[3] Brit Med Jour vol. ii 1888, p 105, and vol ii, 1889, pp 456 and 544

[4] Brit Med Jour, vol i, 1894, p 160

The testis, therefore, although it might not have reached its usual habitat in the scrotum was yet in many instances of use to the possessor in that it would enable him to develop certain peculiarities which he would not otherwise acquire. The value of the arrested organ in the case of unilateral arrest was not of course so great as it was in the case of double arrest, for a single fully-descended and fully-developed testis was amply sufficient to perform all the requirements of full and complete growth and the development of the male characters. Still, even in these instances a value should be, or should not be, set upon the imperfectly descended organ. On the other hand when the arrest was bilateral the surgeon had very carefully to weigh whether or not the testis had a real value. An examination of a large series of arrested testes removed from adults showed that by far the greater majority had never been capable of forming spermatozoa. There were undoubted instances in which arrested testes had been the seat of spermatogenesis but it would be observed that most of these had been where the testis had not left the confines of the abdominal wall, in fact, it would seem that abdominal retention was by no means a bar to physiological testicular function It was essentially the inguinal testis that was deprived of its power of producing spermatozoa. It would seem that delay in the inguinal canal, in the planes of the muscles of the abdominal wall necessitated failure in the formation of cells capable of giving rise to sperm elements. There were at least three ways in which the inguinal testis might be dealt with when exposed during an operation for an associated hernia. The first was to bring it *down into the scrotum and to fix it there. The second* was to replace it within the abdominal wall. The third was to remove it altogether. If the testis had a real value it should not be removed. It could be safely returned within the abdomen for statistics did not tend to show that there was truth in the statement that the imperfectly descended testis when it lay within the abdomen was more prone to become the site of malignant disease than its fully descended fellow It was on the other hand remarkable that there were few if any definite records of testes which had grown and developed so as to become capable of producing spermatozoa after orchidopexy It would be well that henceforth all such cases should be published.

Mr. **RUSHTON PARKER** stated that in 12 instances in which he had brought down an arrested testis into the scrotum the immediate results had been most gratifying but he regretted that he could not give the after history of the cases. He considered the suggestion of the return of the testis within the abdomen was a valuable one, and he should carry it out in those cases in which it was impossible to perform orchidopexy

Mr **RUTHERFORD MORISON** read a paper on

Incision for and After history of Cases of Removal of Gall stones

He demonstrated by means of diagrams a transverse incision for biliary surgery It was carried completely across the right rectus and opened up very thoroughly the region within which manipulations were necessary In the review of the after history of a series of 43 cases which he had been able to trace he stated that there *had been a* return of symptoms in seven which he referred as being due to either a failure to remove every calculus or to a re-formation of the same. There had been a hernia through the scar in four of the 43 cases

OBSTETRICS AND GYNÆCOLOGY

WEDNESDAY JULY 30TH.

The **PRESIDENT** (Dr D **LLOYD ROBERTS** of Manchester) read his introductory address on the Manchester School of Obstetrics and Gynæcology

Dr A. L **GALABIN** (London) opened a discussion on the Modern Indications for Cæsarean Section.

Professor **MURDOCH CAMERON** (Glasgow) read a paper on 50 Cæsarean Sections.

Dr J **MUNRO KERR** (Glasgow) read a paper on Some Experiences of Fritsch's Fundal Incision in Cæsarean Section.

Several members then discussed the papers

Dr R. **JARDINE** (Glasgow) considered that as a method of treatment in eclampsia Cæsarean section was not to be entertained. In one case he had to perform this operation. The conjugate was two and a half inches and the cervix was not dilated The patient was having fits succeeding each other very rapidly and he recognised that the only chance of recovery which she had was for him to perform Cæsarean section. This he did the child was delivered alive, the fits ceased the albumin disappeared and the patient had practically recovered when some days later pneumonia supervened and she died in 36 hours. At the post-mortem examination no sepsis was found. The speaker agreed with Dr Galabin that Cæsarean section should not be done for placenta prævia, the mortality was very bad 17 per cent. as compared with the ordinary methods of treatment under 5 per cent. He regarded Cæsarean section as the proper treatment for cases of concealed accidental hæmorrhage with no dilatation of the cervix, as in all the cases which he had seen with this condition death had occurred. He thought the statistics of Cæsarean section to be untrustworthy there were so many different factors to be taken into consideration of his own cases, where the operation had been done early and precautions had been taken all the patients had recovered He had never had any difficulty in controlling the hæmorrhage, having always followed Professor Murdoch Cameron's method of using a pessary for that purpose.

Dr **SPENCER** (London) was glad to see that Dr Galabin did not recognise Cæsarean section for cases of impacted ovarian tumours. He considered that the operation had been done for this condition far too frequently, and it was quite easy having brought the uterus out through the abdominal incision, to get at the tumour to remove it, and then to put the uterus back and to deliver with forceps He could not agree with Dr Galabin as to sterilising the patient after Cæsarean section. He thought that the operator had no right to sterilise a woman where the case was one of contracted pelvis only If the patient got pregnant again she could be delivered by Cæsarean section without any extra danger or trouble, and he had lately performed this operation for the third time on the same patient under a local anæsthetic with a good result. He agreed with Dr Galabin that Cæsarean section for placenta prævia was as a rule, quite unjustifiable, but he remembered a case of complete placenta prævia with an dilated os in which the patient had bled to death and he thought now if he had performed Cæsarean section the woman would have been saved. There was one condition that sometimes necessitated Cæsarean section that Dr Galabin had not mentioned—scars in the vagina. As a rule these stretched *or split without any danger* but some years ago he amputated the cervix for malignant disease with the cautery 14 days after labour The patient again got pregnant and at five months the os was quite closed. He let the patient go to full term and then performed Cæsarean section removing the body of the uterus, and the patient was now nine years later quite well. Dr Spencer did not think the fundal incision a good one as there was more chance of the intestines getting adherent.

Mr J **STUART NAIRNE** (Glasgow) thought that a word of warning was needed He considered that Cæsarean section was a very much more serious operation than the induction of premature labour Cases of Cæsarean section could be divided into two classes. First, the poor who provided operators with nearly all their cases The poor were careless and never sought advice till it *was too late for the induction* of labour whereas on the other hand the wealthy would early seek advice and in these cases it was much more a matter of choice whether Cæsarean section or induction of labour should be done Women, as a rule were not so enamoured of Cæsarean section as to prefer this operation with the chance of a living child to induction of labour He had lived long enough and presented so many statistics to this section to know that statistics were very great lies. Lastly when any of his cases went wrong he did not shift the blame on to other people—nurses, &c.—but preferred to carry the battle on his own shoulders.

Dr F W N **HAULTAIN** (Edinburgh) considered the question of borderland cases the most important. Should Cæsarean section or embryotomy be done? Below two and a half inches embryotomy was a very *dangerous* operation but what was the best treatment between three inches and three and a quarter? At three inches embryotomy he regarded as absolutely safe whilst the lowest estimate of the mortality for Cæsarean section was 10 per cent.

Dr **MUNRO KERR** agreed that under two and a half inches craniotomy was very difficult and had a high mortality above two and a half inches he regarded it as a comparatively easy operation. With regard to symphysiotomy there was no difficulty in deciding below three inches it was very dangerous and above three inches it was a safe operation, but in these cases one could not always decide at once, labour must have progressed for some time, and one had to wait to see how the head was moulding Before doing Cæsarean section he always put the patient in Walcher's position and attempted delivery with forceps With regard to the induction of labour in hospital cases he regarded it as a very unsatisfactory proceeding and in cases which he had collected he had found the fœtal mortality to be 40 per cent.

Dr WALTER (Manchester) thought that 30 per cent. or 40 per cent fœtal mortality in these cases of induced labour did not represent the total mortality It was only the immediate mortality and many of the remaining cases died in their first year As regards the uterine incision in Cæsarean section he always selected the longitudinal one instead of Fritsch's the only advantage of which was the easy extraction of the child, and the great disadvantage the greater liability to intestinal adhesions He favoured Cæsarean section for cases of concealed accidental hæmorrhage, with undilated os there was no condition that caused so much anxiety As regards Porro's operation there was a great tendency to lose sight of the fact that it was a very valuable operation for men in general practice, where no proper assistance could be procured

Dr GALABIN, in reply, was astonished that after the great and unique experience which the Glasgow operators had had in Cæsarean section they had not extended the operation to slighter degrees of contraction than two and three quarter inches since in London the operation had been thus extended in the interest of the child and with no ill results to the mothers He agreed with Dr Kerr in his estimate of the fundal incision and also with Dr Spencer as to the greater liability with it to adhesion of the intestines All the statistics that had been quoted with regard to the relative mortality of Cæsarean section and craniotomy coincided with his own, that of Cæsarean section being very much greater He could not agree with Dr Spencer as to sterilisation of the patient. He did not think he had considered those cases where a patient would only allow Cæsarean section to be done under certain conditions If she refused to be sterilised, was the surgeon to give up the case? Certainly not, unless the patient could be handed over to some competent attendant, and even then, in his opinion, he was not justified in so doing He had lately a case of ovarian tumour complicated with pregnancy He advised removal, the patient refused unless premature labour was first induced Knowing it would be more dangerous to leave her to go to term with the tumour he sanctioned the induction of labour and performed ovariotomy 14 days later As regards the small value of statistics which had been discussed by several operators, he himself did not regard as of much value individual statistics but considered generally they were the only evidence he had to go on, and Cæsarean section had been advocated solely on account of these statistics which showed a mortality of about 10 per cent

Professor CAMERON, in reply to Dr Walter, said that he preferred catgut sutures, properly sterilised, to silk, because the latter did not become absorbed.

Dr HERBERT SPENCER read a paper on

Total Abdominal Hysterectomy, especially by Doyen's Method, for Fibromyoma Uteri, with Notes of 14 Cases

He considered the presence of fibroids not in itself an indication for operation Cystic fibroids, large fibroids in young subjects, and fibroid uteri suspected of malignant disease should be removed even when no symptoms were present In other cases operation should be done only when serious symptoms were present or threatened. There was danger of mistaking sarcoma and cancer for fibroids He thought the enucleation especially through the cervix to be the best operation in suitable cases Normal pregnancy and labour might follow If the tumour was not larger than a fœtal head vaginal hysterectomy was to be preferred to abdominal. The three chief methods of abdominal hysterectomy were 1 Supravaginal amputation with extra peritoneal treatment of the pedicle, the mortality of which was slight The disadvantages of this operation were prolonged convalescence and risk of hernia 2. Supra vaginal amputation with intra peritoneal treatment of the pedicle. The disadvantages were bad drainage, danger of hæmorrhage, infection and sloughing of the cervix, leucorrhœa, infection of the stitches, and adhesion of the intestine to the stump, with perhaps obstruction later The growth might be sarcoma or cancer and malignant disease might develop in the cervix. 3 Total abdominal hysterectomy The supposed disadvantages were that it was a longer operation a danger of injuring the ureters, and a danger of vaginal hernia. Only the first objection was a real one if Doyen's method was employed The average duration of his 14 operations was 87 minutes In conclusion, he considered total abdominal hysterectomy superior to supra vaginal amputation and Doyen's method of performing it the best This method he had employed in 12 out of the 14 cases

Mr J H. TARGETT (London) thought the chief reasons for advocating total extirpation were that the drainage was more thorough and the risk of malignant disease occurring in the cervix or part of a malignant uterus being left behind was obviated

Dr GALABIN had not experienced the advantages claimed by Dr Spencer for total extirpation over supra vaginal amputation and he thought there was more danger of injuring the ureter in the former The comparative mortality of the two operations was not very different

Dr WALTER thought it was not easy to decide what was the best method He had performed 38 hysterectomies with one death which had occurred in a case of total extirpation where he had stitched, the roof of the vagina, whereas in these cases he had not done so before His last 10 cases had been by the supravaginal method and the patients had all recovered From what he had heard that day as regards malignancy he should have to reconsider the question. He had noted that the convalescence was more rapid and comfortable in those patients who had had supravaginal amputation

Dr T A HELME (Manchester) had always done pan hysterectomy and had always closed the vaginal roof, except in one case where he did not do so and the patient in this case died He did not think Dr Spencer's results were due to the drainage and he regarded the closure of the vaginal roof as one of the most important steps of the operation

Dr SPENCER replied

STATE MEDICINE

WEDNESDAY, JULY 30TH

The PRESIDENT (Dr JAMES NIVEN, Manchester) opened the proceedings of the section by introducing the discussion on the part played by vaccination in preventing the spread of small-pox and the means by which the maximum advantage of vaccination might be secured to the community He commented on the importance of the subject, and referring to the epidemics which had recently attacked London and those occurring in various large towns in different parts of the country during the past 10 years pointed out the necessity for determining the steps requisite to prevent these epidemics He considered it somewhat of an anomaly that whilst Germany had practically stamped out small pox England, the first country to reap the benefit conferred by Jenner's researches, still suffered from the scourge

Dr E W HOPE (Liverpool) read a paper on

The Precise Part played by Vaccination as carried out in this Country in Preventing Small-pox and the means by which we may hope to Secure the Maximum Advantage from Vaccination.

He pointed out that outbreaks of small-pox invariably revealed the fact that large numbers of people were very imperfectly protected owing to the inefficient manner in which vaccination had been performed, the incidence of the disease always confirmed the truth of a sentence occurring in the report of the Royal Commission on Vaccination, which stated that "the beneficial effects of vaccination are most experienced in those in whose cases it has been most thorough" Vaccination was by far the most certain preventive measure in limiting small pox after it had occurred in a locality The vaccination of some 50,000 people in districts in Liverpool in which small pox threatened to make dangerous headway effectually checked its progress The latter part of the subject involved administrative considerations As vaccination was a protective measure, he asked why it should not devolve on the body which was responsible for the measures adopted to protect the public health—namely, the sanitary authority? The appropriateness of such an arrangement was obvious and above all there would be an immense saving of time, a factor which was of the utmost consequence in repressing an outbreak of small pox, for then the authority which was the first to receive information of the outbreak would have at hand the remedy for its suppression. At the present time this was not so and moreover however admirably guardians and vaccination officers might discharge their duties time was inevitably lost in conveying information. With regard to the operation itself Dr Hope stated that the work of public vaccinators was on the whole more efficient than that of private vaccinators. This no doubt arose from the frequency with which the private practitioner acceded to the request of the parents and inserted the lymph in only one or two places instead of in four On the other hand the private practitioner ought to be entitled to the same payment in satisfactory cases as the public vaccinator There seemed a necessity also for the establishment in proper centres or depots for the provision of lymph which should be active and not as was too often the case, inert. Parliamentary powers for compulsory revaccination were absolutely essential and he would suggest that the most suitable age for the purpose should be 12 years The wilful suppression of information or the knowingly giving of untruthful answers to questions put by the medical officer of health had been the means of depriving persons of the advantages of vaccination or revaccination and had resulted in serious extension of disease He was strongly of opinion that a responsible person who, when applied to by the medical officer or his representative, wilfully withheld information as to small pox or knowingly gave false information should be penalised and in point of fact, Liverpool had sought special Parliamentary powers to deal with such cases. In this connexion he might refer to the recent outbreak at Nelson resulting in 87 cases and six deaths, which undoubtedly had its origin in the mis-statement made by a Liverpool lodging house keeper Though the proposals of the corporation met with opposition from the Local Government Board the principle was embodied in clauses that were assented to by the Committee of the House of Commons and would no doubt pass the House. Many communities would probably seek protection of a similar kind unless the provisions were incorporated in an Act applicable to the whole country

In the animated discussion which followed the reading of Dr Hope's paper Dr E. C SEATON (London) agreed with Dr Hope that private practitioners should receive the same advantages as the public vaccinators but he stipulated that *they should come under equally stringent regulations as to* the method of performing the operation and of returning their results, more especially as they should materially strengthen their main safeguard in the prevention of small pox if only they could rely on perfect primary vaccination throughout all classes of the community Further if it was impossible for the Government to provide all the vaccine lymph employed for vaccination and revaccination he was of opinion that it should at least so control the supply as to guarantee the distribution only of efficient and active material Dr Seaton regretted that the scope of the subject under discussion did not permit him to enter into the question of isolation of first cases in an outbreak, which he personally considered to be one of the most powerful weapons in the fight against small pox.

Dr L J EDWARDES remarked that compulsory vaccination in infancy had reduced the infant mortality but that the adult death rate from this disease was higher now in this country than before the introduction of vaccination by Jenner hence he argued that primary vaccination was insufficient. The Germans had thoroughly grasped this fact and by *means of compulsory* and *repeated vaccination* had practically stamped out the disease Isolation was good but prevention by means of revaccination was better and he would advocate revaccination of school children at the age of 12 years and again later in life, especially in the event of the occurrence of an epidemic. Compulsory powers should also be given to local authorities to revaccinate all individuals living in the vicinity of an outbreak, and finally he would welcome the supply of a vaccine lymph guaranteed by the Government

Dr J G GORNALL (Warrington) mentioned an interesting fact that had come under his own observation which appeared to indicate the possibility of the hereditary transmission of immunity—viz. that the children born of revaccinated parents were much more resistant to primary vaccination than were the offspring of those who had merely undergone primary vaccination During the epidemic of 1882 in Warrington some 14 000 inhabitants including a large number of young female mill hands working in the town were revaccinated and in the course of his work as public vaccinator he had been particularly struck with the difficulty which he so often experienced when vaccinating the children of these women *in obtaining successful* primary vaccination results He was strongly of opinion that vaccination should be completely under the control of the health authorities of a town.

Dr J T C. NASH (Southend) pointed out and emphasised the fact that small pox was almost unknown amongst the successfully revaccinated population He then went on to say that the ordinary vaccine lymph of commerce was extremely uncertain and was sometimes quite inert and he advocated Government control of the lymph supply thus ensuring standard efficiency together with a satisfactory guarantee of its activity

Dr R. C. DRYSDALE (London) referred to the recent epidemic of small pox in London and in contrasting this with the conditions that obtained in Germany he stated that the mortality in the latter country for the year 1898 only amounted to 15 out of a total population of 45 000 000. He was certainly in favour of compulsory revaccination as the most powerful weapon at their disposal against this essentially preventable disease.

Dr N E. ROBERTS (Liverpool) said that the main question *before them was whether they could recommend some* legislation in connexion with revaccination for the benefit of the public at large, for he supposed that they were all of one mind that revaccination was absolutely the best thing, both for the individual and for the State.

Dr THEODORE DYKE ACLAND (London) remarked that he was in favour of the view that the average Briton was much more easily led than driven and he considered that they would get far better results if they showed that their own position was absolutely impregnable, and so left no loophole for people to escape from the conclusion that the individual was greatly benefited by revaccination. In fact, the most important work for the medical profession at the present moment in this connexion was the education of public opinion. He then moved the following motion

That inasmuch as there is strong evidence to show that the effect of *infant vaccination has very largely lost its effect after* 10 or [illegible] years it is desirable that all children should be revaccinated at the age of 12 years.

The PRESIDENT expressed his distinct conviction that compulsion was necessary At the same time the English people would not be coerced, and he quite agreed with Dr Acland that it would be unwise to drive the objectors too far and he would, therefore, leave a loophole for the escape of fanatics or conscientious objectors. Such a loophole was at present in existence by reason of the provision for the conscience clause in the last Act

Dr J M RHODES (Didsbury) seconded the motion and while he agreed that a loophole should exist he argued that it should be made as small as possible People would strongly object to a man bearing a lighted torch walking about in a crowd yet many of those who refused to be vaccinated were quite as dangerous to the public safety

On being put to the meeting the motion was carried unanimously

Dr RHODES submitted a further motion —

That in the opinion of this section of the British Medical Association the duties appertaining to vaccination and revaccination should be *transferred from the* Poor-law authorities to the county [illegible] authorities, as those responsible for the public health.

In supporting this motion he stated that he did not believe that the Poor-law guardians constituted a proper authority to administer the Vaccination Acts Further the profession and the guardians were not always in perfect agreement although on this particular question agreement was absolutely essential His own opinion was that the administration of the Act should be placed in the hands of the magistrates but if this were impracticable it certainly ought to go into the hands of the local sanitary authorities The Association of Poor-law Guardians had [illegible] expressed its approval of such a change

The motion was seconded by Dr [illegible] and Dr EDWARDES in supporting it urged that it was extremely desirable for the efficient working of the [illegible] this motion that a central authority should be established in London Such a measure was an imperial one [illegible] required to be carried out in an imperial manner [illegible]

On being put to the meeting this motion was also carried.

Dr C [illegible] (Le[illegible]) read a paper on

What are the Factors Influencing the Production of [illegible] and How can they be Reduced to a Minimum?

He stated that return cases of scarlet fever were due to infection carried by patients [illegible] home and must therefore be regarded as essentially a "hospital phenomenon" The infective influence arising from the discharge of patients from hospital might persist for at least six weeks On the other hand, analogous cases rarely occurred after the discharge of cases treated at home. The fatality of return cases, it should be noted, was above the average Return cases, however, could not be considered as due to premature discharge, for it was the common experience of all hospitals that mere increase of length of stay in hospital would not prevent their occurrence, and in point of fact there were grounds for fearing that prolonged residence in an infected atmosphere predisposed to their occurrence, even if it were not actually productive of them Neither did his experience support the supposition that return cases were in any way connected with protracted desquamation of the cuticle Dr Millard mentioned that the principal clinical conditions associated with the occurrence of return cases were discharges from the ear and nose, and he stated that some observers had suggested that these discharges were to some extent a hospital product. The ultimate causation of return cases might therefore be ascribed to inhalation of an infected atmosphere leading to the accumulation of infective matter in the nasal cavity, which was discharged after the patient's return home, and also in some cases to a residence in an infected atmosphere interfering with the elimination of infection by the patient and thus retarding recovery Dr Millard then suggested that the most effectual means for the prevention of return cases consisted in (1) isolation of convalescents from acute cases, or cases still infectious, prior to discharge from hospital, and (2) the substitution of an ordinary house for a hospital and separate rooms for large wards In conclusion Dr Millard pointed out that in Manchester in 1901 return cases neutralised 48 per cent. of the advantage gained by hospital treatment in preventing secondary cases.

The PRESIDENT did not consider that the occurrence of return cases could be held to outweigh the great advantages of isolation hospitals in preventing the spread of infectious disease

Dr MERVYN GORDON, who showed a series of lantern slides, held that the prevention of return cases was best attained by rendering all discharges innocuous by the careful use of suitable disinfectants, rather than by keeping the convalescents in hospital till all discharge had stopped.

After a few remarks by Mr C H TATTERSALL (Manchester), Dr HOPE stated that the proportion of return cases in Liverpool was small, whilst the mortality of scarlet fever patients treated at home, even when the attack appeared to be a mild one, was higher than was that of the hospital treated cases, including those of marked severity

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PSYCHOLOGICAL MEDICINE

WEDNESDAY, JULY 30TH.

President's Address

Mr G W MOULD (Cheadle) dealt in his presidential address with the question of recent advances in the housing and treatment of the insane and especially with the employment of the system of detached blocks or "villas" for patients He paid a high tribute to the memories of Dr Bucknill and Dr Hack Tuke who by their work laid the solid foundations on which had been erected the subsequent achievements of Henry Maudsley, Crichton Browne, Clifford Allbutt, and others, in psychological medicine The late Professor Charcot was a prominent figure at the last meeting of the section in Manchester 25 years ago and took an active part in contributing to the papers and discussions in nervous and mental disease on that occasion Professor Virchow was another prominent figure among the visitors during the same year and contributed not a little to stimulate pathological investigation and research In 1858, when Mr Mould began to practise in mental diseases, heroic dosage of drugs and heroic therapeutics, such as the use of the whirling chair and the administration of large doses of tartar emetic, were largely in vogue in asylum practice. Much of this had, however, died away with the advancement of knowledge. The housing of the insane had always been a matter for serious consideration and in the Manchester Royal Asylum at Cheadle he had, since 1862, adopted the plan of distributing the majority of the patients and of treating them in separate cottages or "villas" apart from the main building This plan of housing the insane was now being adopted extensively both in Europe and America and it had at present the support of the most advanced and enlightened psychiatric physicians He was glad to see such a large and representative assembly of alienists present from all parts of the kingdom and hoped that the papers and discussions of the section which were to follow would prove a success A vote of thanks was unanimously accorded to the President for his concise, interesting, and practical address

Sir JOHN SIBBALD, M D, Commissioner in Lunacy for Scotland, opened a discussion on

The Care and Treatment of Persons of the Poorer Classes in the Early Stages of Unsoundness of Mind

His proposal was to establish wards in general hospitals for the treatment of persons of the class just referred to The suggestion that such wards should be established in Scotland was recently submitted to the profession in Edinburgh by Dr J MacPherson and himself The authorities of the public asylums had for years been most earnest and successful in making their institutions more and more efficient as hospitals for the insane. But persons who had been patients in asylums were, whether justly or not, handicapped in their future careers after being discharged as recovered The friends and relatives of patients therefore felt a natural reluctance to avail themselves of the benefits to be obtained in asylums. A more important reason for wishing that wards for patients in the incipient stages of mental disease should be provided in general hospitals was that patients suffering from such incipient illness could not be certified as insane and received into asylums, and although they might properly be received into general hospitals, yet as a matter of fact, they seldom were There was, it was true, in most hospitals a special emergency ward where patients suffering from acute alcoholic or other form of mental excitement or delirium were received, and in some hospitals also a few cases with symptoms of mental disorder were to be met with in the ordinary medical wards But it was not the general rule, and, in fact, it was quite exceptional to receive or to admit patients with mental disorder, and even in those hospitals where such patients were freely admitted there was no provision to admit all mental cases which it was wished to provide for The present position of the matter might be summed up in two propositions first, persons suffering from mental disorders in their early stages were not, and under British lunacy law could not be, provided for in asylums, and, secondly, such patients were at present, as a rule, unprovided with hospital treatment of any kind. All that he desired general hospitals to do was to do for mental disease in its early phases what they did for disease in general—viz., to receive patients of the poorer classes who suffered from incipient mental disorder and who could not be properly treated under the conditions usual in the homes of the poor but could be suitably treated in general hospitals. As far as facts enabled him to judge, he thought that if such "mental wards" were established in general hospitals they would not fail from lack of inmates Of course, there might be difficulties at first in deciding how certain cases—especially those of temporary mental disorder due to alcoholism—should be dealt with, but such difficulties were not insuperable The length of time a patient with incipient mental disorder might remain in a general hospital was a very important point and he was of opinion that it should not be longer than six weeks Such a restriction was necessary, if for no other reason, to prevent the wards being used for any except incipient cases At the meeting of the Medico-Psychological Association held recently in Liverpool, Dr Nathan Raw stated that out of 3129 cases of mental disorder which had during the past five years come under his survey at the Mill road Infirmary, Liverpool, no less than 1006 were discharged as recovered, although such patients were prevented by statute from remaining in the wards longer than 17 days, and he (the speaker) understood that Dr E S Reynolds had had similar experience in Manchester, and Mr J Carswell in Glasgow Such facts were significant, though to weigh their significance quite accurately it was requisite to know the proportion of acute alcoholic cases among the patients treated. He suggested that it was desirable that the mental wards which he proposed for general hospitals should be in charge of physicians who had devoted their special attention to the care and treatment of mental disease, and he thought that the proportion of cases for which such hospital treatment was desirable was not small. Success usually attended the treatment of most forms of incipient mental disease by skilful medication, diet on approved therapeutic principles, prolonged rest in bed and continuous nursing night and day, all of which could be well carried out in a general hospital He thought that it was an excellent practice to employ female nurses in such mental wards, as they were employed in other wards of general hospitals In an interesting paper on the pyschiatric wards of the Copenhagen Hospital published in the July number of the *Journal of Mental Science* Professor Pontoppidan furnished valuable evidence founded on an experience of 14 years in support of the practice of employing female nursing in the class of cases alluded to, and already this view was gaining hold in the asylums of Great Britain. There was at present in the air the rival proposal of providing separate special hospitals—institutions apart from general hospitals and public asylums—for the reception and treatment of incipient cases of mental disorder An insuparable objection to this scheme however was that by whatever attractive name such hospitals might be designated they would be classed by the public as "asylums" and the patients whom it was wished to benefit would accordingly shrink from entering them. The importance of avoiding everything which was suggestive of, or connected with asylums in the public mind was indeed so great that if such wards as were proposed were established in general hospitals it would be essential that their structural arrangements and their mode of administration should be such that while fulfilling all the requirements for mental cases they should in no way be obviously distinguishable from the ordinary medical wards. Such wards would offer exceptional facilities to the medical student for gaining a practical acquaintance with mental disorders in their early and incipient stages. Patients seen by the student attending the usual course of clinical lectures for a term in a public asylum were not such as he would be called upon to treat in general practice. What the student and the general practitioner required was to learn to distinguish and to treat the various forms of mental disease at their incipient and early stages and before they had advanced sufficiently to need certification and sequestration in an asylum With such knowledge the practitioner would be prepared to render important services to his patients at the most critical period of their lives, when the mental life and capacities of the latter hung as it were, in the balance But above all considerations there rose the supreme fact that the establishment of such wards would give an opportunity for the special treatment of mental diseases at the time and stages when they were most amenable to treatment and when the prospect of recovery seemed to be the most hopeful.

Dr D YELLOWLEES (Glasgow) in the discussion which followed the above expressed his appreciation of the temperate tone of the paper and stated that non certifiable mental ailments such as hypochondriasis hysteria and other like conditions were far more frequent in the social grades above that of the poor who as a rule, had to work for their living and did not develop such neuroses or psychoses He thought that removal from home, open-air country life, with suitably prescribed rest and exercise and the needful medical treatment were the best modes of procedure. He therefore was in favour of separate and special hospitals for such patients, situated preferably in the country away from noise dust, and smoke.

Dr J WIGLESWORTH (Rainhill Asylum) thought that a mental department attached to large general hospitals would be an advantage for patients whose mental disorders originated from acute toxic sources and who tended to recover within two or three weeks of the first on et of mental symptoms For other cases—and they formed perhaps the majority—he was of opinion that special mental hospitals would prove more useful.

Dr OSCAR T WOODS (Cork) was of opinion that the number of cases which would seek admission into the mental wards proposed to be established in general hospitals would be small He would welcome any scheme that tended to promote the cure of mental disease in an early stage, as it was a fact that in the class of ca es admitted to asylums the recovery rate was very low and it could be maintained as a general proposition that no more than 5 per cent. of the population of our asylums were curable

Dr DAVID BOWER (Bedford) generally concurred in the proposals put forward by Sir John Sibbald but thought that out-patient departments should be established at existing asylums and that the resident physicians should be allowed to see patients in consultation outside the institutions to which they were attached.

Dr ROBERT JONES (Claybury Asylum) was in complete sympathy with the aims and objects put forward by Sir John Sibbald. He favoured the establishment of special hospitals for the reception of early cases of insanity in or near London as these could be made centres of clinical teaching also

Mr JAMES STEWART (Clifton) dwelt upon the odium attached to the words lunatic and asylum" by the general public and thought that the term 'asylum should be discarded for the term "hospital for mental diseases.

Dr A. T SCHOFIELD (London) said that his attitude was one of discontent at the unsatisfactory state of psychological medicine in regard to early diagnosis and the treatment of incipient cases owing to the want of opportunities for instruction in this matter both for the general practitioner and even for the neurologist.

Dr W LLOYD ANDRIEZEN (London) said that the question was one of deep scientific and social importance. The present attitude of the specialty was one of reaction from the despair entertained for long and now confirmed yearly concerning the relative incurability of cases in asylums the true recovery rate being in fact, about 10 per cent. or even less He thought that out-patient clinics and wards for the reception of early and suitable mental cases should be provided in general hospitals and he believed that for a large class of cases institutions on the farm colony system should also be provided.

Dr T SEYMOUR TUKE (London) thought that the reduction of incipient insanity would be a boon and would tend to reduce the ratio of criminality in certain respects. He looked with favour on special wards or special hospitals which no doubt would arise in accordance with the needs of the community

Dr WILLIAM DOUGLAS (Leamington) strongly supported the proposition of establishing wards for mental cases in general hospitals.

Mr G E. MOULD (Sheffield) said that he had no hesitation in supporting Sir John Sibbald s scheme as his experience in the mental out-patient department of the Sheffield Royal Hospital bore out the views propounded by Sir John Sibbald

Dr FLETCHER BEACH (London) spoke favourably of the scheme of having an out patient department for receiving and treating certain forms of minor mental disorder as Dr Henry Rayner had done for years at St. Thomas s Hospital As regards the admission and treatment of such cases in hospital wards he thought that there was more to be said for than against it

Dr ALEXANDER BRUCE (Edinburgh) stated that his experience had led him to sympathise strongly with the scheme propounded by Sir John Sibbald.

Dr E. S REYNOLDS (Manchester) strongly supported the view that general hospitals should contain wards for mental cases and said that his experience in Manchester indicated that undoubted benefit would follow such a scheme

Dr JAMES SHAW (Liverpool) was in favour of the reception of patients into the mental wards of general hospitals and thought that a further scheme of convalescent homes connected with the former would be worthy of consideration.

The PRESIDENT made a number of general observations on the importance of the subject of Sir John Sibbald s paper and said that on the whole the scheme deserved encouragement and sympathy The discus ion then concluded.

PHYSIOLOGY AND ANATOMY

WEDNESDAY JULY 30TH

Dr D BERRY HART (Edinburgh) read a paper and gave a demonstration on

The Development of the Human Genito-Urinary Organs

After briefly reviewing and criticising the existing view as to the origin of the vagina, uterus and Fallopian tubes he passed on to give his opinion as to the part played by the Müllerian and Wolffian ducts in the development of these organs He considered that the Wolffian duct was entirely ectodermal in origin and that the Fallopian tubes uterus and upper two-thirds of the vagina were formed from the fused [illegible] hi d of the vagina was formed from [illegible] d Wolffian ducts The hymen, [illegible] rom the Wolffian duct by the coalescence of bulbous proliferations of its cell while the prepuce of the clitoris and penis was formed as a solid ingrowth of surface epithelium which subsequently underwent central desquamation to form the lumen. He pointed out that a similar mode of formation occurred in the case of the sweat glands, the anus, the amnion, the urethra, and the like The remarks were illustrated by numerous drawings, photographs, and lantern slides

Professor A M PATERSON (Liverpool), after thanking Dr Hart for his interesting paper, said that he was unable to accept the view that the Wolffian duct was of ectodermal origin, he regarded it as a mesoblastic structure

Professor ARTHUR ROBINSON (London)' found himself unable to accept the view of the development of the lower part of the vagina which Dr Hart had propounded until Dr Hart was able to explain how it was that, if the vagina was formed by the union of the Wolffian ducts and uro genital sinus the bladder opened at the anterior margin of the vagina and not into it

Dr PETER THOMPSON (London) pointed out that the nerve supply and general morphology of the flexor group of caudal muscles in the lower mammalia did not support the view that the pubo coccygeus was primarily associated with the lower end of the genito urinary tract

Dr HART briefly replied to the various speakers

Mr F A. BAINBRIDGE (London) read a paper on

The Relation of Metabolism to Lymph Formation

After pointing out that lymph formation might be considered in its relation either to the blood or the tissues he passed on to deal with the relation which existed between tissue activity and lymph formation He said that in the case of the sub-maxillary gland, the liver, and the pancreas increased secretion—i.e, increased metabolism—invariably lead to increased lymph formation The possibility of its formation being due to altered capillary pressure and permeability was excluded and it seemed probable that the lymph was formed as a direct result of the metabolism He supposed that during metabolism crystalloid bodies were formed in the tissues, these passed by diffusion into the lymph, raised its osmotic pressure and therefore attracted water from the blood, the result being an increased flow of dilute lymph

In the discussion that ensued Professor W H THOMPSON, Dr J S EDKINS (London), and Professor W STIRLING (Manchester) took part

Professor ROBINSON showed a Hand in which there was congenital absence of the right middle finger The history of the case, he said was interesting as the mother prior to the birth of the child had frequently foretold some deficiency of this particular member Professor Robinson pointed out that the maternal impression could have had no effect on the production of the malformation, as dissection showed that the flexor tendons to the missing finger were present though fused to those of the index finger, and these tendons were developed long before the maternal impression existed

Professor STIRLING made some brief observations on Parturition in the Guinea pig After pointing out the smallness of the pelvic outlet and the immoveability of the bones in a non pregnant animal and the comparative large size of the newly born animal he demonstrated how in the pregnant guinea pig the symphysis pubis became widely separated and the bones freely moveable.

Professor PATERSON brought forward a communication on the Development of the Shoulder Girdle in Mammals

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PATHOLOGY

THURSDAY JULY 31ST

Professor G SIMS WOODHEAD (Cambridge) opened the discussion on

The Place of Bacteriological Diagnosis in Medicine

with a paper in which he considered especially the bacteriological diagnosis of diphtheria and referred briefly to the bacteriology of cholera anthrax, typhoid fever, and other diseases His experience in regard to diphtheria extended to nearly 30 000 examinations in 12 172 patients during the past three years Careful examination satisfied him that the value of such examinations was rather under than over estimated The clinician and the bacteriologist must work together and if they did the errors in diagnosis were reduced from 20 per cent. to 5 per cent. in diphtheria cases He found that the clinical and bacteriological diagnosis agreed in over 73 per cent of cases In 26 per cent no bacilli could be demonstrated, but he considered that the clinical diagnosis was accurate in more than the 73 per cent., for there was difficulty in obtaining information concerning many of the specimens sent for bacteriological investigation It was very important in making a diagnosis to obtain accurate information as to the conditions under which the swabs were taken and in which the patient existed Diphtheria bacilli might be present in normal throats as, for instance, in those of nurses attending diphtheria hospitals, but if the general health was low or if an attack of catarrh occurred the diphtheria would surely develop Again, in children with laryngeal diphtheria the membrane might be inaccessible to the swab and no culture be obtained In cases of diphtheria *in extremis* he had sometimes got a negative result. In these cases the diphtheria bacillus after having done its work seemed to be ousted from its position by putrefactive bacteria late in the case. In laryngeal diphtheria 68 per cent were unsatisfactory bacteriologically, no bacilli having been found in severe cases followed by paralysis There was a great necessity for repeated examination to elucidate the diagnosis and to direct the after treatment In 66 patients a negative bacteriological diagnosis was obtained and this was followed in another attempt by a positive diagnosis of diphtheria bacillus In many cases patients were dismissed from hospital with the diphtheria bacillus still present. Professor Woodhead considered that the patients should be isolated until the bacilli had entirely disappeared. Attention should be paid to the complicating organisms which were found along with the diphtheria bacillus and their effect on the mortality From his figures Professor Woodhead found that the highest mortality obtained where the typical long diphtheria bacillus was present and that the mortality diminished as this form was departed from. This left out the very virulent forms in which the bacillus had a short wedge shaped form In pure cultures of the long bacillus the mortality was 21 4 per cent, where the long and short bacilli were present about 20 per cent., when short and irregular forms a little over 18 per cent, in irregular forms alone 17 3 per cent., and in short forms alone 3 3 per cent In mixed infections when the streptococcus was present with the diphtheria bacillus the mortality was 24 5 per cent. with the long bacillus and 10 4 per cent. with the short The most fatal form of diphtheria was that in which the pathogenic organisms were mixed with staphylococci, in which the mortality was 42 5 with the long diphtheria bacillus and 11 9 with the short The mortality was always higher in mixed infections In scarlatinal cases the lowest mortality was with diphtheria bacilli alone. Professor Woodhead considered that the period of isolation after diphtheria should be extended as every case of diphtheria was a centre of infection until the bacillus had disappeared from the throat He entered in detail into the length of time he had found the bacillus still present after diphtheria. The presence up to eight weeks was very common. From two to nine weeks was the time in which they might be present but there were some exceptional cases in which this period was exceeded

Professor D J HAMILTON (Aberdeen) congratulated Professor Woodhead on his elaborate and accurate paper His own observation bore out every point upon which Professor Woodhead had insisted There was always a difficulty with the pseudo-diphtheritic bacillus but the cases in which this arose were few The only method of differentiating accurately between this and the true bacillus was by inoculation experiments The mistakes in diagnosis of diphtheria bacillus in his practice did not exceed 4 or 5 per cent.

Major R. H. FIRTH, R.A.M C, said that some years ago too much reliance was placed upon the bacteriological diagnosis but its relative value was now more clearly defined. No opinion could be given in a hurry in regard to diphtheria water &c He strongly insisted that a diagnosis could not be made in 24 hours and refused to give an opinion under 10 days The danger signal of cholera in water was the presence of a large number of fluorescent vibrios Previously healthy waters in which these vibrios suddenly appeared were certain to cause an epidemic of cholera in a few weeks. He had never seen a typhoid bacillus recovered from a sample of water but bacilli coli communes and other bacteria were found and in these cases the water should be condemned Streptococci were always present in polluted waters and if found indicated a recent contamination Taken alone, the streptococci were not sufficient to condemn the water but when combined with bacillus coli communis the water should be rejected

Professor S. DELÉPINE (Manchester) expressed his thanks to Professor Woodhead for his valuable address and a general agreement with his statements Some differences in the results obtained in Manchester were chiefly due to the administrative methods and class of cases dealt with since 1893 he had insisted upon the importance of the bacteriologist not taking upon himself any administrative responsibility The medical officer of health *with the assistance of the clinician and the bacteriologist*, must remain the only person responsible for diagnosis upon which administrative measures were based. In relation to typhoid fever it was important to remember that negative results obtained before the seventh eighth, or ninth day were not to be relied upon as conclusive, although positive results might be accepted Professor Delépine discussed the advantages of a modification of the Widal method which he had introduced.

Dr W G SAVAGE (Cardiff) discussed the relationship of bacteriological diagnosis to state medicine Complete appliances were necessary for accurate work and the difficulties of bacteriological diagnosis had increased with more extended knowledge. The value of bacteriology in state medicine fell under the following heads (1) the examination of material from suspected cases of diphtheria, &c. (2) the examination of foodstuffs, especially milk and meat (3) the systematic examination of water supplies, and (4) the special investigation of threatened outbreaks of plague, anthrax, &c.

Dr G LESLIE EASTES (London) insisted upon the necessity for caution in the interpretation of the results of bacteriological analysis and pointed out some of the difficulties which assail the bacteriologist. He illustrated the latter from his experience of the Widal reaction.

Dr G NEWTON PITT (London) who presided, referred to the clinical aspect of bacteriology He had seen several cases in which the diphtheria bacillus was present, but there was no inflammation of the throat or larynx How were these to be treated? He did not agree with Professor Woodhead's opinion that they should all be isolated and he illustrated the difficulty in applying this measure to large schools.

Dr R. M KALAPESI (Bombay) said that in India typhoid fever assumed peculiar types, which were very difficult to diagnose even at the end of the second week. Since the Widal reaction had been introduced these cases were readily diagnosed. He referred especially to cases of so-called remittent fever many of which were found to be typhoid fever Again cases of Malta fever were found in patients who had never been out of Bombay and many of these were proved to be typhoid fever by the Widal reaction

Professor SIMS WOODHEAD reserved his reply

Major R. H. FIRTH R.A.M.C and Major W H. HORROCKS, R.A M C communicated a paper on

The Viability of the Enteric Bacillus in Soils and in Fabrics.

They said that although water was the universally recognised medium by which enteric infection was spread there were other means by which enteric fever might be disseminated. Of the less commonly recognised factors recent experiences in India and South Africa had directed attention to the soil and fabrics as sources of contagion. After discussing the diagnosis of the typhoid bacillus and the methods used in the investigation they concluded (1) that there was no evidence that the typhoid bacillus in soil could increase or grow in different directions (2) that the enteric bacillus could be washed through at least 18 inches of closely packed soil by means of water (3) that the bacillus survived in soil for varying periods sometimes as long as 74 days (4) that the enteric bacillus could survive in soil whether polluted or not (5) that its survival was dependent upon the amount of moisture present (6) that the bacillus could be recovered from fine dry sand after 24 days but if the sand was kept moist the bacillus could not be recovered after the twelfth day probably from being washed down into the deeper layers (7) that the bacillus rapidly died out in peat (8) that from ordinary soil kept damp with rain water the bacillus could be recovered on the sixty seventh day with dilute raw sewage on the fifty fourth day with dilute sterile sewage on the seventy fourth day and that in similar soil the bacillus at once disappeared from the surface layers after heavy rainfall (9) that infective material could be readily carried from dried soil and sand by air currents; (10) that the bacillus was recoverable from khaki drill on the seventy fourth day, from khaki serge on the eighty-seventh day and from blue serge on the seventy eighth day and (11) that ordinary house flies could convey infective matter from excreta or other polluted material to objects on which they walked rested or fed and that such infective matter appeared to be attached to their heads, legs bodies, and wings but the bacillus did not pass through their digestive tract.

OPHTHALMOLOGY

WEDNESDAY JULY 30TH

Dr CHARLES EDWARD GLASCOTT opened the sectional meeting with an expression of his deep regret at the absence from the chair of Dr David Little owing to indisposition. He welcomed the gathering to Manchester thanked them for their interest, and believed that in the Royal Eye Hospital would be found something of interest to note

Mr R. MARCUS GUNN (London) opened the discussion on

Functional Derangements of the Eye (so-called Hysterical)

At the outset he said that he intended to confine his attention to functional or hysterical amblyopia, a sufficiently wide subject to do any justice to The clinical observer was confronted with the difficulty of separating hysterical loss of vision from malingering In both were found (1) loss of vision in one or both eyes, partial or complete, usually of sudden onset (2) absence of ophthalmoscopic evidence of disease in the optic nerve or in the fundus to account for the visual failure and (3) absence of any impairment in the reaction of the pupil to light Further in functional cases they observed mostly that the visual loss and associated symptoms and the after history of improvement or recovery did not correspond to the product of any known organic lesion or disease. *Malingering* would always be a difficulty especially when advantage might result to the patient on claims for damages arising out of the association of the amblyopia with accidents or in the shirking of disagreeable duty here one must be guided to some extent by impressions drawn from the patient's general attitude Functional amblyopia was more common in females and it was in these cases particularly that hysteria and deceit were likely to overlap or to merge. There were certain recent statements to the effect that a true hysterical one-eyed blindness might co-exist with good binocular vision that an eye unable to see alone could see in partnership with the other If this were true there must be a double distinct central representative in consciousness (1) of each eye by itself and (2) of both eyes together and one must here suffer and not the other That *fusion* was distinct from double vision was certain but more than this he could not believe, but rather held the older simple view that binocular vision *plus* one-eyed blindness meant *duplicity* truly but of another sort. A variety of simulation occurred commonly in young women who complained of recent failure of sight in both eyes and who did not assign any cause or complain of pain The vision equalled about [illegible] but was improved greatly by a weak plus lens and still more so on adding thereto the compensating lens. This could only be feigned" even suggestion could not be called in to explain a supposed cure Recently there had been described cases of one-eyed functional amblyopia with mydriasis of the same side he would like to be satisfied (1) that the inequality of the pupils did not pre-exist and (2) that there was no associated loss of accommodation as might follow the use of a mydriatic It was said with these cases that there might be associated spasm of accommodation in the amblyopic eye, but it was not stated if this coexisted with the mydriasis—a strange combination—or with myosis. On the general question complete double amaurosis was rare he had seen one following mydriasis this was cured by suggestion. More commonly the loss of sight was complete or partial in one eye only here the reaction of the pupil to light was of greatest importance lest after contraction to light there should be with continued exposure a secondary dilatation a phenomenon associated with the amblyopia of retro-bulbar neuritis—a disease not infrequent in young hysterical women as a precursor of insular sclerosis. Rarely functional homonymous hemianopia might occur this had been denied but he had seen cases thereof. In one case a female aged 33 years there was such a condition following on a series of marked sensory manifestations yet on objective examination no abnormal condition could be found. The functional condition [illegible] of simulation was that limiting of visual field associated with functional hemiplegia and hemianæsthesia. Here the visual defect was more commonly discovered by the examining surgeon, the loss of field was noted to be greatest upon the side corresponding to the side of motor or sensory defect. It had been said that in similar cases the field for red was greater than that for white or blue, recently he had examined for this without success In a large class of cases the amblyopia was definitely associated with an injury, one producing a considerable degree of shock, Mr Gunn detailed three such cases wherein a railway accident, a fall from a horse, and a pin prick were the exciting causes, producing great diminution of vision and from which recovery was complete Of the nature of nerve injury underlying these hysterical manifestations they were in the dark, some might be associated with simulation, others with an early obscure manifestation of a real organic disease, it was certain that some hysterias terminated in insular sclerosis There might in general be a disturbance of association fibres betwixt higher and lower centres, the centres were capable, the reception was good but the consciousness thereof was diminished Change of scene and friends afforded the most certain lines of treatment. Judicious dietary, assafœtida, and faradism were of use.

Mr W T **HOLMES SPICER** (London) said that as to the question of helical fields in hysterical amblyopia it would be interesting to know whether Mr Gunn had tested the visual field of one eye to complete exhaustion and then observed whether the other field was also similarly contracted He believed it was so, and if so it would go to prove that the lesion was not retinal but was central as Mr Gunn had suggested As to one eyed mydriasis he had met a case lately a girl who had defective sight in one eye of sudden onset in which mydriasis was present No cause could be found for the mydriasis, the patient was carefully watched in the hospital and hysteria was suspected. After about a month very slight pallor appeared in the optic nerve showing the case to be one of retro-ocular neuritis

Dr A. **MCGILLIVRAY** (Dundee) said he had seen very few such cases. They must be exceedingly rare in Scotland.

Dr A. H **GRIFFITH** (Manchester) felt the question turned on whether they should judge the subject as patient or culprit, if as "patient," was the cause organic or functional? He had no doubt as to their occurrence, he had seen them in Manchester and he felt an inclination to belief in an organic basis in many of them

Mr R. W **DOYNE** (Oxford) remarked on the peculiarity of a visual field of greater area for red than blue or white, it was contrary to all law Also, he would call attention to the occasional overlapping of traumatic functional amblyopia by toxic amblyopia, which was well set forth in a case of his where the patient in brooding over his "accident" blindness smoked himself genuinely blind, as the scotoma showed

The **CHAIRMAN** said that evidently his country was not so level headed as Scotland, for he had seen such cases from fright and fear of punishment In one case a man, who subsequently got quite well, obtained £500 damages for his injury, the shock arose from the vagaries of a petroleum lamp, in another it followed enucleation He would also remark on the danger of missing a toxic amblyopia, for sometimes this form was marked in one eye only

Mr **GUNN**, in reply, said he agreed that functional disorders were often opposed to physiology He had never seen red fields greater than white but the idea was that under peculiar conditions a red object might strike where a common white colour was ignored He thought that traumatic functional amblyopia might occur, but agreed that it was to be viewed with great caution, especially where questions of "damages" came in.

Dr **KARL A. GROSSMANN** (Liverpool) read a paper on a case of

Ivory Exostosis Operated upon and Observed during 18 Years

He had made an earlier communication of this case[1] The disease apparently commenced in 1884, when the man was 24 years of age There protruded below the inner half of the right eyebrow a large, round fixed, very hard swelling which filled this region of the orbit The eye was pushed down and out towards the zygoma, its movements were free, but the lids closed over it with difficulty There was considerable conjunctivitis, the optic disc was red, and the retinal veins were dilated. The vision equalled $\frac{10}{40}$ The left eye and orbit were normal save for a small hard knob of the size of a cherry stone above the inner canthus The vision equalled 1 There was a rather doubtful history of an injury arising from a crashing blow over the nose and eyebrows in 1882. Of this injury slight scars remained In 1886 the right cornea sloughed from the excessive pressure of the increasing tumour, also fistulous openings appeared in the lids The right eye was accordingly excised, and the patient fearing injury to the left eye from increase of the tumour in that orbit desired operative relief The removal was tedious, taking two and a half hours Two hard exostoses were excised from the left orbit by drilling into their bases and cutting between the drill holes With regard to the left eye, vision improved in 12 days from $\frac{10}{40}$ to 1 In 1892 the patient was again seen, there was a small sinus over the left inner canthus, the right orbit was completely filled by a bony growth, part of which in the nasal region was bare, and the lids were exceedingly œdematous and purulent. In 1895 matters were so bad that removal of the growth was imperative With the aid of Mr F O Larkin huge pieces of ivory exostoses were removed (these were exhibited), one mass was evidently an enlarged middle turbinated bone measuring 2¾ × 1½ × ¾ inches A large cavity of the nasal region resulted, through which the right palate could be seen, a couple of years later several plastic operations were performed with the result that the patient could once more pursue his business successfully The patient, who was shown, was now aged 42 years, had V $\frac{20}{20}$, and had no further trouble

Major M T **YARR**, R A.M C, read notes on two cases of

Indirect Gunshot Injuries of the Eye

Both cases occurred in soldiers engaged in South Africa In the first case the man was shot at close range with a Mauser through the head, the entrance and exit wounds were clearly marked on the lower lateral walls of the orbit, mobility of the eyes was not impaired and the globes appeared to be normal The right fundus was normal, the left disc and lower quadrant were "woolly" and raised 3 D, the vessels were tortuous, there were two large hæmorrhages near the disc The right eye had previously been amblyopic, he shot with his left eye, in a month's observation after his recovery from the shock vision improved from $\frac{6}{24}$ to $\frac{6}{18}$, vision in the left eye was *nil* The second case was that of a man who was injured by a Lee Metford bullet during an amateur firework display, he was struck on the left eyebrow Three weeks later ptosis and blindness of the left eye were reported The vision of the right eye now equalled $\frac{6}{6}$ and J 1 and that of the left eye $\frac{6}{36}$ and J 10, there were some abnormal pigmentation of the macula of the left eye and spotty choroidal changes In both cases the globes had not been touched and he believed the cause to be concussion or vibration from a distance

Mr N **BISHOP HARMAN** (London) said he had seen similar cases, one of a medical man whom he saw at the front beside whose head a shell had passed with great velocity, producing a superficial scarring as from a smart burn, there was also complete loss of vision from optic atrophy, probably this might be considered to be a reflex action from the damaged and irritated fifth nerve The second case was that of a field signaller now attending the out-patient department of Middlesex Hospital, he had been knocked over by the explosion of a shell a couple of yards from him. The vision of the right eye had steadily gone down to a very limited perception of light, all the retina was finely detached except at one small part which could be mapped out by the perimeter At the same time the left eye had vision of $\frac{6}{9}$ or with $-0\ 75$ D = $\frac{6}{6}$, the man was confident that this eye was perfect before the explosion as his signalling would show The question might be asked, Had the shock set up a low form of inflammation in the globe allowing stretching of the coats producing detachment of the retina in the one eye and a low degree of myopia in the other?

Mr **CHARLES G LEE** (Liverpool) narrated two cases of similar injuries A man, aged 19 years, was struck with a bullet from an air gun on the outer surface of the left lower lid, it did not penetrate but caused contusion There was free hæmorrhage into the eyeball which later was absorbed, leaving a condition resembling "retinitis proliferans" following the course of the temporal branches of the retinal vessels. There was perception of light only, the globe was shrinking In the second case a bullet from a toy pistol penetrated into the upper and inner part of the orbit, where it was located by x rays On the fundus of the eye was a patch of blood which was now white and degenerate.

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[1] Ophthalmological Review December 1887

Major YARR, in reply said that he did not think Mr Harman's cases quite paralleled his, he felt they were more like the results following lightning stroke, cases of which he had described, the second case of Mr Lee he thought of particular interest

Dr J A. MENZIES (Rochdale) read a paper on

Detachment of Corneal Epithelium.

The condition he described as essentially one of defective attachment of the surface epithelium to Bowman's membrane, usually following superficial abrasion. Arlt noted cases in 1869 Grandclément in 1888 as traumatic keratalgia, and several other observers at later dates. In his own cases he had noted the onset of the lesion after injury the great suffering caused by it, especially on opening the lids of a morning rubbing the eye in certain ways, and the definite appearance of a ruffling of the epithelium so that even a fold could be seized by forceps or the formation of a blister He believed the acute pain to arise from the interlocking of the ruffled corneal epithelium and the inequalities of the tarsal covering and the frequent relapses to the indifferent fixation of the new epithelium to Bowman's membrane. In his hand thorough scraping had been of most avail, bandaging was useless cocaine drops might be used at night if necessary

Mr C. DEVEREUX MARSHALL (London) objected to the use of cocaine in such cases its action would be sure to clear off the remainder of the epithelium, for it so acted on a normal cornea.

Mr SIMEON SNELL (Sheffield) thought the objection to cocaine was just. He advocated strongly peritomy—he had used it frequently with good results in any case he did not think it good to remove the rest of a damaged epithelial covering

Mr HOLMES SPICER felt that any treatment was rather despairing in America it was counted malarial though he did not believe this possible of home cases he had used quinine and arsenic without good He agreed that the pain was caused by the adhesion of corneal epithelium to the lid. He was inclined to think the lesion herpetic from its occasional alternating character and association in cases with menstruation. In one case he had performed iridectomy where tension had been raised and the cure was complete.

Mr DOYNE thought well of peritomy the 20 minutes relief from the instillation of cocaine was dearly bought with a worse succeeding condition. He was of opinion that the seat of the trouble lay in a diseased endothelial lining to the anterior chamber allowing transudation. He had performed iridectomy twice with good results for this lesion

Dr MCGILLIVRAY said he was sorry that cocaine was so badly attacked, truly it caused evaporation and damage in aqueous solutions but in oil it was not harmful but valuable.

Mr BISHOP HARMAN said he had noted similar bullæ of the cornea affecting captive fish here he had definitely ascertained that the condition was due to fluid infiltrating the layers of the substantia propria which by its deficient development in certain fish tended to break down under unnatural conditions.

Mr LEE read a paper on

Four Cases of Monocular Optic Neuritis

In all cases there was a comparatively sudden onset slight neuralgic pain locally rapid diminution of vision with contraction of field of vision and the appearance of marked choked disc, all these changes being confined to one eye only In none had there been any precedent febrile or grave constitutional disorder nor had there been exposure to the influence of noxious drugs, vapours &c. further there was nothing to indicate injury to the nerve behind the globe nor any suggestion of cerebral mischief In each case recovery was almost or quite complete. He was inclined to think the condition was a local affection and not one indicative o general nerve disease.

Dr GRIFFITH asked how these cases differed from retro-bulbar neuritis all the symptoms, he thought, pointed to this

Mr DOYNE thought the cases resembled retro-bulbar neuritis, in similar cases he had noted a large central scotoma or more correctly a better perception of light at the periphery than at the centre of the field.

Mr SIMEON SNELL (Sheffield) described a

Method of Suturing the Tendons to Form a Better Stump after Enucleation of the Eyeball.

He recalled Bowman's procedure of suturing the conjunctival opening one rarely used now indeed almost forgotten. He aimed at perfect clearness in removing the ball the least degree of disturbance to the embedding tissues and the arrangement of the cut muscles so that they would retract as little as need be and escape union with the scar He attached each tendon by a thread to the adjacent cut conjunctiva before detaching the tendon from the eyeball after removal of the globe the opposing tendons were tied together by these sutures and at the same time the wound of the conjunctiva was closed. Healing was more rapid the stump was more mobile and the glass eye could be used at an earlier date. He had employed the method in 50 cases and considered it a distinct improvement.

A paper on a like operation was read for Mr ERNEST CLARKE (London) He advocated fixing the external and internal recti only to the upper and lower margins of the conjunctival wound, which was further loosely closed by sutures He said that the power of lateral deviation should alone be aimed at in a good stump. Elevation was immaterial.

Mr EDWARD ROBERTS (Manchester) said that he had tried suturing opposing tendons and had given it up as appearing to afford no advantage.

Dr KARL GROSSMANN thought the procedure should be more generally useful than the use of the glass stuffing ball. The latter he had noticed tended to escape from its coverings after three or four years.

Dr F W EDRIDGE GREEN (London) proposed a motion to be recommended to the Council of the Association —

> That in the opinion of this section the employment of the Holmgren test for colour blindness by the Board of Trade is most unsatisfactory as the inefficient character of the test is now well known

He said that the test was fallacious since it depended rather on shade perception than on that of colour by its use notoriously colour blind people had succeeded in passing as sound whilst in the first year of its use by the Board of Trade of the rejected men who appealed there were found 38 per cent. of normal colour perception and similarly in the second year 42 per cent. of normals, thus it tended to pass bad cases and to reject sound men.

The motion was seconded by Dr GROSSMANN who pointed out that cases of scotomata were not distinguished as colour defective by the test these cases were important.

Mr SNELL thought the motion too extensive, especially in the absence of any suggested alternative test.

Mr DOYNE concurred with Mr Snell and suggested that the matter should be deferred

Dr EDRIDGE GREEN said he felt sure that such a motion would help the Board of Trade who recognised the fallaciousness of the test He would be happy to have an inquiry but thought he should ask for the sense of the meeting on the motion.

The CHAIRMAN then put the motion and declared it lost, stating that of 24 then present only seven voted—three for the motion and four against

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DISEASES OF CHILDREN

THURSDAY JULY 31ST

Mr HAROLD J STILES (Edinburgh) opened a discussion on

The Surgery of the Affections of the Central Nervous System which occur more especially in Children

Mr Stiles submitted a *résumé* and critical review of the several surgical procedures which in recent years have been practised in the treatment of various congenital and other abnormal conditions of the brain and spinal cord and their anatomical coverings. He discussed the surgical measures indicated in the different varieties of spina bifida and in the various forms of meningocele and encephalocele Dealing with congenital internal hydrocephalus he described the methods attempted for the relief of this condition but could not say that they had been attended with much success The surgical treatment of microcephalus had also proved a disappointment though benefit might result when there were signs of local irritation of the brain In tuberculous meningitis Mr Stiles was opposed to operation when the diagnosis was a matter of certainty, but in cases where a doubt existed an operation was justifiable in view of the possibility of the discovery of some condition capable of surgical relief In posterior basic meningitis it had to be remembered that many cases recovered under medical treatment. Surgical measures, such as lumbar puncture, puncture of the lateral ventricle, and drainage of the fourth ventricle were, however, of distinct value in some cases Paraplegia, the result of Pott's disease of the spine, was another condition often susceptible of treatment by surgical measures, more particularly when it was due to an abscess bursting into the spinal canal, when laminectomy was indicated. In the more chronic forms laminectomy should not be practised until rest and extension had been fairly tried Speaking of the surgical treatment of epilepsy Mr Stiles emphasised the importance of removing the dura mater as well as the bone in trephining the skull. This secured a permanent gap in the osseous wall which by a safety valve action accommodated itself to varying degrees of intracranial pressure.

Mr W THELWALL THOMAS (Liverpool) agreed that little could be hoped for in the surgical treatment of congenital hydrocephalus The pathological conditions on which this condition depended were so complicated that no single operation could be advised as suitable to every case, and it was only fair to state in advance that the chance of success was not great On the other hand, acquired hydrocephalus in adults had a much more hopeful outlook. The surgical treatment of spina bifida was analagous to the treatment of a hernia and was influenced by similar considerations One practical point was the necessity of using great care in dealing with the spinal cord, even the slightest injury was apt to cause a permanent paralysis Many cases of spina bifida which appeared very threatening were much improved by the systematic application of collodion, and indeed in this way the necessity for operation could sometimes be avoided.

Mr R. C DUN (Liverpool) deprecated undue haste in the operative treatment of spina bifida unless the sac threatened to burst as many cases subsided spontaneously He preferred excision to the injection of Morton's fluid. Whilst he could not claim a successful operation in tuberculous meningitis he had had success in non tuberculous cases In operating he advised approach through the lateral aspect of the skull rather than by the occipital route In dealing with congenital hydrocephalus the difficulty was to maintain drainage of the ventricles Dr Dun showed a tube made of knitted catgut which he hoped might be useful in this direction

Mr DOUGLAS DREW (London) also discussed various methods of draining the arachnoid space and agreed with Mr Stiles's suggestion to lead strands of catgut into the peritoneal cavity

Mr NOBLE SMITH (London) described the use of a splint in the treatment of angular curvature of the spine He argued that rest alone could not secure fixation Laminectomy might occasionally be required, but under the use of suitable apparatus many cases even though complicated by paraplegia, made a perfect recovery

Professor J CHIENE (Edinburgh) emphasised the importance of rest in the recumbent posture in the acute stage of Pott's disease No apparatus could be an efficient substitute for this Rest and appropriate methods of extension were essential. In the chronic stage the jacket, jury mast, and shoulder collar had their appropriate areas of application In spina bifida he was in favour generally of excision

Mr JOSEPH COLLIER (Manchester) discussed the methods of removing a collection of pus from the spinal canal and advised against the selection of the laminectomy wound as a suitable route

Mr STILES, in reply referred particularly to the proposal to use apparatus in the acute stage of caries of the spine He agreed provided it was understood that the apparatus was combined with, and not substituted for, rest and the recumbent posture

Dr J THOMSON (Edinburgh) read a paper on

Defective Coördination as a Probable Factor in the Causation of Certain Congenital Malformations

He instanced congenital hypertrophy of the bladder, of the colon and of the pylorus and stomach wall when each of these occurred apart from stricture or other organic explanation. In the absence of structural explanation of the hypertrophy it might be conjectured that these conditions were the result of functional disturbances which might well be of the nature of imperfect coördination Such imperfect coördination would be the more likely to occur when the physiological action of the several parts had not advanced to a stage of stable equilibrium.

Dr JULES COMBY (Paris) thought Dr Thomson's explanation a very ingenious one, though he could not admit that it was applicable to all cases

Mr STILES referred to successful treatment of congenital hypertrophy of the pylorus as advocated by Nicholl of Glasgow and described a case from his own practice.

Mr ROBERT JONES (Liverpool) read a paper on

The Surgical Treatment of Spastic Paraplegia,

and quoted a large number of cases in which he had secured added comfort and increased power of locomotion for his patients He insisted on the necessity of prolonged post-operative supervision and education if good permanent results were to be obtained

Mr NOBLE SMITH deplored the neglect by physicians of the chances offered by operation in many of the palsies of infancy in childhood. Even if complete cure could not be obtained considerable improvement was often possible

Dr C O HAWTHORNE (London) readily admitted the significance of Mr Jones's results He could not, however allow that all cases of spastic paraplegia were suitable for operation.

Mr JORDAN LLOYD (Birmingham) could not say that he had been impressed with the permanent value of the surgical treatment of spastic paraplegia

Mr JONES replied and also read a Note on a New Operation for Flail Paralytic Elbow

Mr JOSEPH COLLIER described the after treatment of erasion of the knee joint and urged the importance of preventing fixation of the patella so as to obtain the action of the quadriceps muscle

The question was discussed by Mr STILES and Mr JORDAN LLOYD

Included in the business of the section was a visit to the Embden street School for mentally deficient children, and members had the opportunity of seeing the special methods of instruction there adopted Subsequently an address was delivered by Dr A. EICHHOLZ, His Majesty's Inspector of Schools for the Feeble-minded. Dr Eichholz after defining the type of children suitable for admission to such schools, insisted on the importance of developing their instruction along lines which would fit them for manual occupations, as neither intellectual attainments nor skilled employment could be open to them. To secure permanent success it was also essential to provide supervision and discipline when the limit of school age had been passed. In Birmingham a special After-care Committee had been formed for this object and the example should be copied in every area containing a school of this order The State might do much in this direction, even to the extent of establishing special colonies for the feeble minded, but much must be left to voluntary organisations

Dr G E SHUTTLEWORTH (Richmond hill) urged the importance of excluding imbecile children from these schools He also suggested that the teachers should receive a special training for their work and should be allowed considerable latitude in the methods of education He commended the establishment of permanent organisations for dealing with the adult feeble minded and hoped that something in this direction would be instituted by the Metropolitan Asylums Board.

LARYNGOLOGY

WEDNESDAY, JULY 30TH.

The proceedings opened with a long and important discussion upon

The Diagnosis and Treatment of Foreign Bodies in the Upper Air Passages and Gullet

It was opened by Professor G KILLIAN of Freiburg and a report of the opener's remarks and the discussion will appear next week. After this

Dr ADOLF ONODI (Professor of Rhino laryngology in the University of Budapest) gave a demonstration of

The Connexion of the Isolated Respiratory Fibres of the Recurrent with the Sympathetic and Cardiac Nerves

Dr Onodi said that the connexions of the laryngeal nerves with the sympathetic and the cardiac nerves had been known for a long time but recent observations and his own investigations had shown an extraordinarily intimate connexion which doubtless must have special significance. The connexion of the superior laryngeal nerve with the upper cervical ganglion of the sympathetic and with the rami cardiaci superiores which arose from the latter was known as was also the connexion of the superior laryngeal nerve with the lower cervical ganglion of the sympathetic, the connexion of the external branch of the superior laryngeal being much closer with the upper cervical ganglion of the sympathetic and the superior cardiac nerve. The external branch of the upper cervical nerve sent off a direct cardiac branch or connexions to the upper cervical ganglion of the sympathetic and to the upper cardiac nerve. These anatomical conditions formed in man an exact analogue to the depressor nerve found in animals. In regard to the inferior laryngeal they knew its connexions with the upper cervical ganglion of the sympathetic and with the superior cardiac nerve. *Of great significance* was the observation of Lenhossék according to which the inferior laryngeal nerve arose from a ganglion whilst the ganglion stood in connexion with the pneumogastric by means of a thin root. The lower laryngeal was connected with the lower cervical ganglion of the sympathetic and further with the cardiac branches which took their origin from the middle and lower cervical sympathetic. He had succeeded in demonstrating in the horse the anatomical proof that according to the double function of respiration and phonation of the larynx the respiratory and phonatory nerve bundles ran separately in the trunk of the inferior laryngeal nerve and in the trunk of the pneumogastric. He had demonstrated this for a length of 88 centimetres. Whilst the phonatory nerve bundle could easily be isolated and showed only one connexion each with the ansa Vieussenii and with the cardiac branch it was difficult to isolate the respiratory nerve bundle, for it was very intimately connected by means of eight branches with the sympathetic and the cardiac branches. The photograph showed this remarkably intimate connexion. It was known that in the trunks of the sympathetic, besides the vasomotor and trophic, there were cerebro-spinal sensitive and motor fibres. His investigations had shown that the cerebro-spinal nerve fibres of the rami communicantes ran in the trunk of the sympathetic according to a well-defined system. In the upper part of the thorax and in the neck the larger part of the cerebro spinal fibres of the sympathetic ran upwards and only a smaller part downwards, whilst in the rest of the thorax and in the abdomen just the reverse was the case. The sympathetic constituted the morphological basis in the known connexions for the course of the fibres and their intercommunication, as they were of different origin and different destination. Physiology had until now shown the presence of the depressor fibre and the cardiac branches originating from the superior laryngeal nerve, and his experiments had shown that in the dog the irritation of the sympathetic trunk between the lower cervical and first thoracic ganglion as also of the communicating branches of the brachial plexus would produce a contraction of the vocal cords of the same side. Beyond these observations the morphological facts mentioned had received no pathological or physiological explanation. In particular he drew attention to the intimate connexion which existed between the isolated respiratory nerve-fibres of the lower laryngeal nerve and the sympathetic and the cardiac branches. The morphological foundation was laid in the above-mentioned fact showing an exchange of nerve-fibres of different origin and destination, but the isolation of these fibres and the investigation of their destinations formed still a subject for future inquiry.

Dr J. DUNDAS GRANT (London) read a paper on

A Simplified Operation for Deflection of the Cartilaginous Septum.

This consisted in the first instance in straightening the cartilage by transfixion by means of a strong needle introduced from the concave side in front of the concavity, pushed through to the other side and then back through to the concave side behind the deflection. Two cuts were then made by means of Moure's or Asch's shears through the cartilage, one above and in front of the deflection parallel to the nasal ridge, the other horizontally below parallel to the floor of the nose but not meeting. The cartilage was then manipulated so as to bring about over-riding of the segments at the lines of incision. The operation could be done under cocaine and nitrous oxide gas and the needle was kept *in situ* for a week, no plugging being required.

Dr N. C. HARING (Manchester) read a paper on

Chronic Laryngitis: Correlation of Diagnosis and Treatment.

In this communication stress was laid on the various subdivisions of the disease and their diagnostic distinctions. The author pointed out that in order to secure the best treatment for each case a more particularised diagnosis than that of chronic laryngitis was required. The cases he said fell into groups fairly well defined according to the extent and degree of the congestion which might vary from intense diffuse redness of the whole organ to localised injection and according to the position and extent of the hyperplasia; the condition might be latent, yielding no symptoms and only attracting the patient's attention during periods of exacerbation. It was essential to be able to exclude tuberculosis, syphilis, and early malignant disease in a diagnosis of chronic laryngitis. Speaking of tuberculosis of the larynx, he said that a considerable zone of engorgement might extend around a tuberculous ulcer and an error in diagnosis was easily possible when the ulcer occupied a position where it might escape observation. Except trifling surface abrasions it was extremely doubtful whether ulceration ever occurred in simple chronic laryngitis. During the course of pulmonary phthisis the irritant products of expectoration often set up a laryngeal catarrh which had no other connexion with the tuberculous lesion. Cases of chronic laryngitis he divided roughly into three classes: (1) systemic; (2) due to, or associated with, nasal disease; and (3) independent of nasal disease. In Group 1 local treatment was of little use; the appropriate treatment must be directed to the systemic lesion. In Group 2 the majority of cases of chronic laryngeal catarrh were found to be associated with nasal lesions. It was useless to attempt to cure the laryngitis without relieving the nasal condition and in many cases the relief of the nasal lesion would be almost sufficient as the larynx when relieved from irritation tended to recover. Nasal affections appeared to influence the larynx in three ways: (1) extension of catarrh by continuity of surface; (2) irritation by discharges; and (3) mouth breathing caused by nasal obstruction. The presence of pharyngitis sicca pointed strongly to the root of the disease being in the nasal area. Passing to a consideration of the affected organ itself Dr Haring said that he had found the following classification of much clinical use: laryngitis chronica superior, affecting principally the loose glandular tissues above the cords; laryngitis chronica media, affecting principally the cords; and laryngitis chronica inferior, affecting principally the region below the glottis. In the treatment of the first variety he had found astringent applications of little value; on the other hand the galvano-cautery applied carefully to the hypertrophied tissue had afforded him satisfactory results. The formation of fissures in the inter-arytenoid space was referred to as a troublesome form of this subdivision. Under laryngitis chronica media reference was made to cases which presented cords with grey lustreless roughened surface and which resembled pachydermia laryngis but were distinguished from it by the absence of the pathognomonic tumours over the vocal processes. The several forms of treatment commonly in use were referred to. Under laryngitis chronica inferior it was mentioned that in most cases of chronic laryngitis the portion below the glottis suffered and that it was owing to the neglect of this region that local remedies often failed to effect a cure.

Dr W. JOBSON HORNE (London) agreed that the term "chronic laryngitis" had come to be too loosely used, that it was far too comprehensive, and that a more particularised diagnosis was required to secure the best treatment. At the same time he could not accept the classification of chronic laryngitis as suggested by Dr Haring into "superior," "media," and "inferior." A regional subdivision might be at times clinically useful for purposes of description, but it was not [illegible] on pathological grounds, and after all an appreciation of the pathology of the various forms of chronic laryngitis was the only sure way of reaching the appropriate treatment. He therefore advocated a classification which specified the causes and was based upon pathology.

Dr HARING replied that the subdivisions which he had mentioned were intended to be clinical aids to carrying on the treatment of parts most affected in particular cases.

ETHICS

Wednesday, July 30th

The **President** (Dr S **Woodcock** of Manchester), being detained by a meeting of the General Council, could not deliver an inaugural address and the sitting was opened by Mr J S **Whitaker** (Great Yarmouth), who is one of the honorary secretaries

Pending the arrival of members who were announced to read papers Dr A. H **Bampton** (Ilkley) made a communication concerning

Contract Work in Hydropathic Establishments

In many cases the medical attendant was employed as a sort of "decoy duck" for mere hotel companies The payment he received sometimes did not amount to more than half a guinea per week per patient, and considering the class of patients who frequented such establishments this certainly was not enough Then there was a great deal of advertising in connexion with these 'hydros" which was objectionable from the professional point of view

One member present said that he knew of a case where the medical attendant s photograph was hung up in all the bedrooms After this interlude and more members having put in an appearance, the real business of the morning began

Mr B W **Housman** (Stockport) read a paper on behalf of the Stockport Medical Society He explained that there had been at Stockport some 40 clubs or medical aid societies which in 1895 only paid their medical officers 2*s* 6*d* per member The male membership then numbered about 4000 The profession determined to take action, and with the exception of two practitioners all gave in their resignations, saying that they would not accept any contract work at less than 4*s* 4*d* per annum and this only if a wage limit was established. The members of the clubs were disposed to increase the subscription but they strongly objected to the wage limit. The ultimate result was that the six clubs held by the two medical men who had not resigned increased their subscriptions to 4*s* 4*d* per head per annum and excluded accidents The remaining 34 clubs agreed to do without any medical officers Consequently the club patients had now become private patients, to the great advantage of the medical practitioners. This had also proved an advantage to the clubs, for as the members had now to pay for medical advice there were fewer trivial cases and fewer members drew sick allowances The Stockport Medical Society also succeeded in getting hold of the local Provident Society, where the members paid 1*d* per week and had only one medical attendant The Stockport Medical Society when it took over the management gave the members the choice of 14 medical practitioners, but they soon found that there were many abuses and that a large number of the patients could well afford to pay the usual fees Consequently they wrote a report on the subject and resigned, with the result that the dispensary had now ceased to exist. The speaker then went on to denounce contract work which he maintained was but "a gamble on both sides" He had kept a careful account and had found that within a radius of one and a half miles it cost him in cash 1*s* 2*d* to visit a patient, whether club or private patient so that his club practice had severely handicapped his private practice. At the dispensary they had made up 12 stock medicines of good quality and similar to those which were given to out-door patients at the hospitals Nine out of the 12 cost more than 1*d* per six-ounce bottle, without counting the glass After saying a few words on the degrading effects of contract work Mr Housman proposed, on behalf of the Stockport Medical Society, the following motion —

> That club and friendly society contract work is undesirable and derogatory to the best interests both of patients and of the profession and that the only satisfactory alternative is to adopt a system of payment by tariff for services actually rendered

Dr **William Muir Smith** (Eastbourne) then gave an exposition of the action and position of the Eastbourne Provident Medical Association He described the growth of the movement at Eastbourne and many of the details which he gave are already familiar to our readers He remarked that their difficulty had been with the medical aid societies and not with the friendly societies, thus showing that at Eastbourne only one side of the question had been dealt with. He was able to point out that in substituting a provident society organised by the medical profession itself for speculative and commercial medical aid societies managed by laymen the result had in no wise affected public health On the contrary, the death- and sick-rates had steadily declined. They had the lowest death rate in England and they had also increased the number of persons vaccinated They had more than 4000 members and had last year distributed *pro rata* for the work done more than £1000 among the members of the profession who did this work. In conclusion, he related that a similar organisation, acting under their advice, had been started in New South Wales and was prospering

Dr **Alfred Cox** (Gateshead) then read a paper in which he insisted on the necessity of possessing precise data. Any number of complaints were made on all sides, but to prove that they were justifiable precise figures were needed It was only necessary to take the medical journals of the last six years and by the entries in the indexes it would be seen how much the subject had grown Nevertheless, all this mass of literature gave but few figures Some such figures were to be found in The Lancet reprint of the series of articles on the Battle of the Clubs and correspondence to the *British Medical Journal* had given a few more figures, but these were not enough He had therefore made calculations in regard to his own practice for a period of three and a half years. With the Shepherds Society the average payment for that time had been 1*s* 1¼*d* per visit, with the Druids 1*s* 6½*d*, and the average of all his clubs equalled 1*s* 4½*d* On the other hand, he had found that it cost him 1*s* on an average for each visit and in this he had made no allowance for clothes, pleasure, or skill The shilling represented the indispensable out-of pocket expenses A the club patient provided his own bottle for medicine, an allowing 1*d* for errors, he found that the club patient yielde a net profit of 3½*d* per visit and the private patient 1*s* 6 per visit, and the point was that both belonged to muc about the same class of workmen and both were equally we able to pay the full fees

Dr W **Richardson Rice** of the Coventry Public Medic Service, read a paper giving a short history of what ha occurred in that town, facts with which our readers are al familiar He urged that there was a class for which contra work was necessary and that the British Medical Associatio might with advantage lay down rules as to how this coul best be provided by the medical men themselves without an intermediaries Much depended on securing the services a good collector who had tact and who would refrain fro canvassing But even if there was a little canvassing it wa on behalf of all the medical practitioners and not to th special advantage of any one individual It was only quarter day that the members of the Public Medic Service could change their medical adviser and as the were secured for three months this enabled the sale a practice for it served as a good introduction. At Coventr they paid their dispensing chemist 1*s* per head per membe but a large London firm had offered to open two establis ments at Coventry with qualified assistants and to take les No practitioner was allowed to have more than 2000 members on his books and they had, of course, established wage limit.

The **President**, who had by this time arrived and take the chair, said that now all the papers bearing on the subjec of contract work had been read he would throw open th discussion, taking for its basis the resolution proposed b Mr Housman, and which, it should be mentioned, had bee formally seconded by Dr J **Dalberg** (Manchester)

Mr **Whitaker** supported the motion which he defined a striking at all contract work including that which ha been organised by the medical men themselves at Eastbourne and Coventry Even if the medical practitioner wa sufficiently paid contract work engendered suspicion o both sides The patient thought to obtain more than wa his due and at the same time suspected the medical man o neglecting his work. Then if a friendly society offered large sum their medical officer was placed in the ignominiou position of having to pay court to the more influentia members of the managing committee Yet something had t be done for those who could only afford to pay by weekl instalments The medical profession, as a whole, shoul take the matter in hand. The friendly societies ha elaborate statistics It was easy to ascertain what wa the sick rate and then to estimate how much insuranc money ought to be paid to provide the means of giving fees to the medical practitioners for work actually done. As a step in that direction the medical men migh themselves seek to organise the contract work, as had been done at Eastbourne and at Coventry, but the ultimat object should be the total abolition of contract work and th substitution in its stead of a system of insurance for the payment of fees.

Mr GEORGE JACKSON (Plymouth) supported the principle of small weekly payments. Otherwise a large class of patients would resort to the Poor law medical officers. He, however objected to the Eastbourne Medical Provident Association doing other men's work by vaccinating gratuitously

Mr R. H. WOLSTENHOLME (Manchester) said that he would support the first part of the motion only Contract work led to hospital abuse, but there were many other alternatives. In response to Dr Alfred Cox's request for figures he submitted the following in regard to a society with which he was acquainted —Visits in the course of one year 8272 consultations, 13 673 , medicines dispensed, 16,106 , candidates examined, 257 and births attended, 44 Total payment received for all this work, £314 18*s* He did not think that medical men should go about establishing cheap dispensaries for the people How could they protest against contract work when they were living by it? The Eastbourne method worked out, he was told, at 6*d* a visit and 6*d* the medicine. They had ' sixpenny doctors in Manchester and he did not like them but, as they charged 1*s* a bottle for medicine they got 1*s* 6*d* and this was better than the Eastbourne average. There were, he noticed at Eastbourne and elsewhere enticing lists of high fees for surgical operations, but this was only a snare and delusion for in such cases the patients all went to the hospital.

Mr E. H. T NASH (Accrington) qualified club practice as immoral because it led to the neglect of surgical and important cases which the club medical officer passed on to the hospital. In the North the collecting system prevailed. Patients paid full fees at the rate of 2*s* a fortnight till the bill was settled

Dr S. CRAWSHAW (Ashton under Lyne) did not believe that private patients would pay if they resorted to the collecting system. They would continue to consult their medical attendant till he pressed them too severely and then they would go to someone else There would be many bad debts. The contract work was the best that could be done with this class of people.

The PRESIDENT now thought the time had come to close the discussion To sum up he agreed with Mr Wolstenholme, for he found that at Oldham there were no clubs or contract work. The practitioners there had agreed among themselves not to accept any contract work whatsoever The workmen paid sometimes as much as 2*s* 6*d* a week till they had settled their bill. It was necessary to employ a collector to get the bill paid by instalments, but this was more dignified *and advantageous than the contract system.*

Dr MUIR SMITH explained that at Eastbourne they had undertaken vaccination before the adoption of the amended Act and had no desire to continue it. Their movement had not a mercenary object , its purpose had been to free the medical men who used to be bound hand and foot by the medical aid societies.

Mr HOUSMAN, in reply said that he was glad to see that they were unanimous in their dislike of contract work. They would not now discuss whether this contract work should be organised by medical men and he was pleased to hear that in the North they had been able to dispense with it. He would accept the amendment arising out of Mr Wolstenholme's objection to the latter part of the motion The motion would therefore, read as follows —

> That club and friendly society contract work is undesirable in the best interests of both patients and the profession.

On being put to the meeting in this form the motion was carried with but one dissentient vote given by Dr W Muir Smith of Eastbourne. There were then 33 members present and several among them did not vote at all.

NAVY ARMY AND AMBULANCE.

WEDNESDAY JULY 30TH

The PRESIDENT Brigade-Surgeon Lieutenant-Colonel G S ELLISTON V D (Ipswich) in his opening address, said that the new army medical warrant would doubtless occupy *a considerable portion of their time for discussion* The new warrant appeared to be a good one as far as it went. The Secretary of State for War practically adopted all the suggestions made to him by the journal and sub-committee of the Association, and, if administered in a fair spirit, a good class of young medical men would doubtless enter the service. In its report the sub-committee expressed much satisfaction in the enhanced status of the Director-General in rank, position and emolument. As a member of the War Office Council and Army Board he would now be able to exercise an important and beneficial influence, not only on the efficiency of his own department, but of that of the army at large in all that related to its sanitation." During the war in South Africa the Army Medical Department had come in for more than its share of criticism and in the near future it might be the turn of the Navy Medical Service to go through the same ordeal therefore it behoved them to be up and doing so as to be prepared for any eventuality Mr Arnold Forster in his speech introducing the Navy estimates, said that the Royal Navy now had a hospital ship in the Mediterranean, and that steps were being taken to provide material for three other hospital ships in the event of war The hospital ship now in the Mediterranean was the *Maine* which had been in commission for nearly a year her duty was to collect the sick from the squadrons and to convey them to the Royal Naval Hospital at Malta, and if a large *number of invalids had to be sent to England she* brought them home. The ship had proved an enormous boon to the sick, who were now treated afloat and were moved about with the greatest comfort and convenience. The three other ships for which material was to be provided for use in the event of war would carry a staff of naval medical officers and nursing sisters , they would be in attendance upon the fleet during an action and would receive the wounded on board. Mr. Arnold Forster also stated that steps were to be taken to provide the necessary material for a considerable number of additional ships for use as hospitals in case of war Some of the experiences of the Japanese in the war with China showed the need of hospital ships to accompany the fleet into action. Now that the war in South Africa was over they might look back and realise the great work which the Royal Army Medical Corps had accomplished In spite of the hostile criticisms and unfounded charges brought against the corps there was little doubt that the general verdict of the future would be that in no previous war had the sick and wounded been so well looked after as in that one. When the war broke out it was well known that the Royal Army Medical Corps was barely up to the peace footing and it was really marvellous how the late Director-General succeeded in supplying the medical *matériel* and *personnel* with every unit that embarked Of course, this could only be done by the help of the various volunteer organisations the Militia Medical Staff Corps supplied 500 men the volunteers 600 and the St. John Ambulance Brigade furnished 2000 men. The feature of this war had been the way in which the volunteers and the civil and military portions of the medical profession amalgamated and worked together and the new departure of sending out 800 female nurses was attended with the best results. Considering the undermanned state of the Royal Army Medical Corps the War Office was fortunate in having these reserves to draw upon, and yet the chief organisers who bore the heat and burden of the day were allowed to leave the service without any official acknowledgment. Referring to this point the late Sir William Mac Cormac publicly stated that no one who had not been in South Africa itself could know of the difficulties under which the medical department had laboured. They had been blamed for that for which those in other departments were responsible, and it was somewhat strange that the Government had allowed Surgeon General Jameson to leave the army without the customary recognition given to every one of his predecessors and withou one word of thanks or acknowledgment." All through the war a person could hardly read the casualty lists without being struck with the appalling loss of life from enteric fever , the losses in the field were small compared with it and sanitarians could not help thinking that much of it was due to preventable causes. In civil life the municipal authorities held the medical officer responsible and expected him to find out the cause and to suggest measures for stamping out the disea o regardless of the cost In military life this did not appear to be the case a general who had a large portion of his force down with enteric fever through [illegible] *of ordinary* precautions in guarding the purity of the supply and preserving the cleanliness of his camps get censured, but the sanitary officer whose advice taken was pronounced incompetent and indirect blamed. No doubt the sanitary officer in war stantly be advising things distasteful to the this was possibly why the post was abolished at the commencement of the war The combatants, however, should bear in mind that by safeguarding their water supplies attending to the sanitation of camps, and preventing infection of troops on the march, they were not only reducing the amount of sickness but were adding to the efficiency of the field force as a fighting machine The question of sterilising drinking water for active service was no new one, for Herodotus, "the father of history," recorded at the end of his First Book as follows "Now the great king (Cyrus) goes on campagne with provisions carefully prepared at home, and with cattle Moreover, he takes along with him water from the river Choaspes, which flows past Susa, of the water of that river and no other does the king drink This Choaspes water is first boiled off and a marvellous number of four wheeled mule wagons, carrying it in silver vessels follow him from place to place wherever he marches" So that 2500 years ago we find this great Persian monarch carefully attending to the purity of his drinking water, and whatever happened to the rest of his army he took good care not to run any risk himself The new army medical warrant did not refer to the volunteer medical service but the Secretary of State for War had recently granted some important concessions Authority was now given for the formation of brigade bearer companies as independent units, on similar lines suggested in a paper which he (the speaker) read before this section at the meeting of the British Medical Association in 1900 Another concession had been the incorporation of the Volunteer Medical Staff Corps into the Royal Army Medical Corps (Volunteers) with the abolition of the compound title of the officers. They all felt that the Manchester Corps had well earned distinction, that fine corps being upwards of 800 strong and having furnished strong contingents for service in South Africa

A paper contributed by Staff Surgeon W J COLBORNE, R N, on

The Duties of Medical Officers in Connexion with a Naval Action

was read in his absence. He dealt with the subject under three heads (1) preparation in time of peace, (2) conduct during an action and (3) duties after the action Each of these was handled with much technical detail

Fleet Surgeon G KIRKER, R N (Haslar), read a paper on

The Treatment of Wounded in Naval Actions

He said that certain scant information was obtainable from the records of the Chino Japanese and the Hispano American wars, and the missing details could be filled in by persons acquainted with modern guns and battleships, supposing one modern power were pitted against another He had read a paper last year at Cheltenham on the same subject under the three heads—(1) the surgeon's station, (2) the time of treatment, and (3) the conveyance of the wounded He would now reverse that order and deal first with the conveyance of the wounded This matter depended on the means of conveyance—the stretcher—and on the openings and passages available for use. He dealt with the facilities afforded by the "Kirker ambulance sleigh," which was so well received last year at Cheltenham and was then fully dealt with He had made certain alterations in its construction since, it was now collapsible and its transverse diameter could be increased or lessened at will He had provided perineal bands instead of the central saddle seat There was now a lifting sheet to place the patient on the stretcher and to remove him on to the operation table (The working of the stretcher, which attracted the interest and warm praise of the assembled naval and military surgeons was then demonstrated) The "sleigh" had been tried in the Channel Squadron and had been on the whole favourably reported upon and would now probably be adopted by the Admiralty There were two classes of ships—those which possessed, and those which did not possess ammunition hoists, and down these, if present, the wounded men could be lowered during cessation of the passage of ammunition The hoists should open on each deck to allow of the wounded being admitted to the hoist This procedure would be very simple and easy with the "Kirker sleigh." The hoists should in future, with this end in view be constructed in a less constricted manner 2. Time of treatment. The medical officers should not go on deck to treat the wounded, as efficiency was what was most desirable and the medical officers should not be incapacitated just when their services would be most needed. They should remain on their ship, but together with their instruments and appliances should be relegated to a safe place Hospital ships were excellent but could not succour every ship and each fighting ship ought to be able to care for its own wounded until such time as help could be obtained from a hospital ship 3. The surgeon's station At present there was no proper station assigned to the surgeon and it was desirable to have a properly equipped place and as far as possible free from septic and insanitary conditions, as in the Japanese and German navies. This place would be as useful in peace as in war In war the surgeon and his instruments would be adequately protected Poisonous gases were also factors to be taken into account Hospital ships would not always be at hand, especially in running fights and isolated fights with single ships and cruisers Fleet actions might also cover too large an area. He then finally treated in detail the duties of the surgeons and assistants with reference to treatment and transport of wounded in action

The PRESIDENT commended Fleet Surgeon Kirker for his careful and practical paper and thanked him for the evident pains expended in its preparation He pointed out the need for the efficient lighting of the dressing station, as also for the efficient ventilation of the operation rooms. There was no doubt that the "Kirker sleigh" was very well designed and he was surprised that it had not been adopted by the Admiralty before. Other nationalities had stepped in and had demonstrated its utility

Inspector-General A TURNBULL, R.N, retired (London) said that it was very interesting to note that there was a great deal in the old adage of there being "nothing new under the sun." He had lately been looking up some old records and he found some Admiralty regulations dated 1730 and headed "Hospital Ships," and these regulations showed that even then the arrangements were admirable. Hospital ships were things that could be very easily and rapidly equipped and fitted out. Cyrus and his water boiling outfit was another instance of the new in the old

Surgeon General T F O'DWYER, A.M S, said that undoubtedly Surgeon Kirker was the first to draw attention to the matter in such a way as to attract public attention. Immediately afterwards the *Times* publicly discussed the whole matter There were two opinions in the navy—one represented by Surgeon Kirker, who held that such ships should have proper accommodation, and others who said that that was impossible They as a nation seemed to be too conceited to learn from others At Aldershot an American staff officer who had been sent to Europe to learn was not ashamed to learn from us Both the navy and army wanted many more Lord Charles Beresfords Public opinion was the only means by which these reforms could be brought about. The army had benefited by public opinion and the navy would no doubt do so also Nevertheless, the navy was most conservative and did not like to change. Public examination of these most important matters was what was wanted, after first obtaining the opinions of those who built the ship, of those who had to fight her, and then, finally, of the man who had the medical care of her

Surgeon Major G A. HUTTON, retired (Leamington), believed that Sir Frederick Treves had stated that it was better not to attempt to attend to the wounded over and above applying first temporary dressings whilst a battle was proceeding He also believed that the present Director General was sent by the home Government to observe the arrangements in the Chino-Japanese war

Surgeon Major G K. POOLE, I.M.S, retired (London), would have liked the gentlemen contributing papers to have touched upon the matter of necessary procedure in cases of collisions and explosions, which might have been dealt with It was no new thing to have to make shift in the services This discussion should be brought well before the authorities of the navy The mercantile navy should also be efficiently officered from a medical standpoint.

Dr. F W FORBES ROSS (London) said that whether or not they were agreed as to the desirability or otherwise of properly equipping each warship or depended mainly on hospital ships, the fact remained that the "Kirker sleigh" was most useful in either event and especially in cases involving the transport of the wounded by sea, from shore to transport or hospital ship, or from ship to ship

Fleet Surgeon KIRKER, in replying, said that hospital ships were by all means to be provided and that he cordially advocated them and as many as possible should be provided All modern ships were lighted by electric light. All were artificially and naturally ventilated above the armoured deck and mainly by artificial means below the armoured deck.

The PRESIDENT put the following motion to the meeting proposed by Surgeon Major POOLE, and seconded by Surgeon General O'DWYER —

That it be a recommendation to the British Medical Association to suggest to the naval authorities the desirability of improving the accommodation and arrangements for the treatment of the wounded on board ships in action, till they can be transferred to hospital ships or suitable hospitals on shore.

The motion was unanimously endorsed

TROPICAL DISEASES.

WEDNESDAY JULY 30TH.

President's Address

Sir WILLIAM R. KYNSEY C.M.G., the President, after a few preliminary remarks referred to the great work recently done by Laveran and others in malaria He continued In the history of the past year there is no great discovery to be recorded, it may be looked back upon as one of steady progress in elucidating some of the many problems of tropical medicine, the greatest and most beneficent being in the scientific prevention of disease. In the case of yellow fever the mosquito—a culex, not anopheles—has been tried and found guilty of being the sole agent in the spread of that disease. In Havana yellow fever was endemic for a century and a half during the past year it has been freed from the scourge by killing the mosquitoes in the neighbourhood of each focus of disease as discovered, and by carefully disinfecting every house that had lodged a yellow fever patient in order to destroy the mosquitoes that had bitten a sick person. This great sanitary triumph must ever redound to the honour of American medicine. No excuse is necessary in this section for dwelling a little on the important subject of the prophylaxis of malaria. An epidemic of any kind is among the most costly in life and money that can befall a town or district. An epidemic of malaria differs from other outbreaks of disease in this important fact that its effects are not limited to the deaths it causes but that it often leads to years of suffering poverty and depopulation. I have high authority for stating that taking one year with another malaria destroys twice as many people in India as cholera, small pox, and all other epidemic diseases put together It is a matter of history that the same cause almost annihilated the soldiers of the Walcheren expedition and the army under Wellington in Spain was so assailed by malaria that according to Ferguson the enemy and all Europe believed the British forces were exterminated Malaria stopped the great Panama scheme of De Lesseps. I have known districts in Ceylon almost depopulated A most disastrous outbreak occurred some years ago at Galle—a town previously malaria free—attended with great loss of life in consequence of the construction of a railway the embankments of which were made by excavating pits at the sides that soon were filled with rain water In those days the origin of the fever was of course attributed to disturbance of soil. We now know the pits provided breeding places for the anopheles and the Sinhalese and Tamil labourers from malaria districts supplied the organisms. Although we were ignorant of the true conditions which caused the outbreak we advised the filling up of the pits on the disturbance-of soil theory with satisfactory results proving that much can be done in the prevention of disease before full knowledge of causation is reached. I will only occupy a few minutes of your time while I describe two experiments—one made by the Colonial Office on Dr Patrick Manson's advice and the other by the Japanese Government which clearly show it is both possible and practicable to prevent malarial infection In the experiment conducted by Dr Sambon and Dr Low in the Roman Campagna and in London in order to prove the truth or error of the mosquito malarial theory and also how far protection against malaria might be consistent with the ordinary avocations of life two experiments were necessary one that healthy persons in London should be bitten by infected mosquitoes from a malarious region and the second that men should live in an undoubtedly malarious place during the fever season being protected only from the bites of mosquitoes Those bitten in London contracted ague Dr Sambon and Dr Low and two others lived in a mosquito-proof hut in a most intensely malarious place in Italy, where all the inhabitants suffered from malaria. The four inhabitants of the hut remained perfectly healthy all the time and I believe are so still The experiments by the Japanese Government were carried out on the island of Formosa, and they furnish a most conclusive demonstration of the relations between mosquitoes and malaria. A battalion of soldiers who were completely protected from mosquitoes for 161 days during the malaria season escaped the disease entirely whereas there were 259 cases of malaria in another battalion in the same place and during the same length of time not protected from mosquitoes. I am sure you will agree with the conclusions of Dr Sambon and Dr Low that their experiment prove that mosquitoes only are capable of transmitting malarial fever that protection from their bite implies absolute immunity and that protection can be easily obtained. If further proof is considered necessary for large bodies of men it is furnished by the Japanese experiment. By a study of the life-history and surroundings of the anopheles and by varied and long continued experiment Ross has determined the best means of preventing malarial infection. He advised the extermination of the anopheles and although this is difficult it is not so difficult as at first sight it appears These mosquitoes breed in small pools of a certain kind easily recognised and easily dealt with always close to human habitations, as the females must pass frequently between the pools where they lay their eggs and the houses where they obtain their food If the anopheles are found in a house the breeding puddles are close by The great practical points derived from Ross's work are two 1. That the life of the anopheles is in direct and intimate relation with the annual epidemics of malarial fever 2. That it is only necessary to drain the anopheles puddles and not the whole of a malarious district I believe the discovery of the malarial parasite and the investigations into the life history of the mosquito which conveys it to man have placed us in the position to suggest measures which if carried out would have the effect in an unhealthy district of largely reducing the amount of malarial fever and eventually of exterminating it. 1. Malarial fevers should be included and notified among infectious diseases so that precautions could be taken to prevent their spread. 2. Persons, especially children, suffering from malaria infections, primary or recurrent should be isolated and treated with quinine to prevent as far as possible the infection of mosquitoes 3. Persons infected with malaria should be prevented coming to a healthy place to infect mosquitoes 4 The puddles in which the anopheles breed should be drained and filled up or treated with kerosine to destroy the larvæ. 5 Doors and windows of houses gaols and hospitals in malarious districts should be screened with wire gauze and beds should be provided with netting to prevent mosquitoes entering and biting the occupants. I am painfully aware how far this address falls short of what might have been accomplished by a more skilful hand writing upon the all important subject of malarial prevention but my remarks will not be thrown away if they induce those not acquainted with recent work to take an interest in and to appreciate the wonderful results in tropical medicine which have followed on the discovery of the malarial parasite.

> "Let knowledge grow from more to more
> But more of reverence in us dwell;
> That mind and soul according well
> May make one music as before
> But vaster

Prophylaxis and Treatment of Beri beri.

Dr P MANSON C M G (London) opened the discussion by reading a paper devoted to the study of the etiology of beri beri more especially as regards the part played by rice as a medium of infection. An agreement in regard to what the term beri beri indicated was a necessity before entering into a discussion on the subject. They knew that the term had been applied to ankylostomiasis to epidemic dropsy to sleeping sickness and to several specifically distinct forms of neuritis Clinically beri beri was a multiple neuritis but in the tropics as in temperate regions there were many kinds of peripheral neuritis although all had necessarily much in common clinically Arsenical neuritis was uncommon in the tropics but what was generally regarded as beri beri had nothing to do with arsenic. Arsenic might be found and was found in the hair of beri beri patients and even in Chinese tobacco, but there seemed no correspondence between the distribution of beri beri and the general area of the use of arsenic Again so called malarial neuritis was in his opinion in the vast majority of cases really beri beri. Beri beri might co exist with malaria or with tuberculosis yet with either disease the beri beri affection was merely concurrent. Whilst fully recognising its inadequacy Dr Manson suggested the following features as a basis on which to found the recognition of beri beri as a distinct form of multiple peripheral neuritis and as more or less distinguishing it from other pathological groups with neuritis as their leading clinical phenomenon (1) ignorance of its cause, (2) its occurrence as an endemic and epidemic disease, (3) its proneness to produce cardiac disabilities and dropsy, (4) non implication of the cranial nerves with the exception of the pneumogastric, (5) non implication of the intellectual and emotional centres, (6) rarity or complete absence of trophic skin lesions, and (7) high rate of mortality under certain conditions. Assuming, and once more emphasising that he did not lose sight of the fact that it was an assumption, that they were dealing with only one form of neuritis in what they called beri beri, Dr Manson held that this neuritis was produced (*a*) by a toxin, (*b*) the product of a germ operating in (*c*) some culture medium (*d*) located outside the human body Further, he held that (*e*) the said toxin entered the body neither in (*f*) food nor in (*g*) water but was introduced through the skin or was inhaled The immediate cause of beri beri he held to be a toxin. The generally recognised most important measure in the management of a case of beri beri was removal of the patient from the place in which he sickened. This fact seemed to counter indicate the presence of a germ in the human body affected by beri beri. The many germs discovered from time to time in the blood of beri beri patients had been discredited The absence of any germ in beri beri had been again recently refuted by Dr Stanley of Shanghai Although no germ was present in the blood the toxin of beri beri was produced by a living germ The proof of that lay in the fact that the disease could be introduced into virgin country and there spread That was to say, the hypothetical cause was capable of being transmitted and of multiplying Spontaneous multiplication was a property peculiar to living things Therefore the originating agent of the toxin of beri beri was a living thing—a germ. Dr Manson quoted observations made by Dr J Bolton in the island of Diego Garcia and by Mr E. A. O Travers in Kuala Lumpor Both of these, especially Mr Travers's observations, went to prove that the toxin of beri beri did not enter the human body in food That beri beri was not conveyed by water had been proved many times, so that it would appear that neither by food nor by water was beri beri spread. So far unfortunately, they had nothing to show either what the toxin was nor what the germ was that produced it. Neither was the precise nidus in which it was produced known nor the way the specific agent gained access to the body

Captain E R. ROST, I.M S, dealt with the subject of

The Cause of Beri beri

He observed that during an outbreak of beri beri in a gaol in India pigeons that lived under the gaol roof were affected by an epidemic disease which caused paralysis of their wings and death In rice-water liquor and in mouldy rice he found a diplo-bacillus. He also found this organism in the blood and cerebro-spinal fluid of a large number of beri-beri cases The infected blood was removed and cultures were made. The cultures were then injected into pigeons and a disease was induced which caused death and in the blood of the pigeons the same diplo-bacillus was found. An exactly similar disease was produced in fowls (1) by feeding them on fermenting rice, (2) by feeding them on mouldy rice, (3) by intra peritoneal injections of rice water liquor, (4) by subcutaneous or intra peritoneal injection of the venous blood of beri beri patients, and (5) by re injection from fowls suffering from the disease produced as above He then drew attention to the etiology of beri beri in Rangoon, which so remarkably favoured the idea of a rice origin of the disease as to leave in his mind little doubt as to the causation of the disease being due to the medium of rice infection

Dr L W SAMBON (London) failed to see how they could annul the evidence accumulated as to rice being a possible factor in the etiology of beri beri. He did not think that rice was pathogenic because deficient in mineral and nitrogenous matters but that rice might become the vehicle of the disease by being specifically contaminated. He did not agree with beri beri being a toxin produced outside the body He believed that beri beri was caused by a parasitic agent that ved within the human body because the clinical sympto s, &c., suggested a different distribution of the parasite n different patients and in different stages of the disease n the same patient. He suggested that provisionally t ey should (1) restrict the rice diet to grain of good quali , (2) exclude previous sufferers from beri beri from a gang of coolies, and (3) isolate beri-beri patients

Major RO ALD ROSS, C B (Liverpool), had now examined the ha r of 30 persons suffering from beri-beri and arsenic had b en found in 10 cases It was peculiar that the arsenic was found only in recent cases the older cases giving negative results in that respect All this might be merely a curious coincidence On the other hand, it might point to a real co nexion between the poison and the disease from which the patients were suffering, a disease which of itself was very m ch like chronic arsenical poisoning

Dr C W DANI ELS (London) said that tropical peripheral neuritis included o her diseases than beri beri, especially a post-dysenteric peripheral neuritis It was owing to the inclusion of many diseases under the description of beri beri that so many widely different conclusions were arrived at by workers in different countries, as they were not always describing the same disease

Mr JAMES CANT LIE (London) said that they must distinctly keep before them the fact that beri beri was an infectious disease and was not due to mere scanty or deficient food He had seen i n a general ward, in which were cases of beri beri, the disea se spread to patients with open wounds whilst purely medica l cases escaped, although all were supplied with the sam e food All the evidence from Japan and the Dutch Indies seemed to show that the improvement in several well know n instances was due not to the improved food but to improved hygienic conditions. Although discrediting the conveyance of beri beri by food or water it was difficult to understand how persons with merely a toxin in their blood could introduce the disease in virgin countries

Dr W T PROUT (Principal Medical Officer, Sierra Leone) gave details of a ship load of 500 negroes arriving at Sierra Leone from Panama, when it was found that half the negroes were the subject of beri beri. Although the sick were landed and treated o n shore the disease did not spread nor were the attendants upon the sick attacked. He strongly supported Dr Manson's theory of beri beri being due to a toxin produced outside the body

Dr P A. NIGHTIN ALE (Harrogate) said that in Bangkok an epidemic of beri beri occurred some 18 months ago, although fresh rice was always used there. Beri beri was not endemic in Bangkok and how the disease reached the town was unknown.

The PRESIDENT said that beri beri or a form of peripheral neuritis existed in Ceylon in the early years of the occupation of that island by British troops, but as far as he was able to ascertain it was confined to native troops, especially to the Malays, and never spread to the natives of Ceylon. Beri beri had now entirely disappeared from Ceylon and the only cases seen there were landed from ships, but in no instance had he seen the disease spread. He thought that Dr Manson s theory of beri beri might be given in the line of Ovid—

'Non hominis culpa, sed ista loci

Dr NIGHTINGALE read a paper on

The Clim ate and Diseases of Bangkok

The diseases most prevalent in Bangkok were malaria, gastro-intestinal diseases, dysentery and diarrhœa, sprue, hill diarrhœa, typhoid fever, cholera, leprosy, and renal diseases Malignant disease was rare, as were also elephantiasis and beri beri Plague was unknown but climatic buboes (pestis minor) were prevalent.

Major F SMITH, R.A.M C, in dealing with the subject of

Enteric Fever in Sierra Leone,

said that it was very occasionally met with in that country and he recorded but 13 known cases, in some of which the disease arose endemically

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THE ANNUAL MUSEUM.

(*Continued from page 334*)

II —FOODS AND FOOD-PRODUCTS

The display of special foods was on a decidedly smalle scale than on previous occasions, and the individual exhibit appear to have had less space allotted to them than hitherto

Nor was there any striking novelty in special dietetic preparations. Specially prepared milk, milk products and *malted foods were chiefly in evidence. The products of the* Aylesbury Dairy Co., of 31, St. Petersburgh place, Bayswater London W are well known to be of a standard kind. Besides special milks for special needs the company exhibited specimens of kefir and kefir powders for the preparation of kefir at home where daily delivery is impracticable. By a careful selection of organisms a ferment is obtained which produces pure lactic and alcoholic fermentation Kefir contains less alcohol and carbonic acid but more proteids (partly pre-digested) than koumiss and serves as a mild gastric stimulant. Very general interest was shown in the exhibit of sterilised milk by Messrs. C Dreyer and Co. of Thames-chambers, Beer lane London, E C As we have pointed out, though sterilised this milk is not boiled and no chemical preservatives are employed. One very important advantage of sterilising milk without the aid of heat is that the milk is free from the so-called boiled" flavour The Walker Gordon Laboratory Co of 79 Duke-street, London, W, exhibited specimens of modified milk made up to any prescription required with regard to its composition. On this stall also were specimens of Pasteurised whole milk and paraffined fresh whole milk stated to be unheated and free from preservatives The preparations of the International Plasmon Limited of 56, Duke-street, Grosvenor-square, London, W are deservedly well known by reason of their real dietetic value the foundation of them being plasmon—the proteid of milk so separated as to retain the original organic characteristics of milk albumin Mention should also be made of the plasmon diabetic biscuits which, while containing milk proteid, exhibit a negative reaction as regards both starch and sugar Many varieties of food suitable for the use of diabetic patients and leaving them quite a wide choice in the matter were exhibited by Messrs G Van Abbott and Sons, of Borough London S E Not far off was a stall devoted to the exhibition of 'Universal Digestive Tea by the company bearing that name, of Colonial House Dolphin place Ardwick, Manchester The tea is said to be treated in a special way with oxygen which is said to neutralise the astringent principles. Experiments were quoted recording the comparatively small effect of such tea upon the digestive processes as compared with tea not treated in this way The preparations of the Myosin Albumin Meat Extract Company, of 107 Strand, London W C have been submitted to criticism in THE LANCET laboratory The results showed a remarkable proportion of pure unchanged beef muscle albumin, and therefore the preparation is a real nutrient, while it is easily assimilable. Messrs. Cadbury Brothers of Bournville near Birmingham, exhibited specimens of their cocoa which as is well known undergoes no method of treatment by which foreign substances are introduced Close by were the meat preparations of Messrs. Cosenza and Co of 95 Wigmore-street, Cavendish square London, W These comprised a *consommé* contained in a gelatin capsule and a tonic bouillon containing a notable amount of iron A very good example of milk food was that of Mr Henri Nestlé of 48, Cannon street, London E.C which presents the elements of a complete food for infants. The condensed Swiss milk of this firm is well known for its rich proportion of cream. Messrs Keen Robinson and Co. of Garlick hill. Cannon street London E.C exhibited specimens of Keen's mustard and of the well known patent barley for making barley water and specimens also of patent groats The Strenbo extract of meat, prepared by Strenbo, Limited of Hulme, Manchester is marked from many other similar preparations by containing an important quantity of the really nutritive matters of meat The highly refined vegetable fat known as albene maintains its popularity as a substitute for lard or butter for cooking and baking purposes samples were exhibited by the manufacturers Messrs. Broomfield and Co. of 63, Upper Thames-street London, E.C Quite recently we have referred to maltova, a combination of active malt extract with raw egg. Obviously the preparation is of a highly nutritive kind. Samples were exhibited by the Maltova Food Company 11, New Station street, Leeds A comprehensive series of meat preparations was shown by Liebig's Extract of Meat Company of 9 Fenchurch avenue, London E.C. These included lemco a concentrated extract oxo, a fluid beef containing the nutrient portions of meat and peptarnis, a concentrated peptone of beef Messrs. Callard and Co. of 65 Regent-street, London, W exhibited their well known starchless and sugarless breads, biscuits, and cakes, besides beverages and marmalade free from sugar *Messrs. Carnrick and Co Limited of 24 and 25* Hart-street Bloomsbury London W C report a greatly improved taste in regard to their beef peptonoids. The same firm exhibited a pre-digested preparation known as liquid peptonoids, which is stated to be made from beef milk and gluten. Mr Hans Hoff 29 New Bridge-street, London, E.C. exhibited his old-established proprietary malt extract, and on the same stall ironal was exhibited a preparation of organic iron said to be easily assimilated and without the objectionable effects of ordinary iron salts. Somatose contains the true albumose derived from beef and and is consequently a powerful and easily assimilated food. It is combined also with iron and with a proteid of milk. Pure somatose is mentioned as a useful dusting powder for ulcers by encouraging cicatrisation. The preparation is manufactured by the British Somatose Co., of 165, Queen Victoria street, London E.C. Messrs Fairchild Brothers and Foster of Snow hill buildings London E.C. exhibited their special preparations of enzymes the exhibit including the zymine peptonising tubes and a peptogenic milk powder We have already described the composition of virol of the Virol Company Limited of 152 to 166, Old-street London E.C. It is an emulsion of red bone-marrow malt extract, eggs, lime and lemon juice, and is of value where a special food is required. Close by were the many meat preparations of the Bovril Company, Limited whose offices are on the same premises as are those of the Virol Company Mellin's Food Company of Marlborough Works, Stafford street, Peckham, London S.E. exhibited a well prepared cod liver oil emulsion and a food for infants and invalids. The latter preparation is to be employed with cow's milk the product showing then the same composition as human milk. Messrs. Brand and Co.'s list (of Mayfair London, W) contains a wide choice of beef preparations, including nutrient powder meat juice, beef tea, jellies and so forth A useful variation from beef preparations is the pure mutton essence known as 'hipi and prepared by Messrs. G Nelson Dale and Co. of 14 Dowgate hill, London, E.C. It does not contain merely the extractives of the meat for part of the nutritive albuminous portions are present also

III.—SANITARY APPLIANCES DISINFECTANTS &C

Conspicuous in this section was the exhibition of sanitary appliances for hospital use and lavatories for operating rooms. Messrs. Doulton and Co of Lambeth London S.E. exhibited two types of lavatories the feature about which was that both supply and waste can be actuated without being touched by the hand One is provided with a treadle arrangement while the other is fitted with valves connected with levers which are worked by the elbow The supply valve is so constructed as to give water at any required temperature and the cold supply must be turned on first so that scalding is avoided The exhibit included also a special mortuary table and 'wash down closets The hospital bath on wheels provided with a special brake for keeping the bath perfectly still when in use is also worthy of mention. The British Embalmers Society of 81 Great Ancoats-street, Manchester exhibited a complete set of embalming instruments including a formaldehyde lamp and regenerators for disinfecting purposes. The system consists in injecting into the circulatory system and the cavities a well known powerful antiseptic. An extensive series of antiseptic preparations chief amongst which were creolin and its compounds was presented to view on the stall of the Jeyes Sanitary Compounds Co Limited 64, Cannon-street London E C The interesting disinfectant izal was also shown in many forms, such a fluid powder lozenges, ointment and soap by Messrs. Newton, Chambers and Co. of Thorncliffe near Sheffield. A pleasant antiseptic is eucryl and a number of useful preparations are made with it such as bath eucryl, toilet soap, tooth powder pastilles and so on all proprietaries of Eucryl, Limited, of Sculcoates, Hull. We have already described the emergency disinfector and the Mackenzie spray recently introduced by the Thresh Disinfector Co Limited of 16, Great George-street, London S.W The action of the former depends upon the vaporisation of formaldehyde with steam. The apparatus is effectual and very convenient. The Mackenzie spray is adapted for the disinfection of walls, ceilings and floors of a room of ordinary size Messrs Hendry and Pattison of 11 Hill-place, Oxford-street, London, W exhibited an improved ventilating warm air stove suitable for hospital wards.

Fresh air is admitted to the stove under the floor and passing through a channel in the stove is gently warmed without being burned and thus the circulation of warm air is kept up. A number of filters adapted for many different purposes were shown by the Berkefeld Filter Co , Limited, of 121 Oxford street, London, W As is well known, these filters have successfully withstood bacteriological tests Similarly, the Brownlow germ filter has been shown to resist the passage of germs Various forms of this filter, both for high and low pressure, were shown by Messrs Slack and Brownlow, of Abbey Hey, Gorton, near Manchester Lastly, in this section may be included the oowana soap which is made with special care as regards the selection of the base and fat while *the addition of a fluid* vegetable extract makes it very suitable for delicate skins Specimens of this soap were exhibited by Oowana, Limited, of 205, Victoria street, S W

It will be seen that the representation of this section of the exhibition this year was a relatively small one.

(To be continued)

ROYAL COLLEGE OF PHYSICIANS OF LONDON

AN ordinary meeting of the Comitia was held on Thursday, July 31st Sir WILLIAM S CHURCH, the President, being in the chair

The PRESIDENT announced that Dr David Ferrier would deliver the Harveian lecture for the year and that the Bradshaw lecture would be delivered in November by Dr C J Cullingworth Dr A. S F Grünbaum had been appointed Gulstonian lecturer and Dr T R. Glynn Lumleian lecturer for 1903 and Dr J R Bradford the Croonian lecturer for 1904

The following gentlemen having passed the required examinations were admitted Members of the College —Edwin H Brown, M D Brussels, L.R C P , University of Bombay , Joseph G Emanuel, M D Lond., L R.C P Queen's and Mason Colleges Birmingham , George N Meachen M B Lond , L.R.C P , Guy's , and David W Sutherland, M B Edin

The Bisset Hawkins gold medal was awarded to William Henry Power, F R S , principal medical officer to the Local Government Board.

The following Fellows were elected officers of the College —Censors Sir R Douglas Powell, Dr George Vivian Poore, Dr Frederick Thomas Roberts, and Dr David Ferrier Treasurer Sir Dyce Duckworth Emeritus Registrar Sir Henry A. Pitman Registrar Dr Edward Liveing Harveian Librarian Dr Joseph Frank Payne. Library Committee Dr Samuel Lee Dr Philip Frank, Dr J Wickham Legg, and Dr W H Allchin *Curators of the Museum* Dr W Howship Dickinson, Dr H Charlton Bastian Dr William Cayley, and Dr John Abercrombie

Dr Henry Carr Maudsley and Dr William C Wilkinson, being resident in Australia, were admitted *in absentia* to the Fellowship

The following were selected examiners in the subjects indicated for the ensuing collegiate year —*Chemistry and Chemical Physics* Mr J M Thomson, F R.S , Dr H. Forster Morley, D Sc., F C S Mr Harold B Dixon, F R.S , Dr F D Chattaway Ph D D Sc., and Mr H M Kellas, F C S *Materia Medica and Pharmacy* Dr F Willcocks Dr L C Perry, Dr W E Wynter Dr H A Caley, and Dr F W Tunnicliffe *Anatomy* Dr B C A. Windle and Dr A M Paterson *Physiology* Dr R A Young, Dr J S Edkins, and Dr L E Hill. *Medical Anatomy and the Principles and Practice of Medicine* Dr F de H. Hall, Sir Isambard Owen, Dr S H. West, Dr P Kidd Dr J Abercrombie Dr Nestor Tirard Dr Donald MacAlister, Dr S P Phillips Dr William Pasteur, and Dr J K Fradient *Midwifery* Dr A. L. Galabin Dr G E Herman Dr Amand Routh Dr W R. Pollock and Dr F Mahns *Public Health* Dr A P Luff and Dr W H. Hamer After some formal business the President dissolved the Comitia.

ARMY MEDICAL SCHOOL, NETLEY

DISTRIBUTION OF PRIZES BY THE COMMANDER-IN-CHIEF.

THE eighty-fourth or summer, session the Army Medical School was brought to a conclusion on July 29th, when Lord Roberts distributed the prizes and delivered an address to the surgeons on-probation who had been at the school during the preceding four months. All the probationers were for the Indian Medical Service, no examination having been held for commissions in the Royal Army Medical Corps The Commander in Chief, who was accompanied by Countess Roberts, was received at the Royal Victoria Hospital by Surgeon-General Townsend, the recently appointed Principal Medical Officer At the ceremony there were present the Director General of the Army Medical Service, Surgeon General Sir William Taylor, K C B , Lieutenant General Sir T Kelly Kenny, Adjutant General to the Forces , Surgeon General Evatt, Principal Medical Officer of the 2nd Army Corps , Surgeon General Sir Joseph Fayrer, Bart , K C S I , Colonel Cayley, C M G , the Assistant Military Secretary for India , Colonel W F Stevenson, C B , Colonel W E Webb , the Military Staff of the Royal Victoria Hospital and Army Medical School , and a distinguished company

The prize distribution took place at 12.30 o'clock and was opened by the reading of a report of the work of the session by Colonel K McLeod, professor of military medicine and secretary to the senate of the school Colonel McLeod stated that the work of the session had been most satisfactory 36 of the candidates had passed their final examination and were recommended for His Majesty's Commission Of these 36 officers 32 had been selected after the open competition in London and the remaining four were nominated by the Secretary of State for India after having done good work in India as civil surgeons on plague duty The following list shows the places gained by the young officers and the prizes which the most successful ones received , the smaller number of marks shown against the names of the last four officers on the list is due to the fact of their nomination to the service, for them only the marks gained at Netley are shown

INDIAN MEDICAL SERVICE.

List of surgeons on probation who were successful at both the London and Netley examinations The prizes are awarded for marks gained in Army Medical School The final determined by the marks gained in Netley and the combined numbers are accordingly shown in the list which follows —

July 29th 1902

1	F A P Barnardo	*6116	19	W S Patton	4709
2.	J McPherson	†5965	20	W L. Trafford	4700
3	G D Franklin	5709	21	B B Paymaster ..	4690
4	J H Gill	5584	22	N W Mackworth ..	4672
5	F Simo	‡5472	23	H Ross	4655
6	C A Gourlay	5413	24	J Forrest	4645
7	W C Ross	5398	25	H Crossle	4605
8	R A Lloyd	5283	26	L L Hirsch	4579
9	J O G Kunhardt	5279	27	L Rundall ..	4543
10	E A Walker	5178	28.	E O C Maunsell	4474
11	L Cook	5131	29	H E J Batty	4324
12.	L B Scott	§4981	30	J W Illius	3920
13	J H Ferris	4834	31	D S A. O Keefe	[illegible]
14	G I Davys	4816	32.	J P Cameron	3564
15	H Halliday	4809		T H Gloster	‖2529
16	G C I Robertson	4792		H H. G Knapp	2497
17	A J V Betts	4762		J H Horton	¶2459
18.	F E Wilson	4722		W A Justice	1992

* Gained the Herbert Prize the Parkes Memorial Medal and the Prize in Pathology presented by Surgeon General Sir William Taylor K C B

† Gained the Martin Memorial Medal the Maclean Prize for Clinical and Ward Work and the De Chaumont Prize in Hygiene

‡ Gained the Second Montefiore Prize of £7 7s

§ Gained the Prize in Pathology

‖ Gained the First Montefiore Prize of £21 and Medal

¶ Gained the Marshall Webb Prize of £5 and Medal.

The Commander in-Chief when presenting the prizes addressed a few words to the prize winners and specially complimented Mr Barnardo on his success and upon the circumstance that he had already seen service in the field in South Africa

Lord Roberts subsequently delivered an address to the young officers He said —

'It is with great interest that I have listened to the report which Colonel McLeod has just read to us and I am much impressed by the statement of the admirable work which has been carried on during the 42 years the candidates for commissions in the Indian Medical Service have been trained at Netley. I quite understand the regret that this is the last occasion on which these prizes will be given away here, but I suppose there can be no doubt as to London being the most suitable place for a training school such as this, and I feel sure the authorities would not have made the change had they not been satisfied that it was necessary. There is no profession which requires more careful training than the one you are about to enter and certainly none in which constant study and research are so absolutely essential. Even in my recollection the advance made in medicine and surgery is very remarkable. A few nights ago I had the honour of meeting Lord Lister and I could not help telling him how deeply indebted we soldiers are to him for his wonderful discoveries. Only those who know what a field hospital was like 40 or 50 years ago can have any idea of what has been effected by the introduction of antiseptics. You are about to join a noble profession and you will find there are grand openings in India for those who keep themselves up to date and who are determined to get on in it. The Indian Medical Service is well paid, the pensions are good, and it affords opportunities in many and varied directions for men of ability and industry to achieve success and distinction. Time will not admit of my speaking to you of all the officers of your service who have distinguished themselves in India, but there are a few whose names I should like to mention. To go back to early days there was a pioneer of the Indian Medical Service, Dr. William Hamilton, who nearly 200 years ago for his successful treatment of the Emperor Farrukshah obtained a grant of land for his countrymen with permission to trade. Then Fryer, Buchanan, and Barnes were distinguished as scientific observers, travellers, and diplomatists. Wilson, Sprenger, and Bellew were noted authorities in geology and palæontology; O'Shaughnessy had a large share in the organisation of the Indian Telegraph Department; Paton greatly developed the Postal Department. Macnamara and Warden were eminent chemists. Russell and Jerdon were great naturalists. Norman Chevers, and Lyons were admitted authorities on medical jurisprudence. Brandis, Cleghorn, King (whose name will always be associated with the beautiful botanical gardens in Calcutta) and many others were noted as botanists; the Goodeves, Sir Ranald Martin, Birdwood, your own head here, Colonel McLeod, and many others that might be enumerated were, or are, eminent as professors and writers on medicine and surgery. De Renzy, James Cunningham, and John Richardson will always be remembered as men who successfully grappled with the sanitary needs of a country in which sanitation is of vital importance. Mouat, Walker, Planck, Lethbridge, and others are identified with the excellence of the gaol system in India. Nor in such an "honours list" must the names be omitted of such men as Campbell, Mackinnon, my old friend John Campbell Brown, and Fayrer, whom I am glad to see here to-day and whose devotion to duty I trust you will all emulate. One other name I must refer to, the late Director-General Robert Harvey, whose life was one long record of activity and usefulness. It was at his instance that the Government of India recently organised a research department for the investigation of diseases, thereby adding another and an important attraction to the Indian Medical Service—a grand field of inquiry, observation, and discovery. I must not detain you longer; I have said enough to show you the unique prospects that are open to you and it only remains for me to congratulate you all on the successful conclusion of your labours here and to express the hope that in the large field which you are about to enter you will bring your best energies to bear and will honourably maintain and, if possible, increase the splendid reputation and the grand traditions of the service to which you now belong. Let me commend the natives of India to your special care and protection. I would advise you to lose no time in learning the language and to do all in your power to cultivate the friendship of the people among whom your lot may be cast. You will be well repaid for any trouble you may take in these respects. There are many able natives in the lower grades of your own profession from whom you will obtain valuable assistance if you treat them with kindness and courtesy.

The Director-General, A.M.S., and Sir Joseph Fayrer then addressed some words of advice to the young officers and the proceedings were brought to a termination by Surgeon-General Townsend, who thanked the Commander-in-Chief for coming to distribute the prizes and for his address. The officers of the Royal Army Medical Corps subsequently entertained the company at luncheon.

METROPOLITAN HOSPITAL SUNDAY FUND

A MEETING of the Council of this Fund was held at the Mansion House on August 5th, when the Right Hon. Sir JOSEPH DIMSDALE, Bart., M.P., Lord Mayor, president and treasurer of the Fund, occupied the chair. Amongst those present were Sir Sydney Waterlow, the Earl of Meath, the Rev. Canon Fleming, Mr. Thomas Wakley, Dr. J. G. Glover, the Rev. Dr. Adler (the Chief Rabbi), Sir William Church (President of the Royal College of Physicians of London), Mr. O. Macnamara, Captain Cundy, Sir H. C. Burdett, the Earl of Stamford, Mr. Alfred Willett, and Mr. F. H. Norman.

The following is the annual general report of the Committee of Distribution:—

The Committee of Distribution [illegible] 202 institutions. The amount of [illegible] the Court of Chancery to the pre[illegible] tion of £57 500 to 147 hospitals [illegible] recommended.

This year 204 institutions, or four more than last year, have made applications for grants from the funds at your disposal. The committee of one old-established hos[illegible] funds, did not seek to participate [illegible] sary to invite the attendance of [illegible] of five [illegible] h your [illegible] no hos[illegible] he two [illegible] th in [illegible] This [illegible] ore to [illegible] ation of [illegible] ace of [illegible] actors [illegible] mount [illegible] dinary [illegible] ted in [illegible] to the [illegible] urchase [illegible] ortions

The LORD MAYOR, in opening the proceedings, said that it gave him great pleasure to announce that in this, the thirtieth year of the Fund, the sum of £60,000 had been collected, and he had every reason to hope that before the end of the financial year on Oct. 31st the total amount would exceed that of any previous year. The collections in places of worship reached the sum of £45,000, an increase of £9000 over last year's total and a record amount. Mr. George Herring's proposal had proved a great incentive to the congregations. Without desiring to make invidious comparisons he would like to state that St. Paul's Cathedral had collected the sum of £2129 as the result of a special appeal which he had made, and Christ Church, Lancaster-gate, in response to Prebendary Ridgway's appeal, had collected the large sum of £1628, while St. Michael's, Chester-square, by the efforts of Canon Fleming, had contributed £1398 to the Fund. Since its inception Canon Fleming's untiring energy on its behalf had resulted in the Fund benefiting by the large sum of £25,000. St. Peter's, Eaton-square, had collected £9[illegible]5, and the church which he (the Lord Mayor) himself attended had contributed £569 towards the general total. Westminster Abbey had not yet sent in the amount collected on Hospital Sunday. While congratulating themselves on the substantial increase in the total collections from places of worship the Lord Mayor said that the Council and friends of the Fund should not forget the very liberal response which is always made by the Jewish community. He specially desired to call the attention of the Council to the fact that there were many beds still unoccupied in several of the hospitals—notably at Guy's and the Metropolitan Hospital, Kingsland-road—and it was worthy of consideration whether donations from the Fund should be given while beds remained unoccupied. He called attention to the recommendation of the Distribution Committee that the [illegible] of the money given to the hospitals [illegible] go towards the maintenance of the patient and not be spent on "bricks and mortar" A large amount of the total sum collected by this fund was subscribed by what he might call the poorer portion of the people of London and the idea of these subscribers was that the money should be spent on the patients themselves. The Lord Mayor concluded by stating how pleased he was that during his mayoralty a record collection had been made, while he expressed his deep regret for the loss which the Fund had sustained by reason of the death of his old friend, Sir Richmond Cotton, and the resignation of Colonel Francis Agar

Sir SYDNEY WATERLOW, in proposing

> That the report of the Committee of Distribution for the year 1902 be and is hereby approved and that the several awards recommended be paid as soon as possible,

said that this was a red letter day in the history of the Metropolitan Hospital Sunday Fund, for after 30 years of the working of the Fund they were able to announce the largest collection that had ever been made He referred to the founding of the Fund in 1872 and the collection which was made in the following year amounting to nearly £28,000 The total collection had year by year increased and there could be no better evidence of the confidence which the public placed in the Fund than this fact The labours of the Distribution Committee had been exceptionally heavy during the past year and there were a larger number of deputations from hospitals received. As yet they had not been able to fix upon a maximum cost per bed in patient in the hospitals, though the matter had received careful consideration.

The Earl of STAMFORD seconded the motion.

Sir HENRY BURDETT, referring to the Lord Mayor's remarks respecting empty beds at Guy's Hospital, asked whether it was not the case that the beds were set apart for paying patients He noticed, he said, that a grant had been refused to the Hospital of Saint Francis, an institution which, in his opinion, was not entitled to the name of 'hospital" He thought that the Council should make a rule that no new institution should be eligible to apply for a grant unless it had first been inspected by someone connected with the Fund

Sir SYDNEY WATERLOW, replying to Sir Henry Burdett, said that representatives of the Hospital of Saint Francis had been invited to attend the Distribution Committee but no notice was taken of that invitation.

The LORD MAYOR also, in reply to Sir Henry Burdett, said that what he meant by remarking that Guy's Hospital had beds unoccupied was that beds had now to be used for paying patients which under other circumstances would be utilised for the poor

The motion was then carried

Sir WILLIAM CHURCH moved —

> That the cordial thanks of the Council be given to George Herring Esq for his continued and generous donation to the Fund which has materially assisted in raising the total collections this year to a record amount.

Canon FLEMING, in seconding the motion, said that the result of this year's collection showed that King Edward's Fund and the Metropolitan Hospital Fund were not antagonistic but really helped each other

The motion was carried.

Dr ADLER proposed, and Mr MACNAMARA seconded, the following motion, which was carried —

> That the cordial thanks of the Council be and are hereby given to Sir Sydney H. Waterlow Bart (chairman) and to the other members of the Committee of Distribution for the care bestowed in the preparation of the awards they have recommended.

Mr ALFRED WILLETT, in proposing

> That the thanks of the Council be and are hereby given to the editors of newspapers who have pleaded the needs of hospitals and advocated the cause of this Fund

paid a special compliment to THE LANCET for the work which that journal had done in the cause of the Fund

The Rev Canon BRISTOE seconded the motion, which was then carried

On the motion of the LORD MAYOR a special vote of thanks was accorded to Sir Edmund Hay Currie, the secretary of the Fund, which was seconded by Sir SYDNEY WATERLOW and supported by Sir HENRY BURDETT, who said that there would not have been a record collection this year had it not been for Sir Edmund Currie The vote of thanks was carried unanimously and briefly replied to by Sir Edmund Currie.

On the motion of the Earl of MEATH, seconded by Mr F H NORMAN the cordial thanks of the Council was given to the Lord Mayor who, as president and treasurer, had devoted his valuable time and influence to the well being of the Fund To this the LORD MAYOR replied and the proceedings terminated.

ARMY MEDICAL REPORT FOR 1900[1]

FIRST NOTICE.

IT is to be regretted that Government publications, upon the drawing up of which great care and labour have been bestowed, attract, as a rule, so little attention There are, no doubt, several reasons why this should be the case. To begin with the number of publications of all sorts in the present day is such that it is extremely difficult, if not impossible, to keep up with them, the shelves and tables of medical and scientific societies groan under the weight of periodical literature Official reports when relating to matters of public health largely deal, moreover, with figures, and the ordinary reader has no taste for anything in the shape of statistics, then official reports are not up to-date in the sense that they often relate to facts and occurrences long preceding the time of their publication and there is, so to speak, no end to their number Be all this as it may there can be no doubt that many valuable reports—such as those of the Sanitary Commissioner with the Government of India, for example—share a common fate in this respect, that they are altogether unread or only referred to by those who are in search of special data or who are specially interested in some particular subject. It becomes a seriously increasing difficulty with journalists desirous of keeping their readers *au courant* with medical progress in this country and abroad to cope with the number of books, periodicals, and pamphlets which find their way to an editor's library table.

To turn from these prefatory remarks however, to the report on the health and sanitary condition of the army for the year 1900 In a volume of some 537 pages we can only pretend to deal with a few of the statistical results and to touch upon a few salient points which happen to strike us.

With regard to South Africa we learn that no annual returns of sick having been submitted statistics for comparative purposes cannot be prepared and we must consequently wait till a medical history of the war has been drawn up

From the excellent general summary of the health of the troops at home and abroad we find that their average strength (exclusive of South Africa), as computed from the returns received by the Army Medical Department, was 226,276 warrant officers, non commissioned officers, and men The admissions to hospital represent a ratio of 827 7 per 1000 on that strength and the deaths one of 9 05 per 1000 on a strength of 247,819, which includes detached men not shown in the foregoing returns

A glance at the tables on pages 4 and 5 of the report will enable the reader to compare the statistical results of 1900 with those of the previous ten yearly periods from 1890 to 1899, only it has to be borne in mind that whereas those for South Africa and St. Helena are omitted in the former they are included in the latter (the ten yearly tables) The results are thrown into tabular form and arranged in columns under different headings in sufficient detail to afford all necessary information for gauging the health of the army Speaking generally the results for 1900 are satisfactory The death rates at Gibraltar and Bermuda occupy a low, and those in China, India, and on shipboard a relatively high, place in the table. Extra hospital accommodation had to be provided for the reception and disposal of 34,452 invalids returning from South Africa during the year and for this purpose Doecker huts, huts of War Office design, hospital marquees, and in some cases hired buildings, were largely used in order to supplement the existing hospital accommodation at numerous military stations and camps in England.

It is satisfactory to notice the continued decline of enteric fever at Bermuda—probably attributable to the replacement of the dry earth system of conservancy by a water carriage system and a careful attention to sanitary detail. Bermuda is a station which offers many facilities for introducing and carrying out a more effective system of sewage disposal than has hitherto existed there. In Mauritius the general health of the troops had improved. There had been no case of plague among the troops, malarial fevers and venereal diseases had declined but the number of cases of enteric fever had increased. Port Louis is the main seat and source of unhealthiness and the troops should as far as possible be located at Curepipe and in the uplands. At Ceylon there had been a marked decrease in the admissions for malarial fevers in 1900 and considerable improvement in the admission rate for venereal diseases.

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[1] Army Medical Department Report for the year 1900 with appendix Vol. XLII London Printed for His Majesty's Stationery Office by Harrison and Sons St. Martin's lane, Printers in ordinary to His Majesty 1902. Price 2s 3d

In the Straits Settlements the health of the troops had been exceptionally good. More stringent measures, through the instrumentality of a local ordinance lately introduced have been taken with much apparent success in repressing the spread of venereal diseases, and the same may be said in regard to China.

In Egypt the general health of the troops is stated to have been good. With regard to the recent sudden and severe outbreak of cholera at Cairo, we may remark *en passant* that so far as the British troops are concerned the best thing to do is to remove them at once from Cairo to Helouan and the desert, and we are glad to notice that this is being done

In India there was an increase in the death and invaliding rates, but a decrease in the admission and constantly sick rates. The decrease of enteric fever is a notable feature and as we have previously had occasion to point out, might have been expected from the fact that owing to the late war in South Africa and the cessation of the usual reliefs, there has been a decreased supply of susceptible material arriving in India. Of course, there are other things to be taken into account, but we reserve our remarks on this subject for the present. There is much in this report about enteric fever The researches of various experts abroad as well as those of Dr P Horton-Smith and others in this country the remarks in Munson's 'Military Hygiene,' and the labours more especially of the special medical commission appointed by the United States Government to report upon the causes of the great and widespread prevalence of typhoid fever among the American troops during the late war with Spain, have greatly added to our knowledge and have thrown a new and strong light on the etiology and pathology of that disease, especially in relation to its prevalence in camps and armies. The general trend of these investigations is strongly to discredit the correctness of any one and exclusive view of causation, such for example, as that the typhoid fever of armies is solely a water borne disease. But the subject is too large to be discussed in the present article we may however remark that the results and bearing of the American investigations are important and demand attention.

ASYLUM REPORTS

County and City of Worcester Asylum (Annual Report for 1901).—The average number of patients resident during the year was 1174 comprising 527 males and 647 females. The admissions during the year amounted to 246—viz. 113 males and 133 females. Of these 210 were first admissions Mr G M. P Braine-Hartnell the medical superintendent, states in his report that among the patients admitted 165 were in indifferent health and enfeebled bodily condition and 50 were in bad health and exhausted condition The number of patients discharged as recovered during the year amounted to 97—viz. 48 males and 49 females, or 8·26 per cent. of the average number resident. The deaths during the year amounted to 108, or 9 2 per cent. as calculated on the same basis. Of the deaths four were due to renal disease five to epilepsy 10 each to phthisis and cardiac disease, 13 each to senile decay colitis and general paralysis of the insane, 20 to pneumonia, and the rest to other causes. Post-mortem examinations were made in 93 out of 108 cases. Among zymotic diseases which occurred during the year were chicken pox which attacked two male patients, and typhoid fever which affected one male patient. Colitis caused a good deal of trouble by reason of its occurring in irregular outbreaks. "Various methods of treatment [for colitis] much recommended in other asylums were tried but without satisfactory results" The desire to improve the system of nursing in the asylum has led to the introduction of trained nurses in the male wards and the new system is being watched carefully in order to determine whether a more extensive adoption of it would be justified. "The method has been tried in Scotland says Mr Braine-Hartnell and its advocates are loud in their praise. I think we ought to be able to show that the increased cost would give an increased recovery rate before we make such wide and sweeping changes" The Commissioners in Lunacy state in their report that they were able to form a very favourable opinion of the condition of the asylum, that the wards were in excellent order and the day rooms tastefully decorated that the sanitary conditions were generally excellent, and that the medical case-books and records were very well kept. The committee of management states in its report that a cemetery for the interment of patients dying in the asylum was duly consecrated by the Lord Bishop of Worcester in July The maintenance charge per week for patients is 7*s* 7*d* per head which was the same as that of the previous year

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A MEETING of the Council was held on July 31st, Sir HENRY G HOWSE, the President, being in the chair

It was resolved

That 500 copies of vol. II of the Catalogue of the Physiological Series of Comparative Anatomy should be printed

The balance-sheet for the year ending June 24th, 1902, was laid before the Council. The chief points in the accounts are as follows. The gross income of the College for the year has been £26,954 being £850 greater than in the previous year The expenditure for the year amounts to £24 377 The balance of income over expenditure amounts to £2577 if, however allowance is made for the sum of £479 paid for rates due in respect of the previous year it will be found that the income has exceeded the actual expenditure of the year by £3056. During the year the investments of the College have been increased by £3000

The receipts from the Fellowship examination have been just sufficient to defray the out-of pocket expenses

The balance-sheet was approved and adopted.

Mr C. H. Golding Bird was re-elected a member of the Court of Examiners

Mr W B. Paterson was elected a member of the Board of Examiners in Dental Surgery

A report was received from the committee appointed to receive a deputation from the Association of Licentiates of the Royal College of Physicians of London and Members of the Royal College of Surgeons of England, and it was resolved to refer the petition to the Conjoint Committee of the two Colleges recently appointed to consider the possibility of a connexion with the University of London for certain purposes.

A letter was read from the Principal of the University of London thanking the Council for allowing the University to use specimens from the Museum of the College for examination purposes

An application was read from Dr William Stirling Dean of the Medical School of the Owens College, Manchester for permission to have casts taken for that school of the busts of Sir Charles Bell Sir Astley Cooper and John Abernethy

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on July 29th, Sir THOMAS R. FRASER, the President, being in the chair

The VICE PRESIDENT congratulated the President in the name of the College on the honour of knighthood which had been conferred on him by the King and the PRESIDENT, in reply expressed his gratification at having been the medium through which the College had received recognition from His Majesty

Dr William Blackley Drummond and Dr John Eason were admitted by ballot to the Fellowship of the College.—

Dr G F B Simpson was admitted by ballot to the Membership of the College after examination.

The Secretary reported that since the last quarterly meeting 61 persons had obtained the Licence of the College by examination

The regulations regarding the single Licence and Membership and Fellowship of the College for the ensuing year were approved —The Secretary announced that, in virtue of an alteration of the articles of agreement existing between the College and the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow the College would henceforth admit Licentiates of the Society of Apothecaries of London and of the Apothecaries' Hall of Ireland to examination for the single Licence of the College

The Queen Victoria Cullen Prize of £100, which is in the gift of the College and is awarded every four years to a Fellow, Member, or Licentiate of the College "for the greatest benefit done to practical medicine," was on this occasion divided between Dr J W Ballantyne and Dr J C Dunlop

The College expressed its concurrence with the recommendation made by the Royal College of Physicians of London that in certificates of death the term "epidemic enteritis" should in future be used in place of "epidemic diarrhœa," and its conviction that the general adoption of this recommendation by the practitioners of Scotland would be highly advantageous in the interests of the public health and of accuracy in the national records of mortality

The President was nominated as a member of the General Committee of the Cancer Research Fund.

The President announced that he had accepted an invitation from the President of the Royal College of Physicians of London to act as a member of the committee for the preparation of the revised version of the official "Nomenclature of Disease"

A report prepared by a committee of the College as to the way in which that part of the Carnegie gift devoted to the advancement of medical science might best be applied was submitted and approved by the College.

The Secretary laid on the table the annual statement by the Governing Board of the School of Medicine of the Royal Colleges in terms of the constitution.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD

On a Localised Outbreak of Enteric Fever at Coventry, by Dr L. W Darra Mair.[1]—The occurrence within a very restricted area of a sudden and severe epidemic of enteric fever at once raises suspicion of pollution of a well or other limited source of water supply, and the outbreak on which Dr Mair reports affords a striking example of the behaviour of a localised epidemic clearly attributable to infection distributed in this way Out of 82 cases of enteric fever notified in Coventry during the third quarter of 1901 no fewer than 60 occurred among the inhabitants of a "blind" street, named Sherbourne street and in courts leading off it. In this small area there are 83 houses, and in 29 of these enteric fever occurred The earliest cases were notified at the end of July, 1901 from "No 4 court" in this area, the epidemic period began towards the end of August and lasted about three weeks, during which time 49 cases were notified from the Sherbourne street area By the middle of September the epidemic had practically ceased. Dr Mair reviews at length the various facts bearing on the outbreak and illustrates the conditions obtaining in the Sherbourne street area by an excellent map. Review of all the facts given makes it certain that the epidemic, as such, was attributable to pollution of a well in No 4 court. The occupants of every house infected at the earlier stages of the epidemic admitted the use of this well water In seven only out of the 29 houses in which fever occurred throughout the quarter was it alleged that this pump-water had not been consumed, and in certain of these seven houses there were reasons for considering the cases to be "secondary" to those in neighbouring dwellings The supply of milk which was common to most of the houses infected was by no means peculiar to the Sherbourne-street area, the same milk was supplied to a larger area outside Sherbourne street in which no exceptional enteric fever occurred. The facts squared with a hypothesis that this well water possessed infective properties during about a week on either side of August 1st, and Dr Mair points to many circumstances which accord with this possibility The well stands at the opening of a small court paved with cobbles or brick, allowing slop water thrown out by the inhabitants to lie about in its irregular depressions The mouth of the well is protected by puddled clay laid on baulks of timber, but in July trenching had been going on in the court and in the neighbourhood of the well, so as to enable the public water supply to be taken to some new water closets being constructed at the end of the court During July also the inhabitants of the court had their closet accommodation much curtailed owing to this proceeding, and opportunities of excrement fouling the surface were increased Add to this that about July 26th the first known case of enteric fever occurred in a house within a few feet of the well and was not removed to hospital, and the further circumstance that a long period of hot weather in July was followed by severe rainfall on July 24th and 27th, during which one and a half inches of rain fell in Coventry, an occurrence specially likely to open up temporary channels in the clay puddling of the well. The surprising part of the story is the hesitation which seems to have been felt locally in attributing this epidemic to its source. Apparently the local authorities adopted the view, which might be thought by now to have been sufficiently often exploded, that the mere fact that chemical and bacterial examination of a particular sample had not afforded evidence of contamination was enough to outweigh strong positive evidence that the water in question had caused disease. In this case a single sample of water collected in September, nearly a month after the well had done the mischief, was analysed by the public analyst, Dr A. Bostock Hill, who reported it to be "of remarkable purity" from the chemical standpoint. A portion of the same sample (no more than 185 cubic centimetres) was examined about a fortnight after its collection by Professor R. F C Leith for typhoid bacillus and bacillus coli with negative results Professor Leith points out that the sample was too small and no doubt he would have preferred a large volume of water sufficient to treat by the far more satisfactory method of filter brushing "The only inference to be safely drawn," Dr Mair points out, from these chemical and bacterial results "is that if the well was polluted about August 1st the pollution no longer existed at the dates when the samples were collected." At most they suggest that exceptional circumstances must have been needed at the beginning of August to produce the specific contamination. But local inquiry showed that exceptional circumstances favouring specific contamination were present in abundance. Dr Mair has occasion to criticise the public health administration of Coventry in certain particulars In this epidemic it was impossible to isolate the sufferers, the system of disinfection at houses, which became, therefore, all the more important, appears to have lacked thoroughness. Good work in the infected area seems to have been done by the Coventry Nursing Institution and by the "female health visitor" employed by the corporation

On Recurrent Prevalence of Enteric Fever in the Folkestone Urban District, and on the Sanitary Administration of the Local Authority, by Dr Theodore Thomson[2]—The problem with which Dr Thomson deals in this report is one of considerable complexity The difficulties met with in obtaining data which justify the attribution of an epidemic of enteric fever to a single cause or collection of causes are often great, and investigations are still more troublesome when it is desired to seek an explanation, not of a circumscribed and pronounced epidemic, but of mere abnormal prevalence of enteric fever sustained over a series of years. In localities where enteric fever is endemic inquiry not infrequently brings out the existence of various circumstances tending to give rise to, and to perpetuate, fouling of the soil surrounding dwellings or fouling of soil water which gains access to wells. The latter explanation is not applicable to Folkestone which has a satisfactory water supply derived from deep wells in the chalk and greensand and notwithstanding certain defects in the sewerage system of the town and faulty conditions of a considerable proportion of house drains the opportunities of pollution of the soil do not appear of themselves sufficient to account for the prevalence of enteric fever While indicating how these defective conditions have probably served to foster the local spread of the disease Dr Thomson is able to point to other factors which have been operative during the period under inquiry This period consists of the years 1896 to 1900 inclusive. For five years before 1896 there had been little enteric fever in Folkestone, the town contrasting favourably in this respect (as had also been the case, judging from the mortality statistics, throughout the 20 years 1871—1890) with England and Wales as a whole. From 1896 onward the incidence, on a population of about 30 000 was at a rate much exceeding that of England and Wales, and the mortality from enteric fever was correspondingly high.

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[1] London Eyre and Spottiswoode; Edinburgh, Oliver and Boyd Dublin, E Ponsonby Price 6d.

[2] London Eyre and Spottiswoode, Edinburgh, Oliver and Boyd; Dublin, E Ponsonby Price 6d

Year	Deaths from enteric fever	Known cases of enteric fever
1896	4	18
1897	4	40
1898	8	36
1899	16	87
1900	5	50

The report deals with the above cases year by year and for each yearly period eliminates those known to have been imported, or, in other words, to have contracted infection outside Folkestone, and also those in which shell fish were suspected to have played a part. Dr Thomson then proceeds to deal with the question of contaminated milk supplies in relation to each year's history of enteric fever Fortunately accurate observations on this point appear to have been kept by Mr M. G Yunge-Bateman, the medical officer of health of the district, and by his sanitary staff, and the results are instructive. It is only possible here to give a very brief summary of a few of the chief points in each year's inquiry as to milk. 1896 Total cases 18. Group of seven cases in May six of which in four houses, supplied by the same milkman whose total number of houses supplied was about 100 only Group of other seven cases in December, six of which in five houses, supplied by another milkman whose total households supplied was also only about 100. 1897 Total cases 40 distributed more or less throughout the year 14 cases in 13 houses supplied by the milkman implicated in December 1896. 1898 Total cases 36. No evidence sufficient to implicate any one milk supply 1899 Total cases 87 nearly all attacked in September and October 56 cases, in 47 houses supplied by the four milk vendors in Folkestone who sold milk from a particular source AX" One of these vendors A, sold AX milk exclusively Enteric fever occurred in 17 out of the 100 houses thus supplied by him. 1900 Total cases 50, mostly attacked in autumn months. 34 cases in 27 houses supplied by the six milk vendors in Folkestone who in this year sold milk from the source just mentioned AX These six vendors together supplied 800 houses. Again AX milk alone was sold by vendor A at about 100 houses Enteric fever occurred in six of them On the other hand another vendor G also sold AX milk exclusively and in about 100 houses thus supplied by G only one case occurred. AX milk, however was a mixed milk and Dr Thomson shows the probable explanation of the difference between the incidence on A's and G's customers in certain facts which he ascertained with regard to the mixing In 1901 only 14 enteric fever cases several of which were imported" occurred in Folkestone. Facts of the above sort suggesting the influence of milk, receive confirmation from the careful study which Dr Thomson has made of the incidence of the disease each year on age and sex. When the milk factor has been operative a considerably greater incidence on the female sex appears to have been manifest at the same time an observation which accords with previous experience of enteric fever when spread by milk. Dr Thomson points out that the singular feature of these repeated occurrences of enteric fever is that three distinct sources of supply have been implicated in so short a period. He indicates a characteristic common to many of the farm in the Elham and Dover rural districts, whence a large part of the milk supply of Folkestone comes—namely scarcity of water supply leading to the storage of water derived from the surface of roadways or to the use of springs liable to dangerous pollution water in short, derived from anywhere regardless of its quality Conditions of this kind were shown to have attached to the three milk supplies implicated. The report illustrates afresh the care which should be taken not to exclude milk as a cause of infectious disease because various persons attacked are ascertained to be supplied by different vendors. Milk dealers are constantly mixing milks and an instructive feature of this report is supplied by observations which indicate, so far as small numbers can that the amount of disease caused by the implicated milk was in inverse relation to its dilution by other milk.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9183 births and 4018 deaths were registered during the week ending August 2nd. The annual rate of mortality in these towns, which had been 14 5 and 13 9 per 1000 in the two preceding weeks, rose again to 14 1 per 1000 last week. In London the death rate was 13 3 per 1000, while it averaged 14 5 in the 75 other large towns. The lowest death rates in these towns were 4 8 in Hornsey 5 4 in Tottenham 6 8 in Croydon 7 5 in East Ham and Handsworth 7 8 in Reading 8 0 in Coventry and 8 2 in Walthamstow, the highest rates were 19 2 in Hanley, 19 7 in Liverpool 20 4 in Bristol, 21 8 in Bootle, 22 0 in Wigan 23 1 in Gateshead, and 25 3 in West Bromwich. The 4018 deaths in these towns last week included 579 which were referred to the principal infectious diseases, against 558 and 552 in the two preceding weeks, of these 579 deaths 177 resulted from diarrhœa, 118 from measles, 89 from whooping-cough 75 from diphtheria, 60 from fever" (principally enteric) 49 from scarlet fever and 11 from small pox. No death from any of these diseases was registered last week in Reading Devonport, Handsworth Stockport, St. Helens, Barrow in Furness Rotherham or Newport (Mon.) while they caused the highest death rates in Bristol Hanley Liverpool, Bootle, Middlesbrough Stockton-on Tees, Gateshead and Merthyr Tydfil. The greatest proportional mortality from measles occurred in East Ham Bristol Hanley Walsall Rochdale Stockton-on Tees, and Gateshead, from scarlet fever in Hanley and West Bromwich from diphtheria in Bristol, Burnley Middlesbrough, and Rhondda from whooping-cough in West Ham, Portsmouth, and Middlesbrough from fever in Ipswich and Merthyr Tydfil and from diarrhœa in Birmingham Nottingham Liverpool Bootle, Wigan and Gateshead. The fatal cases of small pox registered last week included seven in London two in Liverpool one in Tottenham, and one in Walthamstow but not one in any other of the 76 large towns The number of small pox patients in the Metropolitan Asylums hospitals which had declined from 1515 to 369 at the end of the 14 preceding weeks, had further decreased to 305 at the end of last week, 44 new cases were admitted during the week, against 61, 48, and 23 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday August 2nd, was 2562, against 2352, 2377 and 2486 on the three preceding Saturdays 382 new cases were admitted during the week, against 272, 333, and 397 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 159 155, and 128 in the three preceding weeks, rose again to 135 last week but were 26 below the corrected weekly average. The causes of 49 or 1 2 per cent. of the deaths registered in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Leicester Nottingham, Salford, Bradford Newcastle, and in 48 other smaller towns the largest proportions of uncertified deaths were registered in Hanley Birmingham, Blackburn, Barrow in Furness, Sheffield Sunderland, and South Shield

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 14 7 and 15 8 per 1000 in the two preceding weeks, further rose to 16 8 per 1000 during the week ending August 2nd and exceeded by 2 5 per 1000 the rate recorded during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 9 9 in Leith and 14 1 in Perth to 18 2 in Greenock and 18 9 in Dundee The 535 deaths in these towns included 19 which were referred to diarrhœa, 12 to measles, seven to whooping-cough, four to diphtheria, three to scarlet fever, and three to "fever," but not one to small pox In all, 48 deaths resulted from these principal infectious diseases last week, against 44 and 55 in the two preceding weeks. These 48 deaths were equal to an annual rate of 1 5 per 1000 which was 0 5 per 1000 below the mean rate last week from the same diseases in the 76 large English towns The fatal cases of diarrhœa, which had been 13 and 21 in the two preceding weeks, declined again last week to 19, of which nine occurred in Glasgow, six in Dundee, two in Edinburgh, and two in Greenock. The deaths from measles, which had been 22, 15, and 10 in the three preceding weeks, rose again to 12 last week, and included eight in Edinburgh and three in Glasgow The fatal cases of whooping cough, which had been 15 and 13 in the two preceding weeks, further declined last week to seven, of which four were registered in Glasgow The four deaths from diphtheria corresponded with the number in the preceding week, and included three in Glasgow, where two of the three fatal cases of scarlet fever were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 62 and 80 in the two preceding weeks, declined again last week to 79, but were 14 in excess of the number in the corresponding period of last year The causes of 29, or more than 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 20 2 per 1000 in each of the two preceding weeks, rose to 21 2 per 1000 during the week ending August 2nd. During the past four weeks the annual rate of mortality has averaged 19 6 per 1000, the rates during the same period being 14 1 in London and 16 4 in Edinburgh The 154 deaths of persons belonging to Dublin registered during the week under notice exceeded by seven the number in the preceding week, and included 29 which were referred to the principal infectious diseases, against 14 and 15 in the two preceding weeks, of these 18 resulted from measles, five from diarrhœa, two from whooping-cough, two from "fever," one from scarlet fever, and one from diphtheria, but not one from small pox. These 29 deaths were equal to an annual rate of 4 0 per 1000, the death rates last week from the same diseases being 2 1 in London and 1 9 in Edinburgh. The fatal cases of measles, which had been eight in each of the two preceding weeks, increased last week to 18, the deaths from diarrhœa, which had been one and three in the two preceding weeks, further rose to five last week, the mortality from whooping-cough and from "fever" was slightly in excess of that recorded in the preceding week, while from scarlet fever and diphtheria the deaths corresponded with the numbers in the preceding week. The 154 deaths in Dublin last week included 26 of children under one year of age and 35 of persons aged upwards of 60 years, the deaths both of infants and of elderly persons showed a decline from the numbers in the preceding week. Eight inquest cases and six deaths from violence were registered, and 68 or nearly one half, of the deaths occurred in public institutions The causes of six, or nearly 4 per cent of the deaths registered in Dublin last week were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet —Henry William Finlayson, Frederick Fedarb, Richard Cleveland Munday Edward Carter Cridland Frank Bradshaw, Matthew Joseph O Regan and Richard Francis Bates

The following appointments are notified —Fleet Surgeon C W Sharples to the *President*, for Deptford Victualling Yard. Staff Surgeons O W Andrews to the *Diana* and R. Hardie to the *Resolution*.

ROYAL ARMY MEDICAL CORPS.

The date of the placing on half-pay on account of ill health of Lieutenant O Challis should be July 5th, 1902, not as stated in the *Gazette* of July 22nd, 1902.

Lieutenant E W Herrington, on relinquishing his temporary commission for service in South Africa is granted the honorary rank of Lieutenant in the Army, with permission to wear the uniform of the corps. Dated July 19th, 1902.

Lieutenant-Colonel P M Ellis is appointed to the command of No 9 Company and to the medical charge of the Station Hospital at Colchester The orders of Colonel G D N Leake to proceed to Colchester to take over the duties of his appointment as Principal Medical Officer, Eastern District, are postponed for the present Captain T P Jones joins at Aldershot for duty and takes over medical charge of the Royal Artillery in Wellington Lines Captain H. Herrick is appointed to the medical charge of the Station Hospital, Satara, as a temporary measure.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain R. Sturling to be Surgeon Major Dated August 2nd, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers) 1st Lancashire Surgeon Lieutenant F F German to be Surgeon-Captain 9th Lancashire Surgeon Captain A. Cosgrave to be Surgeon Major 1st Warwickshire George Haddow to be Surgeon Lieutenant. 1st North Riding of Yorkshire Surgeon-Lieutenant S Farmer to be Surgeon Captain

Royal Engineers (Volunteers) 1st Aberdeenshire Surgeon Captain J J Y Dalgarno to be Surgeon Major 1st West Riding of Yorkshire (Sheffield) Surgeon Captain C H Willey to be Surgeon Major

Submarine Miners The Tay Division Surgeon Captain G O C Macness to be Surgeon-Major

Rifle The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment) The undermentioned Surgeon Captains to be Surgeon Majors —A. D Webster and W H Miller 2nd Volunteer Battalion East Yorkshire Regiment Surgeon Lieutenant S H. Johnson resigns his commission. 2nd Volunteer Battalion the Lancashire Fusiliers Surgeon Captain W M. Hamilton to be Surgeon Major 4th Volunteer Battalion the Cheshire Regiment Surgeon Captain G W Sidebotham to be Surgeon-Major 5th Volunteer Battalion the Cheshire Regiment The undermentioned Surgeon Captains to be Surgeon-Majors —J H Hacking and C Averill. 2nd Volunteer Battalion the Royal Welsh Fusiliers Surgeon Major E Williams to be Surgeon-Lieutenant-Colonel. 1st Volunteer Battalion the South Staffordshire Regiment Surgeon-Captain C T Griffiths to be Surgeon Major 2nd Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment) Surgeon Captain F J Knowles to be Surgeon-Major 6th (Fifeshire) Volunteer Battalion the Black Watch (Royal Highlanders) The undermentioned Surgeon Captains to be Surgeon Majors C E Douglas, C N Lee, J Mackay, and D H Kyle 13th Middlesex (Queen's Westminster) Surgeon Captain P P Whitcombe to be Surgeon Major 2nd Volunteer Battalion the Manchester Regiment Surgeon Captain G H Darwin to be Surgeon Major 5th Volunteer Battalion the Durham Light Infantry Surgeon Captain A. P Arnold to be Surgeon Major 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry The undermentioned Surgeon Captains to be Surgeon Majors —R. Pollok and A. D Moffat. 1st Dumbartonshire Surgeon Captain J R. F Cullen to be Surgeon Major

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

Edinburgh Company Captain D Wallace, C M.G, to be Major. Glasgow Companies George Gordon to be Lieutenant.

BEARER COMPANY

1st Lothian Surgeon Captain A. Macdonald, from the Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment), to be Surgeon Captain, and to command under paragraph 55A Volunteer Regulations. Surgeon Captain C B Ker, from the Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment), to be Surgeon Captain. Surgeon-Lieutenant A. A. Ross, from the Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment), to be Surgeon Lieutenant

SOUTH AFRICAN NOTES.

The following have been discharged from hospital to duty.—Civil Surgeons Maclean, Pemberton, Tough Miller and McEwen.

SOME SOUTH AFRICAN AND OTHER AFFAIRS

It is much to be regretted we think, that the question of Supply should come up for the consideration of the House of Commons when Members on both sides of the House are wearied and jaded and when the time allotted for the discussion of estimates has to be much restricted. There are a great many matters connected with the Army Estimates as a whole and with the section relating to army medical establishments which we should have liked to have seen more thoroughly threshed out.

There are a few points in the current news connected with the late war which possess sufficient medical interest to be worthy of record. General Lukas Meyer who seems to have been on the whole much gratified with the results of his reception in this country is proceeding to Carlsbad to undergo a course of treatment there before returning to South Africa in November Intelligence received from the Hague informs us of the arrival of ex President Steyn and of his having been visited by Professor Winkler, accompanied by Dr Keuchenius. It is known that Mr Steyn's health as the result of the labours, hardships and anxieties which he underwent during the war completely broke down in South Africa. The exact nature of his complaint has never been definitely stated but we are glad to learn that Professor Winkler and Dr Keuchenius, as the result of their examination, are of opinion that the paralysis of his limbs is due to privations and overwork. They have good hopes of the ex President's recovery, which however naturally will be slow

According to a telegram from Wellington, through Reuter's agency the troopship *Britannic* had arrived there from Durban with 55 cases of sickness on board Three deaths took place during the voyage and one since the vessel came into port. It is alleged that the vessel was overcrowded. No particulars are given but we trust that a searching inquiry will be instituted into the matter and as to the truth or otherwise of the alleged overcrowding

SOLDIERS GUARD BEDS.

We are glad to notice that there is a prospect of something being done at last in the way of improving the beds in guard rooms and that the Secretary of State for War lately in reply to a question by Captain Jessel, has stated that an experimental trial of a new form of bed is being made. Theoretically soldiers on guard are supposed to be always, more or less, on the alert and ready to turn out at a moment's notice, and we must say that the military authorities have done their best to carry this into effect by making the soldier on guard as uncomfortable as may be. It would surely be possible to devise something better than the old pattern guard bed which is a sort of low wooden platform open to various objections in regard to the maintenance of cleanliness, hygiene and personal comfort. Instead of a rigid wooden platform some sort of removeable wire-woven design of a specially durable nature but which was permeable to air might probably be constructed in order to remove or lessen these objections whilst not unduly adding to the comfort of the soldier on guard duty

THE HAMBURG INSTITUTE OF NAVAL AND TROPICAL HYGIENE.

According to the *Archives de Médecine Navale* for June the city of Hamburg has placed 25 beds in the old general hospital at the disposal of the port medical officer for the reception of sailors suffering from internal affections. Hamburg has also been endowed with a hygienic institute, having at its head a medical man nominated by the civic authorities with the approbation of the colonial section The medical officer in-chief has three assistants in whose charge respectively have been placed the departments of clinical medicine, non-clinical research, and hygienic chemistry From 10 to 12 fully equipped tables for research work are to be maintained five of them at the expense of the Empire. It is moreover in contemplation to construct a hospital for sailors to contain 60 beds adjacent to the Sailors Home. The cost of the building is estimated at 120 000 *francs* (£4800)

DEATH OF A CENTENARIAN —The death occurred on July 25th at Bere Heath near Dorchester of a labourer named Winter who had reached the age of 100 years and six weeks.

Correspondence.

"Audi alteram partem."

THE MEDICAL SERVICE OF THE MERCANTILE MARINE

To the Editors of THE LANCET

SIRS,—I have recently spent two and a half years at sea, *serving in five different steamers as ship's surgeon, and I am* bound to confess that £10 a month and all found does seem to me a fair salary except perhaps when there are many steerage passengers. Rank and pay do not correspond on board ships for instance the second engineer ranks below the second officer yet is much better paid Consequently Mr Ogilvie's comparison between the salaries of the surgeon and second officer is beside the point. The second officer is a very hard worked official especially in port and in my opinion really is under paid The surgeon has not much work as a rule and when in port usually goes ashore and has a good time.

If medical men spent, like other ship's officers, their lives at sea no doubt they would be better paid. It is perhaps, fortunate that there is no inducement to stay long at sea, for there is little professional experience to be gained on board ships, and it is, *in fact a lazy life in most cases* I have always been treated by the crew and passengers with the consideration due to a senior officer and by my brother officers as an equal and a friend Once only have I had reason to complain of my cabin and that was soon rectified. With regard to passengers 'fees I find myself more in accordance with Mr Ogilvie. I always refused them myself because I felt that as I had no right to ask for them they were really tips I should certainly advise ships surgeons never to take money from passengers for I know from the many comments that I have heard that the practice does tend to lessen the respect which is the rightful due of the ship's surgeon —I am Sirs yours faithfully

RICHARD KAY M.B Lond.
Late Surgeon to the Peninsular and Oriental Steam Navigation Company

Rochdale August 2nd 1902.

HORSE DUNG IN LONDON STREETS

To the Editors of THE LANCET

SIRS —Mr Beale Collins when writing on the above subject in THE LANCET of July 26th p. 245 says that he has known one or two outbreaks of diphtheria attributable, he thinks to London stable manure but he surely cannot consider this to be pure horse-dung Blood and all kinds of decomposing animal matter get thrown upon manure heaps and I should say that it is to these if anything that the outbreaks of diphtheria he noticed were to be attributed.

I am Sirs yours faithfully

Bexhill-on Sea, July 31st 1902. F P ATKINSON

THE MENTHOL TREATMENT OF PULMONARY PHTHISIS

To the Editors of THE LANCET

SIRS —At a time when the professional and public mind is so largely directed to the question of tuberculosis it may serve some useful purpose to draw attention to a method of treatment of pulmonary phthisis which I have adopted for many years and to which I drew the attention of the profession in my address to the therapeutic section of the British Medical Association at the meeting held here in 1832. In that address I gave a full and detailed description of the manner of the use of menthol in tuberculosis of the lung with cases in illustration and it will be well for those who take an interest—and who does not —in this matter to refer to my paper for full description and directions To some perhaps this may be impracticable so that I may briefly say that the treatment consists of the daily intra-laryngeal injection of one drachm of a 12 per cent solution of menthol in pure olive oil. The results obtained were most encouraging and in some instances unexpected and remarkable. Persons with extensive consolidation, softening, and occasionally cavities at the apex of the lung, after a few weeks' treatment, lost the distressing urgency of cough, expectorated less, were able to sleep, improved in appetite, digestion, and assimilation, and put on weight. It is needless to add that the patients improved the most in whom the disorganising changes and impairment of general health were least pronounced. At the same time careful attention was given to common sense measures for the improvement of the general health by fresh air, nutritious diet of an easily assimilable kind, rest, personal cleanliness, and general hygienic surroundings.

Medically, the drugs used were iron, strychnine, and quinine. Subsequent experience has confirmed me in the value of this method of treatment, and that when the lesion of the lung is not too extensive and the constitutional disturbance is moderate in degree hope of recovery may fairly and reasonably be anticipated. Speaking of constitutional disturbance leads me to observe that one occasionally sees cases where one distressing symptom, dyspnœa, seems altogether out of proportion to the extent of the disorganisation of the lung. Where there are so many facts in medicine it is perhaps unwise—it is certainly often inexpedient—to theorise. But it has occurred to me whether in these cases the bacillar toxins inhibit the heat centres and so, from states of hyperpyrexia, set up the dyspnœa; or on the other hand, may the dyspnœa be more directly caused by reflex through the pulmonary branches of the pneumogastric to an unstable respiratory centre? There is nothing in the method of treatment I now am advocating in conflict with the method described as "the open air treatment." On the contrary, it plays a part—perhaps the leading part—not only in pulmonary phthisis but in all diseases of a malnutritive type. We possess specifics for few diseases and those of us with the largest clinical experience are the foremost to recognise and to emphasise this truth. It behoves us, therefore, to treat disease from a broad and enlightened standpoint. What do I mean by this? Simply that it should be our constant aim and endeavour to balance, so to speak, the discords of disease, to assist the return to the discharge of the natural and healthy functions of the body, to favour a healthy interchange between blood and tissue, to promote a normal metamorphosis—in short, to strive after the attainment of the normal standard, spoken of as health. It is in this direction that healing is accomplished and without it all other means are vain. In this conclusion is nothing new, nothing startling, only the recognition of golden truth revealed by time and observation and the happy possession of men who labour for the good of others.

I am, Sirs, yours faithfully,

JOSEPH O. BROOKHOUSE, M.D. St. And., M.R.C.P. Lond.,
Senior Physician to the General Hospital, Nottingham.

MOTOR BICYCLES.

To the Editors of THE LANCET.

SIRS,—I have followed with interest the letters in THE LANCET *re* motors and as I have during the last five months ridden nearly 2000 miles on my motor perhaps I may be allowed to add my impressions to those you have already published. My machine was built by a local maker (Messrs. Shaw and Co., Bishop Auckland) and fitted with a Minerva engine of 1½ horse-power. Being absolutely ignorant of the principles of mechanics generally I took occasion to visit the workshops during the construction of the bicycle and by the time it was ready for delivery I had acquired a fair theoretical acquaintance with my motor. It was delivered to me on a stormy snowy day in February and so impatient was I to try it that after a trial run which gave every satisfaction I attempted to round a very slippery and rather sharp corner at a rate probably of 15 miles an hour. The machine 'skidded' and I came down. That was my first and, so far, last fall. I have ridden the machine in all weathers, up and down steep hills, through towns, and along back lanes, and up to the present I have nothing but enthusiastic praise for my mount. My battery ran 823 miles without recharging and up to now has only been recharged twice. I am still using the same belt which was on the machine at the start; I have broken it about eight or nine times, but it can be repaired in a couple of minutes and with these exceptions I have had absolutely no trouble whatever.

The machine complete with acetylene lamp, extra large tool bag, and special horn, cost me £42 15*s.* nett. From the point of view of a medical officer of health to a large rural district who has to pay his own travelling expenses this is an exceptionally good investment. Two horses at least would be required to do the rounds I sometimes do in one day, but what I still more prefer is the saving of time. I can easily beat all the ordinary local trains in getting to points of my district and as an effective aid in obtaining the prompt isolation or removal of infectious cases to hospital it is simply invaluable. Within three hours of the receipt of a notification I have had cases *en route* to hospital from houses nine or 10 miles removed from my centre and from very outlying districts, and this without any approach to bustle or hurry. The machine doubtless requires a bit of attention, but everything that is worth having requires attention and well repays it. There is an exhilarating fascination in a good long run on a motor which is quite unlike any other form of pleasurable excitement I have ever experienced and the management of a pulsating, throbbing 1½ horse-power engine underneath one provides constant interest. The battery recharging has cost 1*s.* 6*d.* and the petrol about 20*s.* That has been practically my total outlay in getting over the distance mentioned above. I do not agree with Dr. W. T. Sheppard[1] that those high priced machines made by large firms with names are worth the extra money. I raced a medical man the other day who was mounted on a very expensive and well known motor bicycle (2 h.p.) and I literally romped away from him. I must in fairness add that he was five stones heavier in weight but against that he had an extra ½ horse-power and he has had quite as much experience of motor bicycling as I have.

From my own experience I have no hesitation in advising any one who contemplates buying a motor bicycle to do so. A more economical, rapid, and pleasant way of getting over the ground will be hard to find.

I am, Sirs, yours faithfully,

A. O. FARQUHARSON, B.Sc., M.D. Glasg., D.P.H. Cantab.,
Medical Officer of Health, Auckland Rural District.

July 31st, 1902.

GOLD MINERS IN THE TRANSVAAL.

To the Editors of THE LANCET.

SIRS,—I have read with interest the very timely article of Professor T. Oliver in THE LANCET of June 14th, p. 1677, and would ask a little of your space for some remarks which arise from thinking of the article. Undoubtedly a large number of cases of pulmonary disease have arisen in the Transvaal and in South Africa generally. I believe that Professor Oliver is right in regarding these cases as pulmonary fibrosis. I have seen and observed for weeks many such cases and all bear the clinical features described by Professor Oliver.

I do not desire at present to say anything further of the disease, but I do want to ask medical men in Britain, in the mining districts especially, to warn any miners who have the slightest tendency to pulmonary weakness against coming to South Africa to ply their trade. Following the cessation of the war and the consequent opening of the country, large numbers of men, especially those who have any weakness of the chest, will be for coming here, thinking they can get health and good work. This country and the two newly acquired States are the worst places such miners could seek if they have any pulmonary trouble. Hundreds came out prior to the war and from among these are the patients Professor Oliver, Dr. James Anderson, and others have seen on their return to England since the war began.

Broken down utterly in health after only a short time here, they are terrible examples of the effects of mining in South Africa on any but the strongest constitutions. Furthermore, men who get sick out here cannot get the nursing, care, and attention their cases require, and after battling with the disease they are forced to give in, they start for England and the sea voyage with its quickly varying climates, puts the final touch to them. It is an absolute fact that these cases of fibroid phthisis do very badly on the passage home. I have seen at least 20 of these cases leave Cape Town during the past two years, and their condition on landing in England was very much worse than when they embarked in spite of every care and attention during the voyage. I would therefore ask my professional brethren in Great

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[1] THE LANCET, July 26th, 1902, p. 257.

Britain if they are consulted by miners to warn them against South Africa and to strongly advise them that the miner to stand any chance here, must have perfect health, for not having this any who come to work in the mines come to certain death. I am Sirs yours faithfully

Cape Town July 8th 1902. THOMAS MARSHALL.

A NEW METHOD OF KEEPING IN APPOSITION THE EDGES OF SURGICAL INCISIONS AND WOUNDS IN ORDER TO PROMOTE UNION

To the Editors of THE LANCET

SIRS —Absence prevented me replying to Mr Haydn Brown s letter of July 12th before now and surely an answer is needed. The inventor who resorts to planetary motion as an explanation of the mode of use of a suture is beyond me Let me repeat on my unpretentious level Who are the surgeons of highest rank who recommend this suture? If one such be named who can fairly assert that the suture possesses one novel point of utility over my clumsy" invention of 18 years ago I shall send you any donation in my power towards any cause you name.

I am, Sirs, yours faithfully

Finsbury Pavement E C August 4th 1902. J MACMUNN

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT)

The Plague Epidemic — Kala-azar" in Assam —The Work of the Lady Dufferin Hospitals for Women.— Inoculations for Cholera and Plague in Bengal.

THE small mortality from plague now occurring has greatly diminished public interest in the disease. In the whole of India there were only 1158 deaths during the week ending July 12th. The minimum mortality of the year—viz 1050—seems to have been reached in the previous week The figures in detail are Bombay Presidency 717 , Punjab 95 Mysore, 214 , Bengal districts, 8 and Calcutta, 20 Bombay city now records fewer deaths than at any time since the commencement of the epidemic. On the other hand there has been an increase in the Bombay districts and in the Mysore province—areas in which the earliest signs of a recrudescence may be expected to occur

The disease known as kala azar" which has for many years been raging in certain districts of Assam and upon the pathology of which there is still so much doubt, has markedly declined in the two chief districts of the Brahmaputra valley most affected There were 5856 deaths recorded for last year It is interesting to note that while this disease declined the mortality from fever increased The district of Nowgong has decreased in population by 86 147 during the past 10 years and it is estimated that 54 000 have succumbed to kala azar The disease has recently spread and effected a lodgment in Sylhet. The unsatisfactory part of all reports from Assam is that as registration is not compulsory except in municipal areas and in tea gardens so little reliance can be placed on the return and this applies more to the Brahmaputra valley perhaps than to other districts. I learn from a recent report that inoculation for small pox is still practised in outlying villages of the Sylhet district and that vaccination generally in Assam has not been very successful.

The administration of the Lady Dufferin Hospitals for Women has come in for some apparently undeserved criticism. While it is true that in some districts comparatively few purdah women avail themselves of the hospitals the general results of the fund are satisfactory The cry that men have control and that the workers are not confined to women is grossly exaggerated. In some of the hospitals they have had to call in the assistance of the civil surgeons but in the main the work is carried on solely by women. There are 40 lady doctors engaged of whom 14 are English. Many of the others though educated in India, have taken degrees in Europe. The fund is not rich enough to engage English ladies in larger numbers The fund relieved the sufferings of one and a half million women last year and through Lady Curzon s influence about six lakhs were collected last year chiefly for the special object of training midwives Many prejudices have still to be overcome. There are many purdah women who consider it a disgrace to enter a purdah hospital and in Rajputana the women consider themselves defiled by touching the hands of an English lady

From the report of the Sanitary Commissioner for Bengal I find that inoculation for cholera has lamentably fallen off This does not appear to be due to any decline in its value but to the fact that even in the tea gardens it is now entirely optional. It is almost entirely confined to emigrants Inoculation for plague is equally under a ban In Calcutta only about 40 inoculations were done during the whole year while through personal influence it met with considerable success in Gaya. The Sanitary Commissioner rightly argues in favour of inoculation as against disinfection, but higher authorities are unable to accept his arguments.

Calcutta, July 17th

THE
SHONE SYSTEM FOR THE THOROUGH VENTILATION OF SEWERS AND HOUSE DRAINS

(BY OUR SPECIAL SANITARY COMMISSIONERS)

MUCH has been said and justly said in regard to the benefits which have resulted from the abolition of cesspools of the pail system and other such contrivances A considerable reduction in the rate of mortality has been attributed to the introduction of general drainage schemes Nevertheless, we have not reached perfection and we can only boast of having substituted a lesser for a greater evil. Experience has taught that if sewers are better than cesspools they have also their evils Sewers were to save our dwellings from all the dangers and inconveniences caused by cesspools, portable pails middens, &c. Hardly however had the system of water-carriage drainage been introduced on a large scale than our sanitary engineers plumbers, and others had to exercise all their ingenuity so as to protect our homes from the sewers themselves. Consequently traps were devised, and these were at first clumsy contrivances which of late have been much improved But now we have to admit that even the best of traps may of itself become a nuisance. The sewer has saved us from the cesspool the trap protects us from the sewer but what shall protect us from the trap? Theoretically of course the flow of air should be through the house-drains to the sewer but in practice the reverse not infrequently occurs. If the water-seal in the traps prevents such currents entering the house the effluvia from this water must travel upwards Of course, if the traps only contained clean water no harm could ensue but these traps especially the larger intercepter traps at the base of the house and separating the house from the public sewer often contain soil and if they are not frequently and copiously flushed they must give off dangerous effluvia At best these emanations are conducted by a ventilating pipe to the roof of the house But this is not satisfactory It is sometimes noticed that smoke will descend a chimney in which there is no fire. This smoke comes from another chimney The difference between the indoor and outdoor temperature causes a down current and thus a chimney will bring into a room the atmosphere from the roof of the house a fact that becomes visible when that atmosphere happens to be charged with smoke Other portions of such atmosphere enter by the windows especially those in the upper part of the house The odour of a chimney on fire only escapes from the top of the chimney yet it is detected by persons low down in the basement of the houses or in the street. It cannot be said therefore, that the air from the sewers or drains will not enter the houses because it has been discharged above the roofs and especially so when it happens, as is often the case that one house is lower than its neighbour The only absolutely satisfactory solution of the problem would be the adoption of a system by which the air in the house drains would have no means of escape except into the sewer

Nevertheless and even if this principle could be rigorously applied it would only transfer the problem from the house and its private drains to the public sewer Now it is generally recognised that as yet no satisfactory method of sewer ventilation has been applied It is easy enough to produce a current of air in a sewer, but these currents travel along the line of least resistance and it is precisely where there is the most resistance that ventilation is most needed Too often we get the ventilation only where it is not so urgently needed Numerous mechanical and other ingenious contrivances have been devised and tried Heat produced by Bunsen burners placed under plaques of fire clay not only attracts a strong current, it was also thought that the heat would purify the sewer air But whether the motive power be that of a furnace or merely difference of temperature or the special construction of a shaft, a chimney, a cowl, or mechanical appliances such as a revolving fan, the result is always the same The air is drawn into the sewer from the largest and nearest apertures and rushes out by the ventilator The more distant parts of the sewer and the branch drains are scarcely affected So long ago as Feb 12th, 1887 we published a notice in THE LANCET of an ingenious invention patented by Mr R S Ash who proposed to ventilate sewers by concussion He argued that the current of a river may run rapidly, yet there are nooks and recesses in the embankment where a boat may be moored and where it will not be affected or borne away On the other hand, if a concussion is produced by throwing a stone into the water, the waves or ripples resulting will travel up every creek or opening in the embankment Mr Ash therefore constructed a cylinder to be placed in manholes and in this gas accumulated and was from time to time automatically exploded Such explosions would not only blow the air out of the manhole but produce a current of air rushing up from the sewer A shock, it was argued, does not travel in a straight line but in ever extending circles and therefore it would disturb and move the air in the branch sewers and drains as well as in the straight line of the main sewer Both theory and apparatus were ingenious and some experiments were made in one of the manholes of the sewers of Monaco But probably the invention did not work out as well in practice as in theory, for nothing more has been heard about it Nevertheless, it was a typical illustration of the difficulty of sewer ventilation

Practically it cannot be said that sewers are ventilated in a systematic and scientific manner Street gullies or man holes act as ventilators and they serve both as inlets and outlets Here and there a special shaft is built or a pipe is carried up a neighbouring wall Nobody knows how much air enters or leaves the sewer, but there is evidence to show that typhoid fever has ensued when street gullies have been sealed and no other apertures for ventilation have been provided in their stead. On the other hand, both man holes and gullies sometimes give off bad odours, but it is better to endure such nuisance than to check the ventilation of the sewers It is a well established fact that sewers ought to be ventilated but the question as to what constitutes efficient ventilation and how this is to be obtained has never been clearly answered Even when the air in a sewer is kept in constant motion and is so frequently renewed as to be fairly pure, this has only a very partial effect on the branch and domestic drains Apprehensions are constantly expressed with regard to sewer air, but when a soil pipe leaks or a trap is defective it is not only the sewer air that enters the house, it is also and primarily the air from the domestic drains and the branch connexion between the house and sewer Here the ventilation is at its worst It often happens that the intercepter is not ventilated so that the drain from the house to the sewer becomes a cul de sac It discharges into the sewer as much foul air as there is water coming from the intercepter trap, whereas there should be a continuous through current In the rare cases where the sewers are self-cleansing and sufficiently ventilated it does not follow that the branch drains are also self-cleansing and efficiently ventilated. The sewer is in the middle of the street and at some distance from the houses, the branch drains go up to, and generally pass under, the houses It is, therefore even more important to ventilate the branch drains than the sewers The traps especially the intercepter traps require particular care, otherwise they will degenerate into small cesspools

Having stated the problem in its broad and general lines the proposals recently made for its solution may now be considered For the first time a scheme of sewer and drain ventilation which professes to be absolutely perfect has been devised But in using the word perfection it is first essential to define what constitutes perfection For this purpose it is necessary to estimate first how much fresh air should be introduced into the sewer per head per day and, secondly, to demonstrate not only that this amount of fresh air can be supplied but that it can be evenly distributed throughout the whole system and especially in the smaller branch drains Messrs Shone and Ault claim to have solved this arduous problem First dealing with the volume of fresh air needed they base their calculation on the experiments made by Dr Letheby who showed that one gallon of putrid sewage gave off 1 2 cubic inches of gases per hour All sewage is not putrid, but taking matters at their worst there still remains the important fact that of the 1 2 cubic inches of gas evolved per gallon of putrid sewage about 90 per cent. is harmless Dr Letheby gives the proportions of the various gases evolved by a gallon of sewage in the course of nine weeks as follows marsh gas, 73 833 per cent., carbonic acid, 15 899, nitrogen, 10 187, and sulphuretted hydrogen, 0 081. Calculating the normal flow of sewage at 30 gallons per day per head it is proposed to supply per minute half a cubic foot of fresh air to every house drain or one tenth of a cubic foot of air per inhabitant. This would dilute the 1 2 cubic inches of sewage gas coming from each gallon of sewage 43,200 times, leaving slightly less than one fourth of one part of such effluvia in 10,000 parts of the air in the sewer By these and other calculations the conclusion arrived at is that one half of a cubic foot of fresh air per house of five inhabitants will more than suffice to dilute the effluvia from foul, putrid sewage, though, as a rule, we have to deal with fresh and not putrid sewage.

Having thus ascertained the maximum amount of air needed to meet the worst conditions the next question is how to obtain this quantity in a constant and trustworthy manner For this purpose it is no use whatsoever relying on atmospheric conditions, on ventilating shafts and on cowls. These must ever be irregular in their action. Every change in the direction and velocity of the wind or of the temperature will modify the velocity of the currents induced. A trustworthy and constant result can only be obtained by the use of machinery A ventilating fan can be regulated to supply exactly the volume of air required Every revolution of the fan propels forward so many cubic feet of air Given a sufficient number of fans revolving at the necessary velocity and the requisite amount of air needed is obtained independently of all atmospheric conditions The fan which Messrs Shone and Ault propose to employ is known as the "Sirocco" and is made by Messrs Davidson and Co of London and Belfast. Its diameter is only seven and a half inches and it can deliver 1500 cubic feet of air per minute, the suction on the one side of the fan being estimated at one inch of water gauge and the pressure on the other, or outlet side, also at one inch, making two inches in all. Such a fan would suffice for a population of 15,000 and if worked by electricity at 3*d* per Board of Trade unit would cost £88 7*s* 6*d* per annum, or £5 17*s* 10*d* per 1000 of the population, or 1 41*d* per head per annum. Of course, water, steam, compressed air, and any other motive power can be employed

It is something to have established the amount of air required and to have shown that this can be obtained at a very small cost by mechanical means But there remains the far more difficult and it must also be said the far more expensive side of the problem Indeed, as already stated, there has never been any great difficulty in setting up a strong current of air in a sewer, the difficulty is to direct and to diffuse that current and, above all, to make it penetrate into the branch sewers and house drains. For the scientific ventilation of assembly rooms and other buildings doors and windows must be closed Air must enter only by specially contrived and measured inlets So, also for the sewers, every manhole, every street gully, and all the old ventilating pipes and shafts must be closed The sewer and its branches must be as air tight as possible No air must enter except where it is controlled and measured Otherwise how would it be possible to know what is being done and to do what is needed? With sewers of ascertained capacity, with a known population discharging a given quantity of sewage per day, it is a matter of calculation to estimate the amount of cubic feet of air that will be required per day or per hour Where, then, should this air be admitted? Evidently it would be very advantageous to admit the fresh air just at those points which in the ordinary course it is least likely to reach Those, as already explained are the branch sewers and domestic drains Thus it is proposed that the domestic soil pipe shall be the air inlet. But in the ordinary course such inlets would occasionally become outlets and already to prevent this mica flap valves are used. They are, however delicate and always get out of order Therefore a protecting cover is placed over the aperture and across there is a non-corrodible wire-gauze screen. Thus leaves, paper large particles of dust, and other objectionable matter cannot enter and interfere with the working of the flap valves within. The pivots of the valves are made of delta metal or phosphor bronze, the seatings of brass or aluminium alloy and the valves themselves of aluminium. This gives rigidity and strength with a minimum of weight Any reversion of the current of air would close these valves and thus prevent the inlet becoming an outlet. This, however is only a mechanical improvement on contrivances for air inlets that have existed and been in use for many years. The converting of every soil pipe into an inlet ventilator armed with flap valves to prevent their becoming outlets would not of itself solve the difficulty If every other aperture was closed and if by the revolutions of the mechanical fan the necessary volume of air was drawn into the sewer still the greater part of the sewer and of the branch drains would not be efficiently ventilated. It would simply mean that far more air would be drawn in through the inlets nearest to the fan than was required while further off there would be little or no ventilation The object, on the contrary is that every soil pipe and every part of the sewers shall be washed by the necessary quantity of air however far it may be from the fan. Therefore, the amount of air that enters the openings nearest to the fan must be checked so that they shall not admit more air than those that are a long way off For this a vulcanite screw plug is fixed into the inlet orifice. This inlet is of the same size throughout and all the plugs fit into all the inlets. These plugs can be changed with the same facility as removal of a screw stopper from a bottle. In the centre of the plug a hole is pierced and it is through this hole that the air passes. Thus the volume of air that enters can be altered according to the diameter of the perforation made in the plug used. Those that are placed nearest to the fan have apertures of only one-eighth of an inch in diameter but there the air travels with considerable velocity The openings are made larger and larger the greater the distance from the fan. By means of the water gauge it is easy to calculate the vacuum produced within the sewer by the air-extracting action of the fan and then the area of aperture can be adjusted at each point according to the vacuum available. The fan connected with a group of drains and sewers has to be placed in such a position that the friction due to the passage of the air shall be equally distributed throughout. So that the amount of vacuum necessary should not be so great as to force the traps connected with the drains the distance effected by one fan should not be very extensive. The vacuum should not exceed one inch of water head as shown by the water gauge. Calculations have been made and tables drawn up indicating at a glance what must be the diameter of the aperture in the plug according to the vacuum in the sewer and the distance of the inlet from the fan. There is no difficulty in the application of these rules and we should then have the same volume of air per head of the population travelling from every soil pipe down into the sewer and away to the fan Though it is estimated that one tenth of a cubic foot of fresh air per head per minute would suffice, there would be no difficulty whatsoever in largely increasing this supply The great point is that the supply should be accurately measured, that the amount should be known that it should be evenly distributed throughout the whole system, that it should enter by the house drain, and travel in the same direction as the sewage. Messrs. Shone and Ault have an installation at No. 20 Victoria street, London S.W. where they show how by the above means, these ends are attained

In all such schemes however it is most essential to provide for accidents or for the abnormal conditions that occasionally arise. For instance the sewer may be accidentally blocked. All the drains and sewers between the fan and the blockage would then be subjected to an increased vacuum unless the rapidity of the fan's revolutions was reduced in exact proportion and at the very moment the accident occurred. If not the vacuum may be so great that it will force the house-trap To prevent this a second flap valve is placed near to the ordinary and measured inlet valves This is a vacuum relief valve and is so weighted that it will not open unless the fixed maximum of vacuum is exceeded. Then the relief valves open and let in more air till the vacuum is reduced to its proper proportion. On the other side of the blockage the ventilation could be partially or wholly stopped. Instead of an increased vacuum the gases arising would produce a pressure from the sewer and drains outwards. If this pressure is very strong it could force the traps and discharge the sewer air inside the houses Therefore a weighted outlet flap valve is also provided which would yield and open to a pressure less than that required to force the traps and let the compressed air from the sewer out into the open instead of its gaining admission inside the houses Again and without there being any accident causing a blockage in the sewers, the ventilation of the house drains may be momentarily stopped where heavy rainfalls are admitted into small sewers. The rise of sewage and rain water in the sewers would then submerge the house drains and the air within them might be so compressed by the heading up of the water as to force the traps. But here again the outlet relief valve would prevent this occurring The street gullies would be treated in the same manner as the house drains they would be provided with similar inlet ventilators and safety relief valves in case of accidents but they would be sealed so as to prevent the sewer air escaping into the streets when the system worked in the normal manner Thus and excepting in the case of the sewers being choked up with water during a storm or blocked by an accident there would be no escape of sewer air into the streets through manholes or gullies or up ventilating pipes on to the roofs of the houses and down chimneys and into open bedroom windows. All the sewer air would go to the fans. These would be very few in number as compared to the existing apertures through which sewer air is allowed to escape. Consequently it would involve but a comparatively small cost to provide at these fan stations a lofty shaft so that the sewer air might be discharged at a safe distance from habitations and rendered harmless if necessary Besides the sewers would be so well ventilated and the effluvia from the sewage so largely diluted by the fresh air drawn into the sewers that it would not be likely to cause a nuisance when liberated into the open atmosphere.

To recapitulate and to sum up this new system, it is proposed to draw into the sewers by mechanical means at least one tenth of a cubic foot of fresh air per minute and per inhabitant Every street gully and domestic soil pipe is to be provided with an inlet apparatus. The aperture of these inlets will be so measured as to facilitate or to restrict the inrush of air in proportion to the vacuum or force of suction within the sewer and thus the right amount of air will enter at every point. Further there will be two sorts of safety valve—one to let air out of the sewer should pressure from within exceed the water gauge of one inch and therefore endanger the seal of the house traps and the other to let more air down into the sewer should the vacuum or suction within the sewer likewise endanger the house traps by exceeding one inch as measured by the water gauge The three flap valves employed for these three different purposes are admirably made and may be described as scientific instruments yet though so delicate in action they are strong durable, and not expensive. Altogether the system seems to us to promise a satisfactory solution of the entire problem by applying a method the efficacy of which can be scientifically tested at every point of the sewers thus treated in a manner never before possible

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Small-pox

DURING the week ending August 2nd there have been six cases of small-pox reported in Swansea, two in Merthyr Tydvil, one in Aberdare three in Neath, and one in the Rhondda valley The Merthyr patients are two children who had been travelling from town to town with a woman who was subsequently discovered at Aberdare and found to be in the second week of the disease Each of the districts affected is provided with isolation accommodation

Pauperism in Wales

A return has recently been issued by Mr F T Bircham, the Poor law inspector for Wales, comparing the amount and the cost of pauperism in the various unions of the principality On March 31st 1902 the percentage of pauperism to population in England and Wales was 2 1 in the whole of Wales 2 7, in North Wales 3 1 and in South Wales 2 6 In the agricultural districts of Bridgend and Cowbridge the percentage was only 1 4, in the mining districts of Pontypridd 1 8 and of Merthyr 2 2, while in the urban districts of Cardiff it was 2 4, and of Swansea 3 2 The largest amount of pauperism was found in North Wales, where in the Holyhead union the percentage was 3 8 and in the Anglesey union it was 4 1 The average weekly cost of each pauper during the year ending March 31st 1902, was 2*s* in the Bridgend and Cowbridge unions, 2*s* 3*d* in Pontypridd, 2*s* 9*d* in Merthyr, 3*s* in Cardiff, and 2*s* 4*d* in Swansea. It will be noticed that except in the case of Swansea the relative positions of the unions is the same whether the percentage of pauperism to population or the average weekly cost is considered

Medical Appointments at the Swansea Hospital

The junior medical appointments in Swansea do not attract many applicants It is not so very long since there was some difficulty in obtaining a resident medical officer for the workhouse and for the position of resident medical officer at the General Hospital about to become vacant there were only two applications received The hospital contains 130 beds and the salary of the medical officer is £75 per annum. The inadequacy of this remuneration may account for the paucity of candidates for the post.

Compulsory Removal of Small pox Patients

Allusion has already been made[1] to the conviction of a man at Swansea who had refused to obey an order of the Swansea justices for the removal of his child to the small pox hospital and on July 29th the defendant appealed to the Court of King's Bench to set aside the decision of the justices His contention was that the child in question was suffering from chicken pox, although he admitted that three other cases of small pox, one of which terminated fatally, occurred subsequently in the same house, and also that insufficient evidence was tendered at the police court proceedings Mr Justice Bigham and Mr Justice Darling upheld the order of the magistrates and the former said that the order for the removal of the child having been properly made the defendant had no right to resist its execution

British Dental Association

In his address to the members of the Western Branch of the British Dental Association at the annual meeting held at Ross on Wye on July 25th the president, Mr S Greatrix Yates dwelt with some emphasis upon the ever increasing prevalence of dental caries and urged the absolute necessity for providing conservative dental treatment in all State institutions, especially where children are under compulsory restraint in reformatories and in asylum He also suggested that prisoners serving beyond a certain sentence should be able to claim skilled dental services

Brentry Home for Inebriates

In order to place this institution in a sound financial position the managers have appealed to the 23 authorities which originally contributed to its support for further assistance, guaranteeing to those who respond a permanent interest in the home The Somerset county council voted £250 only on the casting vote of the chairman, and on July 29th the Bristol town council upon being asked to vote £500, decided to defer the matter for three months with a view to further inquiry as to the results following the establishment of the home The Bath and Bristol corporations are the only authorities who have not yet come to any decision as to the further support of the institution

Phthisical Patients at the Bristol Workhouse

The question of providing suitable accommodation for phthisical patients has been discussed by the Bristol board of guardians upon several occasions during the past 12 months and several proposals have been brought forward. The adaptation of a large house surrounded by extensive grounds at Clevedon met with some favour but the scheme was finally abandoned and at the December meeting of the board it was decided to set aside a ward at the Stapleton workhouse for 30 male patients and to send to special institutions suitable cases, but it was felt by many members that the matter should be dealt with in a much broader manner, one guardian suggesting the purchase of land on the Mendips and the erection of properly planned buildings On August 1st the board finally decided to provide a one storey building to accommodate 40 patients on land at Fishponds in the city The building, which is to be constructed of wood and iron, will include four wards, each 60 feet by 15 feet, three being provided with open balcony fronts, a dining room, kitchen, nurses' rooms, bath rooms, and offices The cost is estimated at £1305

August 4th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Epidemic Measles in Dublin

THE last meeting of the council of the Dublin Sanitary Association took place on July 26th, when the returns of the Registrar General for the week ending July 19th were considered It appeared that 196 cases of measles were notified during that week in the city while the admissions to hospital numbered only 28, the inference being that the sufferers from the epidemic had been treated chiefly in the houses of the sick A letter was received from the public health committee in reference to this matter stating that it approved of a former resolution of the association suggesting the advisability of a special staff of nurses to visit the children of the poor 'for whom hospital care is not available" and that it was being acted upon

A Vaccination Case

At the Belfast police courts on August 4th the Belfast board of guardians summoned a man who was a Poor law guardian (a representative of the Trades Council) for failing to comply with the vaccination laws in respect of his two children. The charge having been proven the defendant said that he did not intend to obey the law and he was fined £1 and 12*s* 6*d* costs, the chairman remarking that the magistrates were of opinion that the defendant was abusing his position as a Poor law guardian in regard to this matter Objectors to the vaccination of their children are very few in Ireland, the "conscientious" individual towards whom Mr Balfour in his English Bill showed such a weak yielding not being much in evidence As one of the Belfast local papers fairly puts it, the person fined in the above case "is a member of the board of guardians who are the authority for putting the vaccination laws into operation, and he therefore cannot be treated as an ordinary offender against these laws" Ireland, fortunately, is not subject to the "conscientious objection" clause

Formation of a Branch of the Irish Medical Association for the County of Cork

A meeting of the members of the Irish Medical Association residing in the city and county of Cork was held for the purpose of forming a branch for the county of Cork. The following officers were elected —President Dr Jeremiah Cotter, Cork Vice President Mr P O Donoghue, Macroom. Honorary treasurer Mr W Bennett, Clonakilty Honorary secretary Dr D J Flynn, Cork It was decided to issue a circular setting forth the benefits conferred on Irish Poor law medical officers by joining the Association

August 5th

PARIS

(FROM OUR OWN CORRESPONDENT)

Schools of Colonial Medicine

LAST year it was suggested that a chair of Colonial Medicine should be created in the Paris Faculty of Medicine and considerable sums were collected for the purpose by subscriptions but the scheme had to be abandoned as in the Paris hospitals there was little prospect of the admission of patients suffering from yellow fever or other diseases peculiar to the colonies A request by the city of Bordeaux that such a chair should be created in that city has been granted and Bordeaux now possesses a civilian school of colonial medicine. The city of Marseilles under the influence of a similar spirit has now prevailed on the Minister of War to make it the seat of the military school of colonial medicine and has placed at his disposal the magnificent buildings of the Pharo situated on a rising ground at the entrance of the harbour It would hardly be possible to find a place better suited for the purpose. A large theatre suitable for lectures is already in existence at the Pharo Military medical officers about to proceed to the colonies will find in the hospitals of Marseilles patients who have returned home suffering from the effects of every form of disease incidental to the colonies. The botanic gardens of the Parc Borély are very rich in colonial plants. Marseilles also has a very fine colonial museum superintended by M Heckel and Dr Queyrel The authorities have directed that the fitting up of the new school of medicine shall be proceeded with energetically so that lectures may begin in October The money which was subscribed for the creation of a chair of colonial medicine in Paris and which has been hitherto unused has just been made over to the Hôpital des Dames Françaises at Auteuil for the Institute of Colonial Medicine which has now been established there. At a recent meeting of the council of the faculty Dr Brouardel professor and honorary dean in the Faculty of Medicine, was appointed director of this institute Professor Wurtz will deliver lectures on colonial hygiene and epidemiology

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[1] THE LANCET May 24th (p 1501) and June 21st (p 1801) 1902

The Microbes of Dysentery

At the meeting of the Academy of Medicine held on July 15th M Chantemesse described the nature and action of the two principal factors in the production of dysentery Dysentery either epidemic or sporadic wherever it may break out is due he said to microbes of which there are two completely distinct kinds—one an amœba and the other a bacillus—growing in the intestine Amœba dysentery is sporadic rather than epidemic and is especially prone to attack male adults. Sometimes it carries off the patient in a few weeks but it usually runs a chronic course with little pyrexia. The patients have frequent evacuations containing mucus blood, pus, and amœbæ. The disease lasts for months and years with periods of constipation and of diarrhœa It may be recovered from or may terminate by exhaustion from intestinal perforation and especially in abscess of the liver This variety of dysentery shows only a slight tendency to epidemicity usually it is of a chronic character and the blood of the patients does not cause agglutination of the bacillus of dysentery Bacterial dysentery on the other hand is epidemic and infectious in a high degree. It may kill rapidly by its specific virus, but it very often becomes chronic and gives rise to ulcerations and considerable thickenings of the walls of the large intestine In addition to being epidemic it may also occur in isolated cases and may show itself as a complication in various chronic diseases It is caused by a specific bacillus multiplying in the intestinal cavity in the walls of the large intestine, in the mesenteric ganglia in the spleen and often in other parenchymatous organs the blood of patients who have been suffering from dysentery for a certain number of days causes agglutination of this bacillus. The importance of this question is evident from the fact that taking one country with another the mortality due to this disease is greater than that due to plague, yellow fever and cholera.

Successful Suture of a Bullet Wound of the Heart

Cures by suture of wounds of the heart are becoming more and more common Hitherto however all the cases reported have been of wounds caused by knife or sword but M Launay a young surgeon attached to the Paris hospitals has just related to the Academy of Medicine the details of a case in which the heart was pierced through by a revolver bullet During the operation the bullet was found lying in the pericardial cavity There were two wounds of the ventricle, one on the anterior surface and the other on the posterior surface these were sutured with catgut. The pericardium was then sutured in its turn and the flap of the thoracic wall was fastened in place No drainage was employed and the patient recovered without a single bad symptom

August 4th.

BERLIN

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Gerhardt

DR. CARL GERHARDT professor of clinical medicine in Berlin University and chief of the second medical clinic at the Charité Hospital died on July 20th at his country house at Gamburg in Baden Professor Gerhardt was born in 1833 at Speyer in the Palatinate and received his education at Würzburg University graduating there as M D in 1856 He then became assistant successively to Professor Griesinger of Tübingen and Professor Bamberger of Würzburg In 1860 he was recognised as *privat docent* at Würzburg and in the following year he was appointed ordinary professor of clinical medicine at Jena In 1892 he returned to Würzburg to fill the chair of his former teacher Professor Bamberger and in 1885 he was appointed ordinary professor at Berlin University in succession to the late Professor Theodor von Frerichs Professor Gerhardt though not so universal a genius as the late Professor Kussmaul has done good work in several branches of clinical medicine. He was among the first to make use of the laryngoscope and he published many articles on laryngeal diseases which together with diseases of the circulatory and respiratory organs were a favourite study with him He also gave much attention to the diseases of children Not only did he lecture on this subject when professor at the comparatively small university of Jena, but in collaboration with other authors he edited a great encyclopædia on children's diseases and published a separate treatise of his own as a text-book. He also brought out works on the treatment of infectious diseases and on the history of medicine and in recent years was an active advocate of the formation of sanatoriums for phthisical patients. Professor Gerhardt was an excellent clinical teacher his delivery was clear and he possessed the faculty of making himself easily understood by junior students. His private practice was very large Last year he suffered from pneumonia, followed by permanent impairment of his health so that a few months ago he retired to his house at Gamburg where he died

New Lunatic Asylum

There are already in Berlin two municipal asylums as well as numerous private institutions of a like kind but the authorities are making arrangements to provide two additional municipal asylums one of which will be opened before the end of the present year When this intention was first announced, the authorities received a petition evidently the work of an ultra fervid abstainer asserting that the increase in mental disease was due to drunkenness and suggesting that the cost of the new institutions should be made chargeable solely on brewers, tavern keepers and others engaged in the manufacture and sale of alcoholic liquor Needless to add the petition was not even considered

Prolapse of the Rectum

Dr Karewski writing in the *Centralblatt für Chirurgie* recommends injection of paraffin in cases of prolapse of the rectum a method of treatment which, he says has proved useful after other expedients had failed The details of the operation were as follows. Purgatives were given two days previously but on the evening immediately preceding it from one to two grammes of bismuth were administered. The prolapsed part was then gradually replaced and retained in position by a finger introduced into the rectum The nozzle of a syringe was then inserted between the skin and mucous membrane and injections of paraffin were given forming a circle round the anus the paraffin on solidifying acted as a support to the bowel and prolapse did not recur Bismuth continued to be given during the next 24 hours in order to prevent premature action of the bowels With eight children treated in this way there was only one failure the other patients have remained well for periods varying from two to six months A repetition of the injection was required in two cases and two repetitions were required in one case there were no undesirable complications The operation has not yet been performed on an adult A special pattern of syringe has been made for the giving of the injection

German Practitioners' Association

The German Practitioners' Association lately held a meeting ([illegible]) at Königsberg in East Prussia. In addition to debates on all matters in the association's by-laws rendered necessary in consequence of recent legislation the meeting discussed some questions relating to sick clubs and to unqualified practice. A resolution was adopted to the effect that legislation was required making the "free choice' system[1] compulsory for sick clubs The association also expressed the opinion (1) that members suffering from venereal diseases should not be excluded from medical aid under the rules of the clubs, and (2) that persons having an annual income of more than 2000 marks (£100) should not be admitted to an official sick club With respect to unqualified practice the association adopted resolutions to the effect that puffing advertisements by such practitioners ought to be prohibited and that instructions should be given to the licensed pharmaceutical chemists (*apotheker*) not to accept their prescriptions Königsberg is in a somewhat outlying position geographically but the meeting was nevertheless very well attended. There was, however, a general complaint that the association has lost a good deal of its former importance and that the entertainments provided by the hospitality of the residents absorbed an appreciable amount of energy which ought to have been reserved for the proper business of the meeting

August 4th

ROME

(FROM OUR OWN CORRESPONDENT)

Cholera Shadows

THE Italian Home Office, in view of the appearance of cholera in Egypt, although the Egyptian seaports are still untouched by the malady, has taken the following steps in the interest of Italian hygiene 1 It has established through the Italian consul in Alexandria and the Italian Legation at Cairo a daily service of information by telegraph as to the number of deaths from cholera and of cases of the disease in all the infected localities, as to the prophylactic measures, local and general, adopted, and as to the movement of Italian subjects fleeing the country 2. It imposes on ships hailing from Egyptian, and touching at Italian, seaports a special surveillance so as to ensure the practice of those precautionary measures established by the International Council of Quarantine for preventing the transmission of cholera to Europe 3 The Italian consuls at Alexandria and Port Said have instructions to telegraph to the Home Office information as to which of the said ships on the point of departure present hygienic conditions of a suspicious character, whether there are physicians on board, or the means of disinfection, whether the drinking-water is deficient or of bad quality, and whether there is excessive crowding of third class passengers 4 An order has further been issued enforcing, in terms of the "Sanità Marittima," the medical visit and inspection of ships from Egyptian ports, such visit and inspection to be made exclusively at Genoa, Leghorn, Naples, Brindisi, and Venice for the mainland, and at Palermo, Messina, and Catania for Sicily By the same order, after the said ships have been allowed *libera pratica* (free course), all who disembark from them, whether passengers or crew, will have through the local prefect to be announced by telegraph to the syndics of the communes they are bound for, so that they may be subjected to sanitary surveillance for the period required to complete the five full days calculated from the date of their leaving the last Egyptian port. Such surveillance, however, will in no case take the form of isolation and sequestration, but simply that of being subjected to the daily medical visit, followed by a certificate, when the individual leaves before the five days have expired, as to his hygienic condition, so that the syndic of the commune he is bound for may continue the surveillance up to the expiry of the said five days Finally, all prefects in maritime provinces are instructed to enforce the rigorous application of the prescribed sanitary regulations, particularly as to the medical visits and disinfections

The Suicidal Fever

From July 14th to 26 h—a statistical period of 14 days—no fewer than 23 suicides, effective or abortive, hav been announced on the part of individuals residing in, o hailing from, Rome Of these victims of real or intende self murder the great majority are females—generally girl of the poorer class who have been abandoned by husband o lover after marriage or seduction. The mode of death the affect is generally poison—a handful of lucifers dissolved i water or pastilles of corrosive sublimate Out of 15 suicide four only were above 25 years of age six above 2 three above 15, and two above 14 It is almost exclusively the male sex in Italy who destroy themselves with the knife, razor or revolver That suicide is contagious has often been maintained and proved in THE LANCET and the question arises how far the newspapers are justified in recording such cases, or at least in publishing the full circumstances in which the fatal purpose has been provoked or the particular mode in which it has been effected In the British press the intimation of a suicide is (in most instances) overshadowed by the preponderating interest of current affairs, imperial and domestic, and attracts but small attention. In Italy, however, where such interests are confined to a few, suicide (like homicide or highway robbery or theft on a grand scale) forms the chief attraction of the newspaper, which naturally seeks to gratify the morbid appetite which craves for such pabulum. When Italy develops a healthier civic life, with its concomitants of greater prosperity and higher scale of living—above all when she is better instructed and better educated—"miseria" will have decreased, sensational literature will find a smaller public, and, naturally enough, suicide will have fewer provocatives, whether in ill regulated emotion or by the contagion of example

Honours to Dr Baccelli

On July 30th, at the Ministry of Agriculture, of which Dr Baccelli holds the portfolio, with a seat in the Cabinet, Prince Felix Borghese headed a deputation to present him with a sumptuous gift, taking the form of a shield, artistically designed and ornamented, in token of the gratitude of the agricultural interest for his Excellency's discovery of the cure for aphtha epizootica and the admirable results that have attended its practice Dr Baccelli thanked the donors in a short speech of characteristic geniality and skill.

August 3rd

Medical News.

UNIVERSITY OF EDINBURGH —The following degrees and certificate have been conferred —

Degree of Doctor of Medicine —John William Anderson, New Zealand, M B, C M 1894 (*in absentiâ*) Edmund Balmer Anderton, England, M B, C M 1898 *Ernest Francis Bashford England M.B Ch B 1899 *Emil Paul Baumann, South Africa, M B Ch.B, 1898 ‡James Alexander Terras Bell New Zealand M.B C M, 1895 (*in absentiâ*) Philip Grierson Borrowman Scotland M B, C M 1882 Andrew Cassels Brown England M.B Ch B 1898 Robert Cameron Scotland M.B, Ch B, 1898 †Selwyn Gurney Champion England, M.B, C M 1897, ‡Jane Alice Craig Scotland M B, Ch.B 1898 James Davidson, M A, Scotland M.B C M 1891 Daniel Davies Jones Wales, M B C M, 1884 Thomas Evans Wales M B C M., 1894 ‡Edward Ewart Scotland M B Ch.B (with second class honours), 1900 David Ferrier Scotland M.B Ch.B 1899, ‡John Bell Fisher England M B C M 1880 Andrew Mearns Fraser, England M B C M 1893 †Frederick Gardiner B Sc Scotland M B C M 1895 ‡Thomas Horatio Gibson England M.B C M., 1886 ‡John Gilchrist Scotland M B C.M 1885 ‡Hamilton Andrew Hugh Gilmer, New Zealand M.B Ch B 1899, Frank John Hathaway England M B Ch B 1899 Edward Bateman Hector Scotland M.B C M 1883 ‡William Edward Herbert, New Zealand M.B Ch B 1899 ‡William Hugh Hill Scotland, M.B C M 1896 Henry Overton Hobson, England M.B C M 1899 ‡Cyril Arthur Bennett Horsford West Indies, M.B Ch.B 1898 Alfred Hugh James Wales M B C M 1898 ‡James George Silver Jamieson M A Scotland, M B Ch B 1900, †John Boyd Jamieson Scotland, M B C M 1897, Thomas John Jehu M A B Sc. Wales M B C M, 1893 *David Barty King M.A Scotland M B Ch B 1899 ‡Charles Francis Lassalle West Indies M B C M 1894 ‡James Lee B.A., Ireland M.B C M 1896 * Robert M William Leith Cape Colony M B C M 1895 (*in absentiâ*), ‡ Henry Cairns Lloyd Australia, M B C M. 1893 †James Luckhoff Cape Colony M.B Ch.B 1899 †Colin MacVicar M.A. Scotland M B C M 1894 James Morris Menzies Scotland M B C M, 1894 Hugh Crichton *John Miller M A. M D Pavia, Scotland M.B Ch B 1900 *John Alexander Milroy M A. Scotland M B C.M 1896 †Hugh Brooming Taylor Morgan Wales M B C M, 1891 †John Muir Scotland M B C M 1896 †Donald George Macleod Munro, Scotland M B C M, 1892 Patrick Murison, Scotland, M.B

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[1] THE LANCET Feb 2nd (p 317) and July 13th (p 127) 1895 July 18th (p 218) 1896 May 20th (p 1399) and June 17th (p 1699), 1899 and April 27th (p 1242) and May 18th (p 1435) 1901

C.M., 1888; ‡William Ramsay Nasmyth, Scotland, M.B., C.M., 1885; †David Orr, Scotland, M.B., C.M., 1894 (*in absentia*); †William Moncrieff Paul, M.A., Scotland, M.B., Ch.B., 1899; Arthur de St. Leu Frederick Perigal, England, M.B., Ch.B., 1893; Cyril Hamilton Phillips, Barbados, M.B., C.M., 1896; Hugh Richard Phillips, Wales, M.B., Ch.B., 1896; †Charles Porter, Scotland, M.B., C.M., 1898; ‡Arthur Preston, England, M.B., Ch.B., 1899; Edward le Carle Prout, England, M.B., C.M., 1894; *Robert Pugh, Wales, M.B., Ch.B., 1898; Albert Frederic Ross, Scotland, M.B., C.M., 1891; Robert William Innes Smith, Scotland, M.B., C.M., 1894; Stephen Southall, England, M.B., Ch.B., 1899; ‡Thomas Pollard Stewart, M.A., Scotland, M.B., C.M., 1889; ‡David Waters Sutherland, Australia, M.B., C.M., 1893 (*in absentia*); *William Edward Tellet, Scotland, M.B., Ch.B., 1898; William George Thompson, Ireland, M.B., Ch.B., 1899; James Robert Hall Walker, Scotland, M.B., C.M., 1897; *Godfrey Warner, England*, M.B., C.M., 1893; ‡Walter Frederick Rodolph de Watteville, Switzerland, M.B., C.M., 1883; *Harry Weighton, Scotland*, M.B., C.M., 1893; and John Rutter Williamson, England, M.B., Ch.B., 1898 (*in absentia*).

* Awarded gold medals for the thesis.
† Highly commended for thesis.
‡ Commended for thesis.

Degrees of Bachelor of Medicine and Master in Surgery.—Martha Georgina Isabella Cadell, Scotland; Leslie Alexander Drake, England; Robert James Irving, B.Sc., England; James Henry Paterson, Scotland; and Alexander Robertson, Scotland.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—May Agnew, Ireland; Robert George Archibald, India; James Arthur, England; Alexander Kidd Baxter, Scotland; Nina Henrietta Beath, Scotland; Constance Agnes Bennet, Scotland; Breadalbane Blacklock, Scotland; William Blackwood, Scotland; Garth Swinnerton Blandy, England; §Christian Henry Bösenberg, South Africa; Johannes Roos Bosman, South Africa; Edward Arthur Braine, M.A., England; George Bell Brand, Scotland; John Grant Briggs, England; Robert Dods Brown, Scotland; Herbert Henry Bullmore, Australia; Duncan Macnab Callender, M.A., Scotland; Ewen Cameron, England; §Charles Macfie Campbell, M.A., B.Sc., Scotland; George Savery Carey, England; Donald Gordon Carmichael, Scotland; James Charles Gordon Carmichael, Scotland; ‖Thomas Francis Cavanagh, Ireland; Austin Mack Caverhill, Scotland; Archibald Francis Reignier Conder, Scotland; James Harris Connolly, Ireland; §Paula Theodora Copeland, Scotland; Alexander Peter Cosker, South Africa; Harry Lovett Cumming, Scotland; Maurice Davies, Wales; Frank Inglis Dawson, Scotland; Margaret Scott Dickson, Scotland; ‖Jan Dommisse, Cape Colony; Cecil Bolton Drew, South Africa; Henry John Dunbar, Scotland; James Ferguson Duncan, New Zealand; John Duncan, Scotland; §Sören Anton Ellerbek, Denmark; James Sands Elliott, New Zealand; Samuel Charles Ellison, Ireland; John Fairbairn, British Guiana; Alfred Nolan Fell, New Zealand; Duncan Campbell Lloyd Fitzwilliams, Wales; Andrew Binny Flett, Scotland; Agnes Josephine Gardner, Scotland; §Sidney Gilford, England; Archibald Gillespie, Scotland; Edward Carwardine Gimson, England; ‖Dwarka Prasad Goil, India; Thomas Gowans, England; Mabel Dalton Gulland, Scotland; John Frederic Haggert, India; §Thomas Bogie Hamilton, Scotland; Dirk Jacob Hamman, South Africa; Alexander William Montgomery Harvey, Scotland; Alexander Walker Hauman, Cape Colony; Mathew Holmes, Scotland; Cecil Hobart Houghton, Ireland; William Hume, Australia; John Hunter, Scotland; Richard Charles Irvine, Tasmania; Miles Johnston, Uruguay; Harold Karr, Scotland; Robert Donald Kidd, Natal; James Kirkwood, Scotland; Hubert Astley Knight, England; Wilfred Elwyne Knight, Ireland; Hermann Kramer, South Africa; William Landsborough, Scotland; George Ivanhoe Lecesne, Jamaica; §Norah Lenwood, England; ‖William Lillico, Ireland; Andrew Walker Bulst London, Scotland; ‖Robert Cranston Low, Scotland; John Glenn M'Caughey, Ireland; William Fraser MacDonald, Scotland; Wilfrid M'Farlane, Scotland; ‖David Robertson MacGregor, B.Sc., Scotland; Neil Fletcher MacHardy, Scotland; Isabel Nivison M'Keand, Scotland; Samuel Walker Maclean, Ireland; Fran Macmillan, Scotland; Robert Patrick M'Neil, Scotland; George M'Neill, Scotland; William Edward Marshall, Scotland; John Kennedy Matheson, Scotland; ‖Paul Mathews, England; Robert John Mayberry, Ireland; Edmond Langley Meynell, England; William Stuart Milne, India; Richard Caldecott Monnington, England; John Howard Montgomery, Ireland; Stuart Alexander Moore, B.A., New Zealand; John Morrison, Ireland; Philip Henry Mules, New Zealand; Ronald Stuart Munro, England; Donald Norman Watson Murray, New Zealand; Charles Nelson, Scotland; William Newlands, New Zealand; Frank O'Neill, Ireland; ‖Thomas Henry Osler, South Africa; Harry Overy, England; Sophie Palmer, England; Anthony Scott Parker, England; James Hunter Harvey Pirie, B.Sc., Scotland; John Politschl, England; Edward John Porteous, Scotland; William Guthrie Porter, B.Sc., Scotland; Ivan Christopher Prichard, Wales; Agnes Melville Pringle, Scotland; Andrew Francis Honeyman Rabagliati, England; Jan Abraham Raubenheimer, Cape Colony; John Joseph Redhead, Venezuela; Antonio Baptista dos Remedios, Portuguese India; Henry Howard Roberts, England; James Stewart Eadie Robertson, England; Andrew Beaconsfield Ross, M.A., Scotland; ‖Thomas William Elmonston Ross, Scotland; Andrew James Rowan, Cape Colony; David Sandler, Russia; ‖James Scott Sewell, England; Alexander M'Gregor Sharp, M.A., Scotland; Charles John Shaw, Scotland; George Duncan Sloan, England; Morton Warrack Smart, Scotland; William Francis Smeall, Scotland; James Martin Smith, Scotland; Henry Martyn Stumbles, England; David Sutherland, Scotland; Herbert Pank Thompson, England; Alexander Dutchart MacArthur Thomson, Scotland; George Clark Trotter, Scotland; Philip Vickers, Jamaica; John Frederick van de Sandt de Villiers, South Africa; §Benjamin Philip Watson, Scotland; ‖Allan George Waugh, Scotland; John Wier, Ireland; Ada Wilkinson, New Zealand; Mary Ruth Wilson, England; Samuel Alexander Kinnier Wilson, M.A., Scotland; Edward Ernest Wood, Cape Colony; and Robert Tannahill Young, M.A., Scotland.

§ Passed with first-class honours.
‖ Passed with second-class honours.

Special University Certificate in Diseases of Tropical Climates.—William Blackwood, M.B., Ch.B.; Thomas Francis Cavanagh, M.B., Ch.B.; Dugald Christie, F.R.C.P., L.R.C.S.; Joseph Eugene Horace Gentil, L.R.C.P. & S. (*in absentia*); Dwarka Prasad Goil, M.B., Ch.B.; Robert James Irving, B.Sc., M.B., C.M.; James Kirkwood, M.B., Ch.B.; Hubert Astley Knight, M.B., Ch.B.; Wilfred Elwyne Knight, M.B., Ch.B.; John Kennedy Mathieson, M.B., Ch.B.; John Hally Meikle, M.A., B.Sc., M.B., C.M.; William Stuart Milne, M.B., Ch.B.; William Newlands, M.B., Ch.B.; James Henry Paterson, M.B., C.M.; Antonio Baptista *dos Remedios*, M.B., Ch.B.; Frederick Stanley Rose, M.B., C.M.; James Scott, M.D., C.M.; and Elizabeth Thompson Selkirk, M.B., Ch.B.

The following prizes, fellowships, and scholarships have been awarded: Gunning Victoria Jubilee Prize in Practice of Physic, Frederick Gardiner, B.Sc., M.D., C.M.; Ettles Scholarship, Benjamin Philip Watson, M.B., Ch.B.; Allan Fellowship in Clinical Medicine and Clinical Surgery, Thomas Henry Osler, M.B., Ch.B.; Freeland Barbour Fellowship, David Robertson MacGregor, B.Sc., M.B., Ch.B.; Buchanan Scholarship in Gynæcology, Benjamin Philip Watson, M.B., Ch.B.; James Scott Scholarship in Midwifery, Robert Cranston Low, M.B., Ch.B.; Mouat Scholarship in Practice of Physic, Christian Henry Bösenberg, M.B., Ch.B.; Stark Scholarship in Clinical Medicine, Thomas Bogie Hamilton, M.B., Ch.B.; M'Cosh Graduates and Medical Bursaries, Charles Macfie Campbell, M.A., B.Sc., M.B., Ch.B.; Beaney Prize in Anatomy and Surgery, Sidney Gilford, M.B., Ch.B.; Pattison Prize in Clinical Surgery, Philip Anthony Harry; Dorothy Gilfillan Memorial Prize, Paula Theodora Copeland, M.B., Ch.B.; and Cameron Prize in Therapeutics, Major Ronald Ross, I.M.S., C.B., F.R.C.S., F.R.S., for his researches on the transmission of malaria by mosquitoes, &c.

The following is the official list of passes at the recent first, second, and third professional examinations in the Faculty of Medicine.

First Professional Examination.—J. H. Aikman, M.A.; J. A. Ainscow; A. G. Anderson, M.A., B.Sc.; D. W. Anderson; W. H. Armistead; Alfred Arthur; R. C. E. Atkinson, M.A.; Aung Tun, B.A.; C. F. Bainbridge; D. M. Barcroft; H. W. Binks; E. J. Black; Frank Blamire; J. D. Bowie; H. F. Briggs; Mary Brown; H. C. Buckley; D. S. Bulst; Edward Burnet, B.A.; A. L. Chisholm; William Core, M.A.; I. H. Cornelius; S. G. Corner, M.A.; R. S. Cotter; R. C. Cunningham; J. A. Currell; J. S. Daniell; A. D. Darling; Jagonmohon Dass; Richard Davidson; Arnold Davies; A. J. Davin; J. T. Dickson; J. D. C. Duncan; D. D. Dunn; David Eakin; J. S. Edwards; V. L. Evans; H. F. Fenton; J. G. Fleming; Robert Fraser; J. W. Frew; Michael Garin; E. C. Girling; J. F. Gordon; W. L. Gordon; W. H. Gowans; *G. A. Grierson; *E. R. Grieveson, B.A.; C. M. Hall; William Henderson; W. [illegible]
O Johnston [illegible]
Jones, J. H. [illegible]
N. P. Lloyd [illegible]
Peter M'Derm[illegible]
M'Gowan, G. [illegible]
J. N. MacLau[illegible]
MacPhail; K. W. D. Macrae; Paula Maier; J. S. Manson; C. Irvine Milne; C. James Milne; J. R. Mundon; H. J. Moro, M.A.; John Morrison; Meher A. D. Vacrafi; Joseph Newall; H. S. Nicolson; J. L. H. Paterson; J. S. Preblee; George Pollock; C. E. Powell; Austin Priestman; Claude Pycroft; Edith G. Pycroft; W. C. Riley; John Ritchie; W. A. Robertson; M. J. Da Rocha; Alastair Ross; Z. M. H. Ross; A. C. Russell; Eustace Russell; W. O. Sclater; S. C. Sen; J. O. Shircore; Archibald Simpson; E. D. Simson; D. M. Smith; Harold Smith; R. S. Steuart; Harry Stokes; W. J. P. Sutherland; D. R. Taylor, B.A.; J. A. Taylor; E. R. Thompson; H. H. Thorburn; J. N. Turnbull; L. W. Vaughan; A. G. Visser; G. F. C. Wallis; Martha B. Webb; H. C. Weber; W. O. Whiteley; F. P. Wernicke; W. O. Whiteside; C. H. Williams; C. R. Wills; E. D. Wilmot; Emily C. Wybourne; and *A. W. Young.

Second Professional Examination.—Mark A. Akenzie; Francl Baillie; D. W. Boswell; F. S. Brennan; Mary T. Cameron; T. F. Campbell; D. M. C. Church; M. L. Cohen; A. G. Cook; G. M. Coughtrey; T. E. Coulson; J. G. Craig; Robert Donaldson, M.A.; G. T. Drummond; C. G. Edmondston; P. J. Elliot; C. L. Eyles; J. J. M. Falconer; G. H. L. Fitzwilliams; W. H. Forsyth; R. F. Gaskell; David Golding; Eleanor A. Gorrie; C. Ross Greenfield; E. J. Griffiths; J. H. Hume; Annie Jackson; John Jardine; G. P. Joy; Fair Jung; C. A. Lawrence; A. G. Leitch; S. M. Livesey; A. P. G. Lorimer; D. H. C. MacArthur; William M'Conaghy; James Mackenzie Inverues; Alexander MacRae, M.A.; M. M. Mamourian; J. A. Mathers; G. D. Mathewson; H. P. Milligan; C. I. S. Mitchell; Venancio Moralejo; John Morri; A. W. Neill; Armand Pantpellonne; W. J. Paterson; Bernard Pickering; A. O. P. Reynolds; Joseph Robinson, B.Sc.; John Saffley; J. G. B. Shand; J. I. Shepherd; R. H. Smith; Alexander Stephen, M.A.; F. H. Stewart, M.A.; George Stewart; R. J. Stewart; J. R. Tannahill; R. S. Trover Todd, M.A.; T. S. Vathan; Helen R. Vickers; R. R. Watt; J. D. Wells; W. F. J. Whitley; G. H. Winch; and Thomas Wright.

Third Professional Examination.—Farhat Ali, B.A.; John Allan; G. C. Anderson; F. H. Borthwick; J. C. Boyd; W. F. Brayne, B.A.; G. G. Cumming; Sam Cunliff; G. A. Davies; J. R. Dodd; In C. E. Dumanoire; H. J. George; H. W. Gough; T. M. Guthrie; Philip Hallam; L. C. V. Hardwicke; J. O. Heyn; R. D. Hole; S. A. Johnston; Saldorsafar Khan; F. F. Larkins; F. W. Lundie; J. W. M'Ewan; G. S. Mackay; William [illegible]
W. C. Morton, M.A.; Ernest Mc[illegible]
O'Flaherty; T. G. E. Parry; La[illegible]
C. F. T. Scott; Henry Speirs; D. T[illegible]
Toit; Louis Turlansky; Candfore [illegible]
Webster; D. H. Wessel; George Wi[illegible] and W. J. We[illegible]

With distinction.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July meeting of the

Scottish Conjoint Examining Board held in Glasgow the following candidates passed the respective examinations —

First Examination —William Hanna Clarke Gavin Watson Hill James Logan James Beveridge Macgregor and John Moncrieff Muir, Anderson s College Medical School William Robert Ellis John Henry Morris Jones and John M Arthur (with distinction), St Mungo s College Glasgow and Ernest Albert Hartland and Henry Ruddock Morehead Queen s College Cork

Second Examination (five years course) —Robert Crothers Queen s College Belfast Ernest Albert Hartland Queen s College Cork William M Ilraith William Noble Walker and John Watt Anderson s College and John Roberts and John Hughes Roberts St. Mungo s College

Second Examination (four years course) —Gilbert Elliot Aitken and Frank Hendry Rae Edinburgh School

Third Examination —Mary Lucinda Calderwood Edinburgh School Katherine Mary Chapman Queen Margaret College Glasgow Ian Campbell James Robert Robertson and James Booth Paterson of St Mungo s College William Arthur Magill Queen s College Belfast Samuel Robert Scott Queen s College Belfast and St Mungo s College Cecil James Todd Durham University School Newcastle-on Tyne.

Final Examination (and admitted licentiate of the three co-operating authorities) James Charles Galloway Henry Rayner Helsby, Thomas Joseph M Kaigney Joseph Edward Mullan Robert John Roberts Peter Carruthers Watt David Roberts Williams and Andrew Young St Mungo s College Michael David Ahern Queen s College Cork Henry Doig (with distinction) John William Dougall and Alfred Hardman Mountcastle Anderson s College Richard Hewson Hunter Glasgow University and Anderson s College James Cullen Edinburgh University and Anderson s College Richard Lewis, University College Liverpool and St Mungo s College Joseph Caton Shelmerdine Glasgow University Dora Elizabeth Lockwood and Constance Muriel Scott London School of Medicine for Women Raghunath Vithal Khedkar Grant Medical College Bombay William Anderson William Boyd Queen s College Belfast and the Edinburgh School Hamilton Marie Watson Surgeon s Hall Edinburgh Albert Edward Griffith Catholic University School Dublin and David Christie Grant Medical College Bombay and St. Mungo s College

A COMPLAINT AGAINST A PUBLIC VACCINATOR — At a meeting of the Kingsbridge (Devon) board of guardians held on July 26th, a discussion took place with regard to the charges made against one of the public vaccinators of altering the ages of the children entered as vaccinated in his vaccination register, and thereby becoming entitled to extra fees Reference has already been made to the subject in THE LANCET of July 12th, p 119 The Local Government Board now stated that the explanation given by the public vaccinator did not appear to be satisfactory, and the guardians unanimously resolved to call upon him to resign his position of district medical officer and public vaccinator

THE DEATH OF MR. P H SECKER —The tragic death of Mr P H Secker calls attention to the latent powers of danger in the compounding of even well known drugs It appears that Mr Secker, a well known veterinary surgeon of Boroughbridge, was engaged in the preparation of some horse powders containing as their chief constituents sulphur, chlorate of potash, and iron. From the evidence given at the inquest it would seem that these substances were being ground together in a mortar when a terrific explosion ensued which wrecked the room and resulted in the death of Mr Secker The cause of the explosion does no apparently need much investigation. Sulphur is ready enough to combine with oxygen, and chlorate of potash rich in this element, provides the means for the sudden detonation which concussion in the mortar would bring about To prevent a repetition of such an accident it is essential to remember that with mixtures of this character the ingredients should be ground separately and afterwards mixed, the mixture being effected with as little friction as possible

LITERARY INTELLIGENCE — Messrs W B Saunders and Co 9, Henrietta street, Covent garden, announce for early publication a new treatise on diseases of the skin by Henry W Stelwagon clinical professor of dermatology in Jefferson Medical College and Women's Medical College, Philadelphia. The work will contain a large number of half tone and coloured plates, with 1115 pages of text. A new volume in their Medical Hand Atlas series will also appear shortly, entitled "Abdominal Hernias," by Dr George Sultan of Göttingen, edited, with additions by William B Coley, M D, clinical lecturer on surgery, Columbia University (College of Physicians and Surgeons), New York, and will comprise 277 pages of text with 119 illustrations, 36 of them in colour —Messrs J & A. Churchill announce that an important change is to be made in the 1903 issue of the Medical Directory Year by year the volume has, owing to the growth in numbers of the medical profession, become more and more bulky and the proportions of the book are to be altered by increasing the size of the page, thereby reducing the thickness of the book. In 1845 the volume was issued in post 12mo size, in 1861 it was enlarged to demy 8vo, in 1903 it will be published in royal 8vo (9¾ by 6⅛ inches) The change will, it is hoped, result in a much handier and more attractive looking book.

INSTITUTE OF CHEMISTRY —According to the pass list just issued by the council of the Institute of Chemistry of Great Britain and Ireland, in the intermediate examination for the Associateship 24 candidates presented themselves and 12 passed, in the Final Examination 25 candidates presented themselves and 12 passed. This is a somewhat high proportion of failures which would appear to be due to the inefficient training of the candidates who failed, the standard of examination remaining the same

PRESENTATION TO A MEDICAL MAN —On Friday evening August 1st, at the patients weekly dance, Mr A. Rigden, who has been acting superintendent of the County Asylum, Bicton Heath near Shewsbury, for the past four months, was the recipient of a liqueur stand, which was presented by the nurses male attendants, and members of the staff as a token of their esteem and as an indication of the pleasant memories which they associated with his tenure of office

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN —The annual general meeting of this society was held at the Hotel Cecil, London, on July 16th, Dr Henry Ashby of Manchester, presiding The following gentlemen were elected office bearers for the ensuing session —Council Dr Henry Ashby Dr Fletcher Beach, Mr Herbert L Carre Smith, Dr Edmund Cautley, Dr Wayland C Chaffey, Mr Clinton T Dent, Mr Walter Edmunds, Dr Leonard G Guthrie, Dr Robert Hutchison, Mr Francis Jaffrey, Mr T Sinclair Kirk, Dr David B Lees, Dr Charles J Macalister, Dr Lewis Marshall, Dr Robert G McKerron, Mr Henry Betham Robinson, Dr A Ernest Sansom, Dr George E Shuttleworth, Mr Harold J Stiles, Dr George A Sutherland, Dr James Taylor, Mr Alfred H. Tubby, Mr Richard H. A. Whitelocke and Dr William A. Wills Honorary Treasurer Mr R. Clement Lucas Honorary Secretaries Mr Sydney Stephenson, Dr George Carpenter, and Dr Theodore Fisher After the meeting the members and their friends, to the number of 80, dined together The honorary treasurer of the society, Mr R Clement Lucas, announced that Mr C Wightman, chairman of the Evelina Hospital, had generously placed the sum of £20 per annum at the disposal of the council for the purpose of furthering original work in children's diseases A feature of the gathering, it may be noted, was the number of hospital governors present

LEICESTER INFIRMARY —The new surgical wing of Leicester Infirmary was formally opened by Mrs T Fielding Johnson on July 24th in presence of a numerous company The accommodation thus provided consists of two operation theatres, anæsthetic room, a number of rooms and offices for the use of various officials and members of the medical staff, and a complete suite of rooms for casualty, surgical, and emergency cases, the basement contains the dispensary stores, laboratory, and heating and ventilating appliances All the floors are either mosaic, marble terrazzo, or teak. The walls of the surgery, waiting hall, nurses' rooms, anæsthetic room, and corridors adjoining the theatres are tiled and have rounded angles The whole of the remaining walls, excepting those of the theatres, are finished with Parian cement The operation theatre walls are faced seven feet high with white veined statuary marble, having a dove-coloured marble border at the top and bottom The theatres are each of them lighted from the north. The artificial lighting will be by electricity The heating is partly by steam and partly by hot water coils The operation theatres, nurses' sterilising and workroom, anæsthetic room, and emergency ward are all heated and ventilated by the "plenum" system The cost was £12,000 and has been defrayed by a fund raised by the late Alderman Lennard in connexion with a scheme for commemorating the reign of her late Majesty Queen Victoria. The new buildings have therefore received the name of the Queen Victoria Memorial Wing After the ceremony the Mayor and Mayoress entertained a large company at a garden party in the grounds of the infirmary On July 25th the Mayor (Alderman E. Wood) gave a dinner in the Museum Buildings to the honorary medical staff of the infirmary and the medical profession of the town. The Mayor proposed the toast of "The Medical Profession" in a very complimentary speech which was replied to by Dr C H. Marriott and Dr F M Pope.

DONATIONS AND BEQUESTS —The treasurers of the Middlesex Hospital have received from an anonymous donor per Mr A. Pearce Gould, the sum of £100 to the fund of developing the work of the cancer research department of that hospital.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN —At a meeting of the council of the Pharmaceutical Society of Great Britain held at 17 Bloomsbury square on August 6th, Dr William Palmer Wynne, F R S assistant professor of chemistry in the Royal College of Science, South Kensington was appointed to the Chair of Chemistry in the School of Pharmacy of the Pharmaceutical Society of Great Britain in succession to Dr J Norman Collie, F R.S. who was recently appointed to the Chair of Organic Chemistry in University College London.

BOARDS OF GUARDIANS AND VACCINATION —At a meeting of the St. Germans (Cornwall) board of guardians held on July 31st a letter was read which had been received from the Local Government Board in answer to certain questions asked by the guardians As mentioned in THE LANCET of July 12th, p. 119 the guardians had inquired whether the public vaccinator might accept fees which the individuals vaccinated offered to pay him and also whether the public vaccinator had power to insist upon persons going to his surgery for revaccination purposes The Local Government Board stated that there was nothing to prevent a public vaccinator performing in his private capacity vaccination or revaccination on persons at their own expense, but in such cases the lymph supplied by the Board must not be used The Local Government Board also said that no action on the part of the guardians would be regarded as proper that would have the effect of suggesting to the public that vaccination and revaccination were not free to all residents irrespectively of social position. In conclusion, the communication added that the public vaccinator was to attend at the homes of persons for the purposes of revaccination if so requested or if not so requested the operation could be performed at his surgery or at such other place as might be arranged by him with the person so applying A considerable discussion took place on the matter and it was considered that the communication would be of interest to many boards of guardians the chairman remarking that it was plain that the Government encouraged vaccination to the greatest possible extent, that it was to be conducted quite irrespectively of social station, and that boards of guardians could not take any action against persons who did not pay for the operation.—At a meeting of the Torrington board of guardians held on July 26th a discussion arose relative to a communication which had been received from the conference of the metropolitan boards of guardians urging the reduction of the vaccination fees The chairman said that the public vaccinator in many cases received a penny a mile for his journey and if he went over five miles to vaccinate a child he received 2s 6d which certainly could not be regarded as very much. One of the guardians said that the Vaccination Act was a bad one as vaccination used to cost the union about £24 per annum whereas it was now about £70 per annum. The board eventually decided to take no action in the matter

Parliamentary Intelligence

NOTES ON CURRENT TOPICS

Midwives Bill.

THE Midwives Bill received the Royal Assent by Commission on Thursday July 31st.

HOUSE OF COMMONS.

WEDNESDAY JULY 30TH

Vaccination Prosecutions

Mr GEORGE WHITE asked the Home Secretary whether his attention had been called to the case of Sydney Ed. Pratt who on Monday July 21st was prosecuted before the bench at Grimston Norfolk, for failing to have his child vaccinated and fined 10s and 12s 6d costs though he had on two occasions appeared before the same bench asking for a certificate of exemption on conscientious grounds; and would he say whether he was prepared to promote legislation to deal with such cases.—Mr RITCHIE replied: If as would appear from the question the defendant had not established his claim to a certificate of exemption it is not clear on what grounds it can be suggested that the conviction was wrong or that any action on my part is called for

Equipment of Military Hospitals in India

Mr WEIR asked the Secretary of State for India whether arrangements had yet been made to withdraw from the military hospitals in India surgical instruments fitted with wooden handles and to supersede them by instruments with metal handles and of modern type —Lord GEORGE HAMILTON replied The whole question of the provision of aseptic instruments and appliances for military hospitals in India is now under the consideration of the Government of India The steps to be taken in the matter will be reported as soon as possible.

Sale of Opium in Burma

Mr HENRY J WILSON asked the Secretary of State for India whether he could lay upon the table the draft of the new opium scheme for Burma, of which particulars had appeared in India and which had been under consideration for some time past; also what means were being taken to ascertain Burman opinion on the new scheme and whether it was calculated to lessen the evils produced by opium consumption in Burma, as set forth by Chief Commissioners Sir Charles N Aitchison and Sir Alexander Mackenzie —Lord GEORGE HAMILTON replied: I have not as yet received a copy of the regulations for giving effect to the revised arrangements for the licensed sale of opium in Burma which I have sanctioned with the object of suppressing smuggling and checking illicit consumption These arrangements were the result of careful and prolonged inquiries on the part of the Government of Burma and I have every reason to think that due account was taken of the wishes and habits of the people

THURSDAY JULY 31ST

Lead Poisoning in the Pottery Trade

Sir CHARLES DILKE asked the Home Secretary if he would state whether the scheme of workmen's compensation in cases of lead poisoning communicated by the employers to the workers was a complete scheme intended to fulfil the promises made during the recent arbitration on the special rules or if there were other portions of the scheme not made public; and would he state if the scheme extended to the whole pottery trade in all parts of the United Kingdom.—Mr RITCHIE replied: I do not know what statement with regard to the scheme has been made public. I have received copies of the memorandum and articles of association of the company which pottery manufacturers have formed in connexion with the scheme and of its rules and regulations. These documents appear to me to contain a complete scheme for compensation to workpeople in potteries who may be suspended from work on account of lead poisoning The scheme is of course voluntary on the part of the manufacturers and there is no power to make it compulsory But it is open to all pottery manufacturers to join and more than 100 firms, including nearly all the leading potters in North Staffordshire have already become members I think that the best results may be expected from the action which the manufacturers have thus taken —Sir CHARLES DILKE asked the Home Secretary if he could state who tested for the Home Office samples of glaze when application was made by manufacturers of china and earthenware for various exemptions from certain of the special rules; how many such samples had been tested since the new special rules came into force and what arrangements were made for testing samples taken from time to time from firms working under such exemptions.—Mr RITCHIE said: The present arrangement is that samples of glaze, whether formally submitted by manuf cturers [illegible]
Government Laboratory [illegible]
of lead So far there are [illegible]
depen l on the question o [illegible]
the latest from July 25th [illegible]
the 5 per cent standard of lead and 1 to the 2 per cent. standard Few samples have yet been taken but the Inspectors will have instructions to take them from time to time in such a way as to test the observance of the rules

Pure Water for Soldiers on Active Service.

Sir MICHAEL FOSTER asked the Secretary of State for War whether with a view of preventing the danger arising from enteric fever or other water-borne diseases in war he would consider the advisability of establishing on a permanent basis some such scheme as that which was under favourable consideration in respect to the late war in South Africa, by which the soldier in the field was to be provided with approved or safe water or other liquids.—Mr BRODRICK replied Experiments will be made on the first opportunity with improved watercart designed to bringing clarified water to places appointed for its sterilisation Different methods of sterilising water by heat filtration, or chemical means are under consideration The scheme has not yet been sufficiently tested to justify its establishment on a permanent basis.

Cancer in India

[illegible] of State for India whether he had y t [illegible] in regard to the prevalence of ca cer [illegible] paration of statistics on the s bject. [illegible] I am awaiting an answer f om the [illegible] I addressed to them on th subject in [illegible] tably elapse before they will be in a position to reply

Poor-law Medical Officers in Ireland and their Holidays

This question was discussed in connexion with the Committee stage of the Local Government (Ireland) No 2 Bill. On the motion of Mr

Wyndham an amendment was made in Clause 3 of the Bill providing that the salary paid to a substitute during the vacation of a medical officer shall not establish any claim for compensation.—Mr Tully moved an amendment to provide that the Government contribution to the salary of a substitute shall be paid not only when the medical officer is on holiday but also when he is absent through sickness or other circumstances beyond his control —Mr Wyndham opposed this amendment holding that the proposed expenditure o public money could not be justified —Mr Macartney supported the amendment and appealed to the Chief Secretary to accept it —Mr Wyndham said that he was sorry to seem obdurate but he would undertake to look very closely into the Local Taxation Account in the autumn and see what could be done in this connexion The amendment was pressed to a division and defeated by 122 against 86 votes

Monday August 4th

Underground Workshops in Scotland

Mr Weir asked the Home Secretary whether his attention had been called to a circular issued by the Scottish Operative Tailors and Tailoresses Association relative to the effects to health arising from employment in pit or underground workshops in Scotland and would he say what action he proposed to take in the matter —Mr Ritchie replied The honourable Member has kindly sent me a copy of the circular referred to in his question It is a paper which was apparently printed two years ago but which was not communicated either to the Home Office or to the factory inspectors Since that time the law with regard to insanitary workshops has been considerably strengthened by the Factory Act of last session and I am informed that several underground workshops in Glasgow have been closed during the last two years I am not prepared at the present time to propose any further amendment of the law but if any cases of underground workshops which cause injury to health are brought to the notice of the inspectors of factories they will do their best to deal with them under their existing powers or to put the local authorities in motion

The Royal Army Medical Corps

Dr Farquharson asked the Secretary of State for War whether the augmentation of the number of medical officers on the list of Colonels Royal Army Medical Corps notified in the War Office Gazettes of June 13th and July 22nd 1902 was the augmentation which was provided for in the Estimates passed by the House of Commons in April and May 1900 and seeing that the delay in carrying out the augmentation unfavourably affected the position of some officers on the list of Colonels Royal Army Medical Corps would he take steps to rectify the same.—Mr Brodrick replied The reply is in the negative The increase of colonels in Estimates 1900–1901 was due to the necessity for providing for two supernumerary officers The recent appointments were due to the augmentation in connexion with the Army Corps scheme

BOOKS, ETC , RECEIVED

Duckworth and Co 3 Henrietta street W C

European Fungus Flora Agaricaceæ By George Massee F L S Principal Assistant (Cryptogams) Royal Botanic Gardens, Kew Price 6s

Hoepli Ulrico Milan

Farmacoterapia, con Formulario Del Dott P Piccinini Price L3 50

Longmans Green and Co., 39, Paternoster row, E C (Published for the University Press of Liverpool)

Liverpool School of Tropical Medicine. Memoir VII Report of the Yellow Fever Expedition to Parà of the Liverpool School of Tropical Medicine and Medical Parasitology By H. E Durham Price 7s 6d

Sherratt and Hughes 27, St Ann street, Manchester

The Purin Bodies of Food Stuffs their Estimation Action and Significance By I Walker Hall M D Assistant Lecturer and Demonstrator in Pathology, the Owens College Price 2s

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward it to The Lancet *Office directed to the Sub-editor not later than 9 o clock on the Thursday morning of each week for publication in the next number*

Bagshawe Arthur G M.B Cantab has been appointed Medical Officer to the Anglo-German Boundary Commission Uganda Protectorate

Coaker F W J F R C S Eng L.R C.P Lond has been appointed Medical Officer of Health for Bromsgrove Rural District, Worcestershire

Darbyshire, Douglas E M B Ch.B Vict Univ , has been appointed Special Medical Officer to the Central Board of Health Perth Western Australia

Duncan S V M R C S L R C P Lond has been appointed Officer of Health Kookynie, Western Australia.

Edwards Arthur Spencer M.B C M Edin has been appointed Medical Officer of Halling District of Strood Union and Public Vaccinator for the same District

Ettles, W J M M D Aberd , has been appointed Medical Officer of Health for District No 11 of the London County Council in room of the late Mr Cotman

Ewbank W W M R C S , has been appointed Honorary Medical Officer to the Queen s Home Maternity Adelaide South Australia

Fisher Charles M.B , B S Durham M R C S L R C.P has been appointed Deputy Poor law Medical Officer and Public Vaccinator to the Albury District of the Guildford Union

Forsyth Charles E P M B , Ch B , late Assistant Medical Officer, Hospitals Service, Metropolitan Asylums Board, has been appointed a Plague Medical Officer for the Punjab India

Goodman Godfrey L.R C P L R C S Irel Diploma of State Medicine Ireland has been re appointed Medical Officer of Health for Glanford Brigg Rural District Lincolnshire

Gunson J B M R C S has been appointed Honorary Medical Officer to the Queen s Home Maternity Adelaide, South Australia

Hamilton, J A G , M.B Dubl has been appointed Honorary Medical Officer to the Queen s Home Maternity, Adelaide, South Australia

Hickinbotham J R M B Lond , has been appointed District Medical Officer at Carnarvon Public Vaccinator for the Urban and Suburban Districts of Carnarvon and the Rural District of Gascoyne and Quarantine Officer for the Port of Carnarvon, Western Australia, vice D E Darbyshire resigned

Howie P , M B C M Aberd , has been appointed Medical Officer to the Aberdeen Dispensary

Jay M M R C S L R C P Lond has been appointed Honorary Medical Officer to the Queen s Home Maternity, Adelaide, South Australia.

Lendon, A A. M.D Lond has been appointed Honorary Medical Officer to the Queen s Home Maternity Adelaide South Australia.

MacKenzie W S , L R C P , L R C S Edin has been re-appointed Medical Officer of Health for Normanton Urban District Yorkshire.

Marten R H M B , B S Cantab has been appointed Honorary Medical Officer to the Queen s Home Maternity, Adelaide, South Australia

Martin Ernest W , M B Ch B has been appointed Assistant Physician to the Sanatorium Crooksbury Ridges, near Farnham, Surrey

Meggs T Hugh E M R C S L R C P has been appointed Public Vaccinator of the Slough District Eton Union vice Mr John Brickwell.

Monro Home G H. M D Edin , has been appointed Honorary Anæsthetist to the David Lewis Northern Hospital Liverpool

Nicholson E M R C S L R C P Lond. has been appointed Medical Officer of Health to the Urban District Council of Fenny Stratford.

Sweeny William James, M.B B Ch B.A O (Royal University, Ireland) has been appointed Deputy Medical Officer for the Hornby District and Workhouse (Gloucestershire)

Valentine, W A. M D B Ch Univ Dubl Trin Col , has been appointed Surgeon and Agent of Sick Quarters under the Admiralty at Appledore Devon vice Mr A E Mahood.

White A. T L R C P & S Edin , has been appointed Medical Officer of Health at Fremantle Western Australia during the absence on leave of Mr J W Hope

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

Birmingham and Midland Ear and Throat Hospital.—House Surgeon for eight months Salary at rate of £70 per annum.

Bristol Royal Infirmary —Junior House Surgeon and Anæsthetist, also Casualty Officer both for six months Salaries at rate of £50 per annum, with board, lodging and washing

Bury Infirmary —Junior House Surgeon Salary £90 with board, residence and attendance

Cancer Hospital, London.—Pathologist Salary £250 per annum

Cancer Research Fund Examination Hall, Victoria Embankment, London W C —General Superintendent

Cornwall County Asylum, Bodmin —Junior Assistant Medical Officer unmarried Salary £130 rising to £160 by annual increments of £10 with board furnished apartments laundry, &c.

Dundee Sanatorium for Consumption —Medical Superintendent Salary £250 per annum

Edinburgh Victoria Hospital for Consumption —Resident Physician for six months Residence board, and washing, with nominal honorarium

Gravesend Hospital.—House Surgeon Salary £90 per annum with board and residence

Halifax Union Poor law Hospital.—Resident Medical Officer for Hospital at Salterhebble Halifax Salary £130 per annum as Resident Medical Officer and £30 per annum for Dispensing making a gross salary of £160 per annum, with apartments rations, and washing

Hitchin Three Counties Asylum —Second Assistant Medical Officer, unmarried Salary £150 per annum, with board apartments, washing and attendance

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £50 or £60 per annum with board and lodging.

JENNER INSTITUTE OF PREVENTIVE MEDICINE, Aldenham Herts.—Assistant Bacteriologist, unmarried. Salary £200 with furnished rooms.

LANARK MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £140 per annum, with board &c.

LIVERPOOL DISPENSARIES.—Assistant Surgeon unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL STANLEY HOSPITAL.—Third House Surgeon. Salary £70 annum, with board residence.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £100 per annum with board and residence.

NORTHAMPTON ST ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Junior Assistant Medical Officer unmarried. Salary £200 per annum with board apartments and washing.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried. Salary £200 per annum, increasing by £15 every year with apartments attendance, light and fuel.

ROXBURGH DISTRICT ASYLUM Melrose N.B.—Assistant Medical Officer. Salary £120 per annum, with board, rooms, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum with board, lodging and washing.

ROYAL DEVON AND EXETER HOSPITAL, *Exeter.—Junior Assistant* House Surgeon for six months. Salary at the rate of £70 per annum, with board lodging and washing (no stimulants).

ROYAL FREE HOSPITAL, Gray's Inn-road, London, W.C.—Physician for Diseases of Women with charge of In-patients; also Assistant Physician for Diseases of Women, with charge of Out-patients.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Honorarium at the rate of £80 per annum with residence board and washing.

STAFFORDSHIRE GENERAL INFIRMARY Stafford.—Assistant House Surgeon. Salary £80 per annum, with board lodging and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing and residence.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum with board lodging washing and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon. Also Assistant House Physician. Appointment for six months with honorarium at rate of £75 per annum, board, lodging, and washing.

Births, Marriages, and Deaths

BIRTHS

BRYCE.—On August 4th, at Stroud-green-road, N., the wife of John Richmond Bryce, M.D. Glasg., D.P.H., of the Inner Temple, barrister at law, of a daughter.

COOPER.—The wife of Charles B. Cooper, M.B., Ivybridge, South Devon, of a son.

CROOKSHANK.—On August 4th, at The Terrace, Barnes, S.W., the wife of F. Graham Crookshank, M.D. Lond., of a son.

METCALFE.—On August 2nd, at 2, St. Leonard's, York, the wife of A. W. Metcalfe, of a son.

PAYNE.—On August 2nd, at Vesta road, Brockley, S.E., the wife of William Henry Payne, M.R.C.S., L.R.C.P. Lond. (née Allison), of a son.

MARRIAGES.

GARNER—STAGG.—On July 31st, at St. Paul's Church, East Molesey, Surrey, William Langham Garner, B.A., M.B., B.C. Cantab., to Helen Mary Cowley, eldest daughter of the late William Stagg, of Motherby, Cumberland.

MUDGE—TREVENA.—On August 6th, at St. Elwyn's Church, Hayle, by the Rev. Parsons Derry, vicar, Zachary *Belling Mudge*, M.R.C.S. and L.R.C.P. (Lond.), youngest son of the late James Mudge, of Bosnear, Hayle, to Florence Emma, youngest daughter of W. H. Trevena, White Hart Hotel, Hayle.

ROCK—SIMMONDS.—On July 31st, at St. Mary Abbot's, Kensington, Frank Ernest Rock, M.D. Lond., to Alice Maud Simmonds, youngest daughter of the late S. Simmonds, of Larkhall-rise, Clapham.

SMITH—MCNAIR.—On the 5th inst., at Melrose, E. Stanley Smith, M.D., of 63, Wimpole-street, Cavendish-square, *to Grace, daughter* of Major J. F. A. McNair, C.M.G., R.A.

STEPHENS—SMIRTHWAITE.—On July 30th, at Holy Trinity Church, Burnley, John Harding Stephens, M.B. Vict., son of the late Henry Stephens, of Knutsford, to Annie Maude, only daughter of the late Mr. S. N. Smirthwaite, M.R.C.S. Eng., L.R.C.P. Edin., of Coal Clough, Burnley.

DEATH

CLEGHORN.—On June 11th, 1902, at Wanganui, New Zealand, George Cleghorn, M.D. Durh., M.R.C.S., L.S.A.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births Marriages and Deaths.

Notes, Short Comments, and Answers to Correspondents

MONEY LENDERS' CIRCULARS

ONE of our readers living in a distant county has sent us a plausible circular headed "Of Special Interest to Medical Men" and signed by Messrs. Harold and Co., of 3, Holles-street, Cavendish-square, London, W. We strongly advise all our readers against entering into correspondence with advertising money-lenders or having any dealings with them of any kind. Medical men as a class are proverbially neglectful of their financial interests—a habit of mind which is due partly to the nature of their education and early training, partly to the fact that a certain amount of gratuitous work is inseparable from medical practice, and partly to the exceptional nature of the services which they are called upon to render—exceptional because it is the needs of the patient which have to be considered first and not his ability to remunerate his adviser. It is, therefore, our duty to state that for a medical man who wishes a temporary increase of capital, or is pressed by a creditor, or is otherwise in want of money, nothing is more likely to lead to disaster than accepting the overtures of an advertising money lender. The proceedings of many of these gentry have occasioned such scandals and have been so often exposed in print that an Act of Parliament mainly for the protection of their victims was passed not long ago, but means can be found of evading some of its provisions, and onerous though the contracts entered into by borrowers may be, the judges before whom such cases come for hearing are, as a matter of principle, very unwilling to cancel or modify them. The offer made in this circular of immediate cash advances "if you or your wife are in receipt of a fixed life income," and the prospect held out of obtaining such advances at 4 per cent. per annum are mere baits for the unwary. Perhaps in some few cases the promises of the circular might be fulfilled, but to disclose family affairs to a money lender would be a most serious indiscretion, and borrowers possessed of good security could always obtain better terms from a solicitor or banker. Messrs. Harold have presumably been at their present address for something less than a year, as we do not observe the name of the firm in the London Directory for 1902.

A RECORD MEDICAL MAYOR

UNDER the heading of "Another Mayoral Record" the *Westminster Gazette* of July 31st says: "Another interesting mayoral record is that of Mr. Alderman Nicholas Watson Fairles-Humphreys, J.P., Mayor of Montgomery. He was elected alderman the year of the incorporation of the borough of Montgomery, 1885; was mayor the two years of her late Majesty's Jubilees, 1887 and 1897; was elected mayor for the sixth time in 1901 for the Coronation year. Mr. Fairles-Humphrey's grandfather, Mr. Nichola Fairles, J.P., by the way, was the originator of the lifeboat movement and chairman of the first committee." The *Westminster Gazette* should have added that Mr. Alderman Fairles-Humphreys is a retired medical practitioner who was admitted a Member of the Royal College of Surgeons of England in 1864.

DIFFICULTIES UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT

To the Editors of THE LANCET.

SIRS,—It has recently come to my knowledge that in the metropolitan borough where I reside it is the practice of the medical officer of health to visit, without any communication whatever with the medical man in attendance, all cases of adults notified as suffering from chicken-pox, and for the sanitary inspectors to visit and to inspect the arms of patients notified as suffering from chicken-pox for the purpose of seeing if vaccination has been performed or not. I should like to hear if these proceedings are general in the metropolis and agreeable to the medical profession.

I am, Sirs, yours faithfully,

August 2nd, 1902. S. W.

POINTS UNDER THE WORKMEN'S COMPENSATION ACT

To the Editors of THE LANCET.

SIRS,—I wish to inquire about a few cases which have been under my care recently in which the Employers' Liability Act possibly has some bearing. 1. Agricultural labourer under my care for kick in abdomen by a horse. The employer disclaims all responsibility for medical fee. I furnished him with a certificate for insurance company. The patient is a member of Oddfellows club of which I am medical attendant. The case was a long and trying one ending in complete recovery. Have I any claim on the employer? 2. Agricultural labourer. Crushed foot, result of wheel of cart passing over it. This man is a private patient. Am I to charge him according to his means or is the employer responsible *for medical attendance?* 3. Now under treatment. Agricultural labourer suffering from injury to foot by crush from a wheel. I had to amputate one of the toes and remove splintered head of metatarsal. Foot otherwise wounded and contused. In this case I had to summon a friend in practice five miles off to give anaesthetics. This man is also an Oddfellow in the local club

Who is responsible for my fee? If I am to expect my fee from patient himself I shall only charge out of pocket expenses If the employer is responsible I shall charge for my work This case does not come under my duties as surgeon to the club 4 Roadmaker employed by district council suffering from internal derangement of the knee-joint from a slight twist loosening the cartilage of it This man is an Odd fellow also Who is responsible for his medical treatment? I have written inquiring about these cases as they are constantly occurring and I scarcely know my position

I am Sirs, yours faithfully

August 3rd, 1902. QUERY

*** The medical man must in all cases look to the patient for his fee unless any other person or persons may have rendered them selves liable to pay it either by undertaking to do so or otherwise Where a workman has a claim for compensation upon his employer it is for him to sue the employer obtaining from him the expenses to which he has been put for medical attendance should the employer owing to the circumstances of the case be liable to pay these In the first three cases men tioned by our correspondent the liability if any, of the employer arises apparently under the Workmen s Compensation Act which only provides for payment to injured workmen of an amount assessed in accordance with the amount of wages lost through the injury, and makes no provision for medical expenses except where death has ensued With regard to Case 1, Where a workman has given notice of an accident he shall if so required by the employer submit himself for examination by a duly qualified medical practitioner provided and paid by the employer" (Work men s Compensation Act 1897 Sched I (3)), but the statement of our correspondent is too indefinite for us to say if this has taken place in the instance described We do not see that in Cases 1 2 or 3 the Workmen s Compensation Act affects his position while the Employers Liability Act does not apparently apply to them The last named Act may apply to Case 4 in which the nature of the accident is not given If it applied its effect would be to enable the injured man to recover from his employers in respect of the expense actually incurred by him for medical attendance The question of liability in so far as it affects the patient and his club is one to be decided between the patient the club and the medical practitioner according to the terms if any arranged between them to meet such cases There are many legal works on employers liability and workmen s compensation ranging from that by Mr Minton Senhouse (published by Sweet and Maxwell Limited at 25s including both Employers Liability Act and the Workmen s Compensation Act) to smaller volumes such as that by Mr W A Willis (dealing with the Workmen s Compensation Act and published by Messrs Butterworth and Messrs Shaw and Sons at 2s 6d) and there are other more popular" guides as well Perhaps our correspondent would find one of these useful —ED L

FEES UNDER THE NOTIFICATION ACT

To the Editors of THE LANCET

SIRS —Would you kindly enlighten me through your correspondence columns in THE LANCET on the following The authorities of this city are talking of refusing to pay me my fees for the cases of enteric fever which have been admitted into this hospital They say I am not entitled to any fees and that I need not notify the cases at all as they have been notified by the medical men who sent them in Could you inform me if there is any law on the subject? They have paid me always up to the present. Thanking you in anticipation

I am Sirs yours faithfully

August 5th 1902. HOUSE SURGEON

*** The law is laid down in the Infectious Diseases Notification Act, 1889 Section 3 Clause 1 (*b*): Every medical practitioner attending on or called in to visit the patient shall forthwith on becoming aware that the patient is suffering from an infectious disease to which this Act applies send to the medical officer of health for the district a certificate House surgeon is therefore bound to certify and the local authority is also bound by Section 4, Clause 2 to pay him a fee of 1s (the cases occurring in his practice as medical officer of a parish institution) for each certificate duly sent by him in accord ance with the Act —ED L.

CADMAN S PATENT SAFETY" AIR SHAFT COVERINGS

WE have received a pamphlet descriptive of a patent covering for the air-shaft of a house drain Instead of the usual wire case it consists of a beehive-shaped iron cover which is perforated with holes The inventor Mr Cadman was led to think out his invention by seeing a bird fly out from an air-shaft. Upon investigation he found another bird sitting on a nest of eggs and the remains of several old nests It would be an interesting research to find out what effect if any, is produced upon birds by being brought up in an atmosphere of presumably sewer gas Be this as it may Mr Cadman s cover would seem to be well adapted for keeping an air shaft free. The manufacturers are Messrs Thomas Holcroft and Sons Limited Wolverhampton

HOMICIDAL MANIA IN A NURSE

AN editorial article in the July number of the *Maryland Medical Journal* comments unfavourably on the system of recording deaths and authorising funerals in the United States saying that in perhaps a majority of instances the records of death do not contain the name of any individual who either witnessed the death or had certain knowledge that it occurred at the time or in the manner certified" These remarks were suggested by the case of a professional nurse, Jane Toppan who was arrested some months ago on a charge of having killed a patient with poison The grand jury found a true bill against her for the murder of three per sons She was suspected of having killed 11 persons At her trial at Barnstable, Massachusetts last June or July she stated to Judge Bixby that she had killed during her professional career no less than 31 persons She was found to be insane and will spend the rest of her life in the Taunton (Massachusetts) Hospital for the Insane The nurse did not give a list of her victims, but no doubt was thrown upon her count of 31 In the summer of 1901 she caused the death of three people at one place Morphia was the poison she used

THE LAW FUND

TRUSTEES THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON

IT is proposed to hold a meeting of subscribers to this fund at an early date In the meantime it is hoped that the subscriptions will con tinue to flow into the fund as every gift to this fund is a protest against unjustifiable action being brought against members of the profession Dr Paramore, 2, Gordon square W C has received the following additional subscriptions and will gratefully acknowledge the receipt of all donations however small Cheques and postal orders should be made payable to the Law Fund and crossed 'London and County Bank London," and sent to Dr Paramore with as little delay as possible

	£	s	d		£	s	d.
Dr J B Nevins	0	10	6	Dr David Donald	1	1	0
Dr John Ernest Nevins	0	10	6	Mr G H Makins C B	1	1	0
Dr John Cropper	1	1	0	Dr Theodore Duka	1	1	0
Dr John Mitchell Bruce	2	2	0	Dr R L Batterbury	0	5	0
Dr Henry Arthur Martin	1	1	0	Dr Josiah R Jenkins	0	10	6
Dr Edward Carrigan	0	10	6	Mr Charles Henry Miles	0	5	0
Dr W Combe Burns	0	5	0	Dr James Adam	1	0	0
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Dr F W Matheson J P	0	10	6	W K	0	10	6
Mr G J McCoull	0	5	0	Mr Henry Stear	0	10	6
Mr R W Cameron	0	5	0				

◆

G G I —We consider that C is wrong to return to a neighbourhood to practise in juxtaposition to A seeing that he gained his introductions to the neighbourhood by acting as A s locum tenent and assistant We understand from a written statement that C does not deny that this is the manner in which he came to practise in the neigh bourhood That C was not bound by the usual bond was an over sight on the part of A which it must be unseemly for C to take advantage of With regard to B if he was definitely informed that A had no objection to his taking C into partnership there was nothing unprofessional in his opening negotiations But when later he learned that A did object very strongly it is regrettable that he did not break off those negotiations More than this we cannot say as we do not know exactly what C has told B but the matter is obviously one for arbitration

E A D —The regulations governing medical practice in America by gentlemen holding English qualifications vary in the different states Our correspondent will find full information on this subject in THE LANCET Sept 5th, p 665 Sept 12th, 1896 p 769 and Oct 3rd, p 969 under the heading of "The Legality of British Qualifications Abroad"

Dr W Raine.—Two good books on the subject are (1) Medical Nursing Notes of Lectures given to the Probationers of the London Hospital," by the late James Anderson M D F.R C P (London H K. Lewis 1894) and (2) 'Lectures on Medicine to Nurses" by Herbert Cuff, M D Lond, F R C S (London, J & A. Churchill 1896)

ERRATUM.—In the report of the case of fracture of the tibia and fibula at the Seamen s Hospital Funchal, Madeira published in THE LANCET of June 28th 1902, p. 1834 it should have been stated that the case was under the care of Dr R E S Krohn as well as under the care of Mr J Geddes Scott

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received —*Broad Arrow Popular Science Monthly Midland Express Army and Navy Gazette, Bristol Mercury Madras Journal Reading Mercury Mining Journal Hertfordshire Mercury Daily Telegraph, Le Progrès Médical Literary Digest Gazzetta degli Ospedali e delle Cliniche Deutsche Medicinische Wochenschrift, Journal of the American Medical Association Yorkshire Mercury Local Government Chronicle, Sanitary Record Derbyshire Courier Surrey Advertiser Local Government Journal, Carpenter and Builder Rotherham Express Liverpool Daily Post Journal of Tropical Medicine, Westminster Gazette, Tidsskrift for den Norske Lægeforening, &c*

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 7th, 1902.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Aug.	1	30·16	N.E.		88	67	55	54	57	Overcast
	2	30·00	W.	0·02	117	75	53	55	58	Hazy
„	3	29·85	W.	0·07	109	70	57	56	59	Cloudy
„	4	29·84	S.W.	0·09	117	70	56	56	59	Raining
	5	29·88	S.W.	0·26	110	73	56	59	62	Overcast
„	6	29·82	S.W.	0·31	67	68	60	61	62	Raining
	7	29·70	S.W.	..	112	69	58	61	63	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (16th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (11th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Tubercle, Leprosy, and Glanders. Practical Work: Tubercle.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M.: Dr. H. J. Davis: Demonstration in Medical Wards.

TUESDAY (12th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Typhoid Fever. Practical Work: Typhoid Agglutination Reaction.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Lecture:—Dr. H. J. Davis: Functional Heart Murmurs.

WEDNESDAY (13th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Diphtheria. Practical Work: Diphtheria.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Lecture:—Dr. E. A. Saunders: Examination of Gastric Contents.

THURSDAY (14th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Suppuration and Septic Diseases. Practical Work: Pyogenic Cocci.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M.: Mr. McAdam Eccles: Demonstration in Surgical Wards.

FRIDAY (15th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Pneumonia and Gonorrhœa. Practical Work: Pneumococcus and Gonococcus.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Lecture:—Dr. E. A. Saunders: Examination of Gastric Contents.

SATURDAY (16th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Tetanus and Malignant Œdema. Practical Work: Tetanus.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18s., carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2s., by post 2s. 3d.

To be obtained on application to the Manager, accompanied by remittance.

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An Address

ON

THE MODERN TREATMENT OF PULMONARY CONSUMPTION

Delivered before the Hunterian Society of St George's Hospital on Nov 24th 1901

BY ARTHUR LATHAM, M.A., M.D OXON, M A. CANTAB,

ASSISTANT PHYSICIAN TO THE HOSPITAL; ASSISTANT PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION; VICE PRESIDENT OF THE SOCIETY

MR. PRESIDENT AND GENTLEMEN —The subject which we have to discuss to-night is of enormous importance as every one must realise who grasps the facts that at least one individual out of every 10 dies from this disease, that among the working classes the proportion of fatal cases is even higher and that in 1897 there were over 50 000 deaths from consumption in England alone. During the last century our knowledge of the pathology of the disease has made much progress. If we turn to the teaching of the great physician, Dr Robert Graves,[1] we find the following Might not tubercles have been originally fluid and might not the change they undergo be from a soft into a consolidated mass? I have seen this passage of fluid scrofulous pus into solid matter beautifully exemplified in a case of psoas abscess the neighbouring lymphatics were loaded with pus, in the lymphatic glands to which it was next carried it was much thicker in those at a greater distance it was of the consistence of curd, and when its fluid particles had been still more completely absorbed in more distant fluids it was found to be as solid as any yellow tubercle May it not happen that many of these yellow tubercles—and this is the opinion of Cruveilhier and others who have written on this subject since Laennec—at their commencement consist wholly of depositions of scrofulous pus in the tissue of the lungs?" This extract alone is sufficient to show us how very different are the views of the present time on the pathology of consumption from what passed muster 60 years ago. In addition to this improvement in our pathological knowledge there is the great probability that, owing to the wide incidence of the disease, human beings have become less susceptible to tuberculous infection and that the tubercle bacilli have at the same time followed the natural law and become less virulent. We have these two great advantages over our predecessors—more thorough knowledge, and probably a bacillus, in the great majority of cases of diminished virulence. In addition we know now that if we see the patients in the early stages of consumption we can arrest the progress of the disease with almost absolute certainty and that in many instances disease which would have been regarded 10 years ago as hopeless can be permanently arrested, whilst in nearly all cases some improvement can be produced.

If we look at the treatment of pulmonary consumption in early days we find, for example, that Pliny[2] enumerates a variety of specifics for consumption with an almost superstitious credulity After mentioning the pectoral virtues of gum ammoniac, he observes that woods affording an abundance of resinous effluvia are very beneficial to the consumptive, even more so than a voyage to Egypt, or a course of milk in the mountains." He praises the juice of plantains, and the linctus of betony with honey He says that in Achaia a wolf's liver infused in wine, the lard of a lean sow fed on vegetables and asses flesh, together with a broth, are used for curing consumption, as are the smoke of dry cow dung drawn through a reed and the tips of bullocks horns burnt and powdered and mixed with honey Goats fat in gruel or with honey and water and a little rice is recommended by many" This very respectable author further says consumption in the last stages has been cured by the fat of a mountain goat taken in milk. Others employ the lungs of a stag with straight horns, smoke dried and triturated with wine. If we turn to Paracelsus,[3] who lived in the sixteenth century we find that the diet is of the greatest consequence, and should consist of liquorice polypody, lentils, raisins, lettuces, radishes cabbages, beet and other vegetables. An ointment is prescribed for universal friction morning and evening and the powder diacoralliorum, containing crude antimony and crocus marsh is to be given in pretty large doses until the spongy froth in the urine disappears, and an ointment chiefly composed of the fat of field mice is recommended as an experiment with the same limitations. The patient is also to try the use of a bath containing a decoction of herbs with sulphur When the disease has been once cured it is said not to return.

Such treatment at the present day sounds ridiculous but is it more ridiculous than what obtains in many instances at the present time? It is not an uncommon experience to find some unfortunate workman who lives continuously in a fœtid atmosphere and eats an indifferent amount of coarse and unnutritious food taking all of the following medicines during the 24 hours —A mixture of cod liver oil with malt, to supply so it is said, the place of the fast ebbing vital oil" a mixture of gentian and sodium bicarbonate to assist the jaded appetite an other mixture to strengthen the action of the heart when the patient feels more than usually ill some form of lozenge to allay the cough during the daytime together with a new fangled antiseptic as an inhalation, and some pernicious preparation of opium to bring sleep at night. Many of these remedies are of service in themselves, but can such indiscriminate drugging be of any value to a consumptive patient? Is such treatment any less ridiculous than the whimsical mockery of medical science that I have read from Pliny and Paracelsus?

Amongst the remedies which have been vaunted as specifics *for the cure of consumption during the last 50 or 60 years* I would mention curls made of blotting paper impregnated with ammonium chloride and inserted into the nostrils, injections of sulphuretted hydrogen into the rectum repeated bleedings debilitating drugs such as antimony the grape cure, the use of the serum of goats and asses compressed air and hot air—a truly terrible record. Finally we have what is in vogue so much at the present day the use of all sorts of antiseptics the result of this in many instances being as Dr P W Latham observed in his Harveian oration, that the patient rather than the bacillus succumbs"[4] It has been asserted that each of these remedies has produced numerous cures of tuberculosis in all its stages. It seems, however that the only deduction we can draw from the records of such treatment is that pulmonary consumption must indeed be a curable affection when it withstands such treatment as I have mentioned. In the words of the late Wilson Fox[5] it is still unfortunately true, that no medicinal remedy has, as yet, been found which can be regarded as a specific for tuberculosis

During the time that all these so-called specifics have been lauded to the skies in the treatment of this disease men have not been wanting who exercised their common-sense and came to the conclusion that the essential thing was to place the patient under such conditions that his nutrition would be improved and he himself in a position to fight the disease. In 1840 George Bodington wrote an essay on the cure of pulmonary consumption on principles natural, rational and successful," in which he insisted on the importance of a generous diet and a constant supply of pure air He further said that cold is never too intense for a consumptive patient, the apartment should be kept well aired, so that it should resemble the pure air of outside pure air being used in the treatment as much as possible" This book met with much bitter and fierce opposition and eventually the disapproval of his methods became so universal that patients were driven from his sanatorium which wa the first of its kind in the world and where several years previously to the publication of his essay he had practised his principles and effected many cures. In 1855 Dr Henry MacCormac, the father of the late Sir William MacCormac, published a book on somewhat similar lines and as a result had to bear every kind of persecution to which a man in his position can be subjected. In 1861 he read before the Royal Medical and Chirurgical Society a paper on The Absolute Preventibility of Consumption," in which he advocated what are now established principles The members of the Royal Medical and Chirurgical Society refused to pass the usual vote of thanks to Dr MacCormac, because they thought that the paper was written by a monomaniac. Dr J Hughes Bennett a few years later supported Dr MacCormac, and the following is an extract from his book. "The diet must be one of a nutritious kind, consisting of a good proportion of food of sufficient quality and quantity Fresh air and good ventilation are of essential importance. Exercise is the strongest stimulus to appetite" Again in 1864 Dr P W Latham[6] advocated the necessity of a generous diet, of successful and continuous ventilation, and of regular exercise in the open air In 1871 Niemeyer[7] wrote "A patient should be placed, if possible, under influences calculated to invigorate the constitution, and extinguish the morbid tendency A proper supply of fresh air is of equal importance to a proper regulation of diet The patient must avoid smoke or dust, air that is too hot or too cold, and must avoid great efforts in running, singing, dancing, and the like. The real value of climate is that the patient must spend the day in the open air The patient must always live circumspectly and remain under the charge of an intelligent and strict physician."

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[1] Clinical Lectures, New Sydenham Society 1884 vol. ii., p. 109

[2] A Practical and Historical Treatise on Consumptive Diseases by Thomas Young, M.D., F.R.S., 1815, p 123.

[3] Ibid., p. 134.

[4] Harveian Oration 1888.

[5] Diseases of the Lungs and Pleura.

We see from these extracts that many were very near the truth, but it was not until Hermann Brehmer—who started a sanatorium a few years after the paper of George Bodington appeared—Otto Walther, and others, had perfected the details of the treatment and the marvellous results which they had obtained had become known that medical men began to understand the benefit and value of this treatment. The theory on which this so-called open-air treatment is based is common sense To fight any disease you must place your patient as far as possible under ideal conditions as regards food and air and avoidance of fatigue. This is, or ought to be, a truism You have only to look at wild beasts—such as an imported tiger—which are placed under unnatural conditions, to see how rife tuberculosis becomes in animals which in their wild state are habitually free from this disease Climate, however, is not everything For instance, in the Blood Indian Reserve of the Canadian North-Western Territories,[8] in a population of about 2000 there were, excluding diseases of infancy, 127 deaths from pulmonary consumption during six years, or 23 per cent of the total rate, and that in a tribe occupying one of the finest climates of the world, at the foothills of the Rocky Mountains In fact, we have learnt that any climate will do for the sanatorium treatment of consumption, provided that the air is pure and bracing

What, then, are the principles of this sanatorium treatment? There is only one principle—viz., to try to increase the resistance of the body, so as to render the tubercle bacilli innocuous. For this purpose the essentials are (1) A continuous supply of fresh air with no unnatural changes of temperature and the avoidance of all sources of irritation from dust and the like, (2) good nourishing food in sufficient quantity to establish and to maintain the normal body-weight of the patient, (3) an absolutely regular life, so arranged that neither the lungs nor any other portion of the body is allowed to be put to any strain, and (4) graduated exercise without strain

1. With regard to the first—viz., supply of fresh air—naturally all the usual regulations for the avoidance of bacillary infection, such as the character and furniture of a room, cleansing of knives and forks, and the use of sputum flasks must be carried out The patient must always live in the fresh air and must not be exposed to any contrast of temperature such as going from a hot room into a cold one. Day and night he must be kept in an atmosphere at the temperature, practically speaking, of the outside air In this way the body is hardened and colds are avoided *There are no exacerbations of the disease and consequently the damaged tissue has time to heal* The air must be free from dust and any deleterious products, in fact, it must be pure The patient when in his room should be alone, there must be no company and his windows should be widely open

2. The amount of food which is given at efficient sanatoriums has been greatly exaggerated. It is, however, true that at certain sanatoriums over feeding is practised, and often with injurious results. The amount which should be given is a little more than the amount taken by a healthy person, but this amount must be taken whatever the condition, however debilitated the patient may be, however high the temperature, and even if a couple of hours have to be spent over a meal. It has been shown by Dr Walther that the readiest and best way of reducing the fever of advanced consumption is by increasing the amount of solid nourishment In those cases in which the patient cannot take the food he is often enabled to do so by the administration of alcohol Three[9] meals a day are taken at intervals of five hours and the food is of all kinds, but special care is taken that it is the best of its kind and that it consists largely of fatty forms It is essential that it should be well cooked and served up in as attractive a fashion as possible, well made fat-containing sauces being an important adjunct to the treatment Each patient is helped by, and eats his food under the eyes of, the physician in charge. No food or drink is allowed between meals When the patient first comes to the sanatorium he is given at each of his three meals one pint of milk and he continues to take the milk until he has regained his normal body-weight. When the proper weight has been reached the amount of milk is reduced and the patient is allowed beer or wine.

3. Every form of fatigue must be avoided and no patient is allowed to do anything which has any tendency to raise the temperature. The exercise consists of very slow walking uphill for a short distance, varying from a few yards to a mile, or in the more healthy cases to four or five miles, a prolonged rest, and then a gradual return downhill by another path. This gradual uphill exercise has two advantages, in that it is easily regulated and, secondly, because it acts as a heart tonic Patients are not allowed to walk fast or to run, if they do there is a greater rate of respiration and more strain is thrown upon the lungs, whilst the body temperature is raised. No excitement which is found to raise the temperature is allowed. For instance, few patients are allowed to play the piano, or chess, or cards, whilst patients who are kept in bed for various reasons are not permitted to see anyone except the medical attendant. This necessity of avoiding excitement is due to the effect it has upon the temperature, it is a vital part of the treatment and must be insisted upon in all but the very earliest cases, whilst at sanatoriums it is found best that all patients should be treated alike in this manner, as any relaxation in the case of particular patients tends to relax the necessary discipline and may lead to unpleasantness I have laid stress upon this point, as many recent writers have expressed strong views on the absence of amusements in sanatoriums, showing that they have entirely failed to appreciate one of the important details of the treatment.

4 Exercise is prescribed when the condition of the patient permits There are no absolute rules, in fact such rules as exist are more frequently broken than followed. The personal factor of each individual has to be carefully considered in the matter of exercise as in all questions connected with this form of treatment Exercise, in the majority of instances, may be permitted when the temperature of the rectum taken before rising in the morning has not been higher than 98° for a week The amount of exercise is so regulated that amongst other things the temperature taken after the return from a walk is not higher than 100° If the temperature is higher than 100°, or if it fail to sink to normal within 20 minutes, or if there is any symptom of exhaustion, the amount of exercise has been too great and a shorter walk is prescribed on the following day, and so on until the patient is enabled to return to his room with the temperature lower than 100° One of the few conditions for which a patient is kept in bed is when the temperature is habitually above 98° in the morning before rising A patient may be kept on his sofa chair if the temperature is not distinctly below 98 4° before rising or if the exertion of a slight walk is enough to cause a rise of temperature. This, in many instances, however, is too rigid a rule. We may find that a patient with a morning temperature of 99° and an evening temperature of 102° who fails to make any progress whilst kept at rest loses his fever and becomes in every way stronger when permitted to take gentle exercise Exercise should always be prescribed when it does no harm. We can only find out whether it is likely to lead to beneficial results or not by carefully experimenting on the individual patient.

So much for the principles. I will now describe a day at Nordrach where the treatment is carried out with excellent results. The rooms of the patient are heated with warm water pipes or by electricity, a temperature very slightly above that of the outside air being constantly maintained during the night. The patient is called at 7 o clock in the morning and the windows of his room are then closed in order that he may not catch cold whilst dressing He takes his temperature and rises at the latest at 7 30 and then has a shower bath at a temperature to suit himself On completion of his dressing he must open the windows. Breakfast, at 8 o clock consists of tea or coffee, one pint of milk, bread and butter in large amounts, jam or honey and a dish of cold meat. Directly breakfast is finished or at 8.30 the patient starts out on his morning walk, the length of which is graduated according to his condition—it may be only a few yards. He walks deliberately and slowly until he has arrived at his destination and waits there resting in the fresh air until it is time for him to start home again. At 11.45 o clock he must be in his room in which he will find the windows have been shut and he must take his temperature. In five or 10 minutes he must open his windows which must remain open until he leaves the room Between 12 and 1 o clock he must lie resting at full length on a sofa-chair At 1 o clock he leaves his room and has luncheon with his fellow patients. This is the chief meal of the day and may consist, to give an example, of one pint of milk, hot stewed tongue, asparagus, a large plateful of potatoes, hot veal more potatoes and salad, pastry and cream bread butter and coffee. The patient starts not later than 2.45 o clock on his slow afternoon walk which is the shorter walk of the day He rests as before when he arrives at his destination and slowly returns so that he reaches home at 5.30 He again takes his temperature opens the windows which have been closed by a servant shortly before his return and rests until dinner time. At 7 o clock he goes to dinner which consists of one pint of milk, bread and butter in large quantities one course of hot meat and one of cold for example hot pork and potatoes, and cold smoked *salmon. A cup of tea after dinner is optional. After dinner* the patients may spend half an hour or more in the dining room, in which the windows are kept widely open. They retire *to their own rooms by 9 o clock* and *open their windows* which have been closed shortly before they get there. They are in bed between 9 30 and 10 o clock and should take their temperature after they have rested for a quarter of a hour

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[6] On the Early Symptoms of Phthisis

[7] Practical Medicine, vol. i.

[8] Osler: The Principles and Practice of Medicine

[9] In some sanatoriums four or more meals are given at shorter intervals

Smoking is allowed in the open air so long as it does not produce coughing or is not indulged in to excess it is strictly prohibited in the patient s room Patients are persuaded to avoid attempts at coughing they are taught that every cough avoided is something spared to the lung and they soon find that they can keep the cough in check.

In addition I must mention that Dr Walther or Dr Weltz, sees every patient three times a day once before breakfast, and immediately after the morning and afternoon walk, and judges from the general condition of the patient and from his temperature whether he is taking too much exercise or whether he may safely be allowed to continue the same amount or take more. Further every week each patient is weighed—a process which gives him something to look forward to and establishes a healthy rivalry Every fortnight his chest is examined and every month the sputum is tested

It is impossible in a paper of this kind to do more than sketch matters but I have said enough to show you that the chief thing is detail detail in carrying out the great principle and constant supervision by a competent and strict, although at the same time thoughtful and encouraging physician. One further point about this treatment is the feeling of hope and faith which is inspired in every patient s heart as he watches the gradual improvement of cases worse than his own. The confidence engendered in this way in the sanatorium physician has a most beneficial effect

What are the results of this treatment? In the first place men who have failed to regain their health after years of trial at various climatic resorts go to properly conducted sanatoriums and have their diseases arrested. Symptoms such as indigestion cough night sweats often disappear like magic in a few weeks, or as soon as the nutrition of the body begins to approach the normal The results gained by treatment at Goerbersdorf by Brehmer from 1876 to 1886 were as follows In stage I cured 27 8 per cent. almost cured 31 per cent in stage II cured 6 8 per cent. almost cured 14 6 per cent. and in stage III cured 4 per cent. almost cured 2 3 per cent. At Nordrach the number of patients in whom the dis[illegible] nent arrest amount to 30 per cent [illegible] whilst all but 5 per cent. obtain [illegible] Nordrach statistics are the more remarkable when you realise that most sanatoriums prefer early cases and often limit their admissions to this class, but that Dr Walther takes them in any stage and in fact, prefers the graver ones. Most patients put on from two to three pounds per week until their proper weight is established. I will give you a typical example of a case treated by Dr Walther and graphically related, of himself, by Dr R. Mander Smyth[19] who with Dr H. G Felkin, has charge of a sanatorium at Linford near Ringwood. Dr Smyth tells how he contracted consumption how rapidly extending excavation set in in the upper portions of the right lung and how he arrived at Nordrach in a prostrate and apparently dying condition My friends were sent away and I saw only the doctor and a nurse, who was enjoined never to let me talk. The windows of my room *constituting nearly the whole of one side* of it, were open night and day and a strong draught played through them breathing of the pine-clad slopes. Once a beautiful bird perched upon the window sill and whistled a few cheery notes, a heaven-sent messenger of better fortune. I was occasionally bombarded by summer hailstorms which swept up the valley and at times in the winter waked up to find an inch of snow had silently drifted upon my bed. But far more important than fresh air were the meals. Three a day—at eight one and seven—they came with pitiless regularity A plate of pork and potatoes, a leg and wing of a chicken, salad and more potatoes and to finish a large wedge of very solid pastry would constitute a typical dinner, not more indeed than a man of hearty appetite would consume, but to the feeble invalid a Gargantuan repast. Moreover *mirabile dictu* I was persuaded by the magic of the doctor's personality to eat it all. Once only did exhausted nature absolutely rebel. It was on August 7th when I had lost half a pound in weight Then came the doctor serious and impressive, and plainly told me *that if I did not* eat I should assuredly die. The *mental* stimulus was exactly what was needed and let that be the answer to those who without knowing the real man cavil at what they call the Prussian method of treating phthisis. It was to the invalid like the encouragement of the general to his men reeling from the enemy's fire. The next week, on August 12th, the temperature which had been gradually subsiding came below normal for the first time for four and a half months of illness. Coincidently I had gained nearly five pounds weight. In five weeks I gained 22 English pounds In spite of this improvement of the temperature I was still kept in bed, only sallying forth on Saturday morning to be weighed, when I was wont to compare notes with a young Dutchman who was in a similar plight, and who ultimately recovered. We must have presented a comical spectacle tottering back to our rooms each supporting himself by the wall of the corridor It was not until the temperature had been normal for 12 days (August 25th) that I was allowed to take a walk. This meant 50 yards on the flat, resting the remainder of the day The next day I increased my walk by 40 yards or so and thus, cautiously creeping farther every day with excessive care I was able in some three weeks to walk half a mile up a gentle incline *without undue fatigue.* But it was *not until* Sept 28th, or a month after I came out of the house, that I was permitted to join my comrades in the dining hall, and even then I often spent two to three hours in eating my dinner Speech was *somewhat rusty, for my isolation* from society was a matter of nearly six months Improvement at length went on rapidly I went to bed at night and woke feeling a fresh wave of vitality come over me My daily walk became a recreation and an interest, and the magnificent views of the Nordrachthal and the thousand-and-one interesting objects that nature has lavished in that valley were a never ending source of satisfaction. In October no bacilli could be found in my sputum. At the end of November I was able to climb 1500 *feet* and on Dec. 11th a walk of 14 miles involving 3000 feet of climbing over rough mountain way was accomplished. Later on came the snow and with it the fascinating delights of coasting down the snowy timber roads an amusement I had reason to regret. About the middle of January 1897 I began to feel languid and easily tired after walking the temperature was not quite so satisfactory at night, cough and expectoration increased and in February bacilli were again found in the sputum. This was what is popularly called a chill an expression as utterly misleading as it is unscientific. It was in truth a relapse, which, slight as were the symptoms, cost me five months of extra treatment. All this trouble was caused by three days of too vigorous tobogganing, and was as purely the result of mechanical strain, not of exposure, as would be the same thing in a tuberculous joint from too free exercise of it. Under the keen supervision to which I was subjected, however, the bacilli had little chance After a week's rest on a couch I again began to walk very short distances, gradually increasing as I became stronger, and my weight, which had remained stationary during the winter, began to mount up By the middle of June I was again walking 10 or 12 miles each morning and in July, 1897, exactly a year after my arrival at Nordrach, I returned to England, where I have resided ever since. My weight on leaving Germany was 13 stones 10 pounds, a gain of three stones"

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[19] Practitioner July [illegible]

The striking effect of the treatment in this case is excellently shown by the reproductions of photographs which accompany the article. Now Dr Walther's sanatorium is not the only one though it has such a deservedly high reputation, there are many sanatoriums in England, presided over by highly skilled men and women, which are thoroughly trustworthy Anyone living in England should attempt to be cured under his own climatic conditions, the conditions in which he must eventually live, and these he finds at Nordrach and in his own country No climate within certain limits matters so long as the air is pure and bracing, no variation in the temperature of the outside air matters so long as it is not absolutely sudden. The most important thing in sanatorium treatment is the character of the man who carries it out. Many so-called sanatoriums both in England and in Europe are conducted on the basis of a hotel and do much to bring the treatment into disrepute. The first information I want about any particular sanatorium is the character of the man at the head of it and whether he has had practical and thorough teaching in the Nordrach methods The man in command must be an absolute autocrat and must be strong enough to send away those patients who do not fulfil his directions in the spirit and in the letter It is a matter of comparative indifference where the sanatorium is situated, but in my opinion it is folly for English people in whom the disease has made material progress, who are not possessed of ample means and who have to make their living at home, to go to so called health resorts abroad where they will become accustomed to climatic conditions quite unlike our own and where they have many temptations to stray from the true path of health. Whilst I am on this point I would express my emphatic disapproval of the practice of sending patients in search of health on long sea voyages in steamships unless these are especially adapted for the purpose, as the conditions obtaining here, the stuffy air under deck the great variations of temperature and the like, are wholly incompatible with consumptive treatment

How long must patients stay in a sanatorium? It is best that they should remain until all physical signs of active disease have gone, until no tubercle bacilli are found in the sputum, and until the inoculation test leads to no result. This happens on the average in from five to six months, it may in some cases take two years or even longer, whilst in selected cases of men or women who have sufficient character to carry on this treatment for themselves in all its details, two months may be sufficient to train them thoroughly and to place them in a position in which they can look after themselves When a patient leaves a sanatorium he should be told that for at least two years he must continue the treatment as far as possible that he must avoid all severe strain upon the respiratory or other organs such as bicycling and the like, and shun all places where a large number of people are gathered together, such as theatres, concert-rooms, and churches This is an essential part of the treatment. A man whose disease is fortunately arrested must remember that he is still a weak vessel and liable to further infection or relapse if he is not careful for some considerable time He must not cry "the war is over,' or he will find that tubercle bacilli, like the Boers, suddenly swoop down from their kopjes, with the result that an unfortunate incident occurs, if not absolute disaster Patients who have had their disease arrested at a sanatorium are well advised if they have their chests thoroughly examined by a medical man at least once in every three months for several years

What cases are ineligible for sanatorium treatment? Some sanatorium physicians take any class of case however severe or apparently hopeless, patients are sent away only when after repeated efforts they cannot eat or when they get the persistent diarrhœa of intestinal tuberculosis Experience has taught us, however, that in most cases where the amount of disease in both lungs is extensive no great or permanent benefit is obtained by sanatorium treatment and it is little short of cruelty to send such patients, many of whom are obviously dying, long journeys and away from their friends for a form of treatment which in the nature of things can prolong their life only for a very short time.

One word about drugs In sanatorium treatment no drugs are used in the routine treatment of the disease, but complications or symptoms such as hæmoptysis, diarrhœa, and constipation are treated on the usual lines Generally speaking, I may repeat here what I said in a lecture on the treatment of cough in consumption,[11] the principles which must guide you in giving drugs in this disease are never give drugs until all other measures have failed, and then never without considering the question whether in treating any particular symptom you are not aggravating the disease either by disturbing the digestive capacity or in some other way

Well, Mr President and Gentlemen, I have said enough—and in doing so I am afraid I have strained your patience—to convince you of the pathetic position of one who, like myself, holds these views strongly and who is constantly seeing hospital patients afflicted with consumption Week after week I see nearly 200 patients who cannot afford the conditions necessary to the successful treatment of their disease. In the majority of instances all I can do is to alleviate the symptoms and trust that, by convincing the patients of the absolute necessity there is for them to do everything in their power to improve their nutrition and general condition they will gradually overcome their disease. In a surprisingly large number—surprising in view of their surroundings—the disease is kept in check and in some cases it is arrested, but in the large majority we can do little more than watch these unfortunate people gradually become worse and die purely from want of money Take, for example, the case of a man in an advanced stage of consumption working 16 hours a day in an underground bakery in an overheated atmosphere, with six children to support and unable to change his occupation, or that of a billiard marker in a public-house, always in a smoky and fœtid atmosphere and exposed to constant temptations, what can be done for such cases? Our only answer under present conditions is, "Practically nothing" This, gentlemen, is a national disgrace and in this way the nation is losing every year thousands of lives and large sums of money The only effectual remedy is, as Sir John Burdon Sanderson[12] has pointed out, the establishment of national sanatoriums on some insurance basis, such as is being done with success in Germany, combined with compulsory notification—not isolation—of tuberculous cases We can only arrive at this by gradually educating public opinion to such a pitch that the legislature will be compelled to move in the matter, and it is for you, and such as you, to do all that lies in your power in your practice hereafter to carry conviction on this question to the minds of everyone with whom you may come into contact.

REMARKS ON THE LIFE-HISTORY OF FILARIA BANCROFTI AND FILARIA IMMITIS

By LOUIS W SAMBON, M D NAPLES.

UNDER the title, "Sul Ciclo Evolutivo della Filaria Bancrofti (Cobbold) e della Filaria Immitis (Leidy)"[1] ("Remarks on the Life-cycle of Filaria Bancrofti, Cobbold, and Filaria Immitis, Leidy"), Dr Giovanni Noè describes more fully certain researches on the life history of filaria immitis which he had already published together with Professor Grassi in the *Rendiconti della R. Accademia dei Lincei* on August 25th, 1900

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[11] Edinburgh Medical Journal 1901

[12] Brit Med Jour 1901 vol ii p 1

[1] Ricerche fatte nel Laboratorio di Anatomia normale della R Università di Roma ed in altri Laboratori Biologici, vol viii fascicoli 3 e 4

The mention of filaria Bancrofti in the title of Dr Noè's paper is not on account of any new observations made by Professor Grassi or Dr Noè on the development of this important parasite of man as one would naturally imagine but, apparently, only to enhance the value of the paper. In fact, Dr Noè introduces his work with the following preface: 'The subject I have been studying under Professor Grassi's guidance, is certainly one of the most important problems that medical science has ever submitted to the investigations *of zoology because the presence of blood filariæ in the body* of man gives rise to fearful and incurable diseases against which all attempts at an efficient prophylaxis have hitherto been vain, for the mode of entrance of these nematodes into the human body was unknown. The Italian discovery now at last enables us to place the prophylaxis of filariasis on a solid base, indicating the mechanical prevention of mosquito bites, suggested by malaria prophylaxis, as the best means of protecting man from this terrible scourge of tropical countries.'

Dr Noè's assertion that the mosquito propagation of filariasis has been discovered by Professor Grassi and himself or is an 'Italian discovery" as he puts it is, to say the least surprising and Professor Grassi should be the very last man to claim on the analogy of filaria immitis, the merit of having established a scientific basis for the prophylaxis of filaria Bancrofti seeing that he denied to Major R. Ross similar claims for the establishment of the scientific prophylaxis of malaria on the contention that Ross had only definitely proved the mosquito propagation of Hæmamœba relicta, a parasite of birds.

In a short historical sketch of the progress of investigations on the life-history of filaria Bancrofti, Dr Noè mentions how Dr P Manson discovered in 1877 that certain mosquitoes acted as intermediary hosts to filaria Bancrofti, and he rightly ascribes Dr Manson's hypothesis with regard to the conveyance of the metamorphosed larvæ to man to the erroneous notions entertained at that time by zoologists on the life-habits of mosquitoes. He also reports T L Bancroft's suggestion made in 1889 as to the possible propagation of filariasis either by the ingestion of infected mosquitoes or through the instrumentality of their puncture. He takes opportunity to ascribe again incorrectly, to Professor Grassi the discovery of the mosquito propagation of the malarial parasites of man and states that the researches of Major R. Ross on the transmission of hæmamœba relicta did not preclude the propagation of the parasites by means of air and water. Then he refers to a visit which Dr Manson and I paid to Professor Grassi in 1900 but the purport of that visit is misrepresented both in Dr Noè's paper and in the previous publication by Professor Grassi and Dr Noè.

Firstly Dr Manson went to Rome to investigate on the possibility of carrying out a double experiment on the etiology and prophylaxis of malaria in the Roman Campagna and, in fact, the experiment was successfully carried out by myself and Dr G C Low on the following epidemic season. Secondly Professor Grassi did not discover in Dr Manson's specimens a filaria at its maximum stage of development within the head section of a mosquito and did not formulate thereat the hypothesis of the possible transmission of filariæ by means of mosquito-bites for the simple reason that Dr Manson purposely brought his specimens from London to show Professor Grassi and others that filaria Bancrofti, after having reached a certain stage of development migrated from the thoracic muscles of its intermediary host most probably to reach the mouth parts of the insect and to be inoculated to the human definitive host during puncture as is the case with the malaria parasites. The same specimens had been shown previously to the Fellows of the Royal Society in London to Professor Blanchard in Paris and to Professor Celli, Professor Marchiafava, Professor Dionisi, Professor Bignami, Professor Bastianelli Dr Plehn, and Dr G S. Brock in Rome. Dr Noè states that Professor Grassi lecturing in the following March on comparative anatomy in the University of Rome, mentioned the possibility of the transmission of certain filariæ by means of the bite of infected mosquitoes but I fail to see the bearing of this remark on the claims of priority advanced by Professor Grassi and Dr Noè. Soon after Major Ross's discovery of the mode of transmission of the hæmamœbidæ everyone at all conversant with the study of filariasis at once grasped the possible analogy. If mere statements of opinion were of any scientific value I might well claim priority because in an article on Ticks and Tick Fever published the *Journal of Tropical Medicine* in April 1900 I stat quite positively that filaria Bancrofti was inoculated to m by infected mosquitoes. That statement was the expressi of a firm conviction based chiefly on Dr Manson's observ tions and on the analogy of the malaria hæmocytozoa, but was premature and therefore regrettable.

During the visit aforementioned, Professor Grassi stat that he had found a filaria, so far undetermined within t *Malpighian tubes of anopheles maculipennis* and of cour he agreed with Dr Manson on the possible transmission those nematodes by means of the bite of their intermedia hosts. Next a letter from Dr Manson to Professor Gras announcing the finding of filaria Bancrofti between t labium and the mandibles in sections of artificially infect mosquitoes is dismissed with the most uncalled for rema that Dr Manson, the foremost authority on filariæ h probably mistaken other nematodes for filariæ. Howev says Dr Noè even allowing the correctness of Dr Manso observations, they do not prove the direct inoculation filariæ from mosquito to man because the mosquitoes mig deposit the filaria larvæ in the water while resting on surface to drink or lay their eggs." Lastly Dr N discusses Dr Low's paper on the result of sections ma for Dr Manson of artificially infected mosquitoes receiv from Bancroft and he accuses Dr Low of having erroneous supposed the labium *to be closed at its base* while is really a continuation of the lacunoma. From an examin tion of the drawings illustrating Dr Low's paper Dr N maintains that the filariæ described by Dr Low as free w still inclosed within the labium and he adds The filari have no perforating organ and are therefore unable to pier the tough chitinous case of the labium. He furth attempts to prove that both Dr Manson and Dr Low we very uncertain about the mosquito inoculation of filar Bancrofti because Dr Low entitled his paper Probab Mode of Infection," and because Dr Manson, in an artic published in the *British Medical Journal* on Sept. 1st 190 says 'The subject of filariasis is by no means worked out and remarks that the filariæ may leave their insect host b some other channel than the proboscis."

Having thus settled to his own satisfaction that nothi was proved as to the transmission of filariæ from inte mediary to definitive host *previously* to his own research and to those of Professor Grassi Dr Noè passes to consid the history of filaria immitis. He mentions that Calandrucci in 1892, discovered certain filariæ in the stomach of mosquito and supposed them to be the larvæ of filari immitis because, having examined the domestic anima kept in the house where the infected mosquito was capture Calandruccio found a dog the blood of which was swarmin with embryos of filaria immitis but Dr Noè considers Cala druccio's discovery as null because Calandruccio was unab at the time to make any further investigation on the subje and because he did not identify the mosquito which he ha dissected.

In the following chapter we are told how Professor Gras discovered that anopheles maculipennis is the usual inte mediary host of filaria immitis in Italy. Of cour this discovery was neither prompted by Calandruccio *observation nor suggested* by Dr Manson's work on th life-history of filaria Bancrofti, but was the outcome philosophical reasoning. Professor Grassi while studying th mosquito-cycle of the hæmamœbidæ, discovered the larv of a nematode in anopheles maculipennis. Some time pre viously Professor Grassi had discovered that the distributio of filaria immitis *in dogs coincided* with the *distribution o* malaria. Later he discovered that the distribution of ano pheles maculipennis coincided exactly with that of malaria therefore he concluded that the larval nematode found i anopheles maculipennis must be the early form of filari immitis.

Everybody knows now *full* well that the *distribution* o anopheles maculipennis does not coincide with that o malaria. There are many places even in Italy withou malaria where anopheles maculipennis abounds and ther are vast malarial regions where anopheles maculipennis i unknown. The same may be said of the distributiona coincidence of filaria immitis and malaria. Moreover anopheles maculipennis is not the only mosquito capable of fostering the larval stage of filaria immitis. Dr Noè himself found that in the neighbourhood of Rome anopheles pseudopictus, anopheles bifurcatus and anopheles super pictus are just as easily infected and he found several gnat of the genus Culex (culex penicillaris, culex malariæ) equally susceptible. However, whether guided by Calandruccio's indefinite observation or by erroneous conceptions of the distribution of anopheles maculipennis, of filaria immitis, and of malaria, it is a fact that Professor Grassi and Dr Noè have experimentally proved that anopheles maculipennis can foster the larval stage of filaria immitis

Now, let us examine the experiments made by Dr Noè to prove the inoculation theory of filaria immitis To obtain infected mosquitoes Dr Noè began by collecting at random female anopheles in any malarious locality, later he captured his specimens in the houses of Porto di Fiumicino (a small hamlet at the mouth of the Tiber) where, out of 10 dogs, six harboured embryos of filaria immitis. Of the anopheles thus collected at Porto less than 5 per cent were infected and only about 2 per cent. had fully metamorphosed filariæ. Finding this proportion totally inadequate, Dr Noè inclosed two filariated dogs in an ordinary reed hut and liberated in the same large quantities of anopheles gathered in various places Thus he was able to raise the proportion of infected mosquitoes to about 30 per cent The mosquitoes that had imbibed blood from the filariated dogs were afterwards kept in special boxes and fed on the juices of various fruit till ready for use The dogs experimented upon were, so far as could be ascertained from examinations of the blood, free from filarial infection

On July 19th, 1900, having obtained mosquitoes with filariæ in the labium, Dr Noè dissected two such insects in normal salt solution and placed the liberated filariæ at the bottom of an incision made in the skin of a dog over a year old in the blood of which filaria embryos had not been found. Sixteen days after the inoculation, the dog was killed, but after a whole day of the most minute researches by Professor Grassi, Dr Noè, and two other gentlemen, only a small portion of the anterior extremity of an adult nematode was found in the subcutaneous tissue near the genitals This fragment (three millimetres long) was, however, labeled "filaria immitis" on account of the existence of six papillæ round its mouth and was considered to have been derived from one of the parasites experimentally introduced. On July 20th, a second experiment was made in the same way by stuffing filariæ in a skin wound, but it proved negative.

In consequence of the finding in his first experiment Dr Noè considered the inoculation theory "sufficiently demonstrated." However, he endeavoured to obtain the inoculation of the parasites in the presumed normal way by means of the bite of infected mosquitoes and thus more befitting experiments followed in which dogs, to all appearances healthy, were inclosed at night with mosquitoes, a small proportion of which possibly harboured filariæ ready to be transmitted. The dogs were muzzled so that they should not swallow the mosquitoes and possibly become infected in this way At the same time three other dogs were fed on large numbers of mosquitoes gathered in various places or purposely fed on filariated dogs in the laboratory Moreover, a dog and a puppy were kept for one month at Porto together with the filariated dogs of the locality and in places swarming with mosquitoes Neither the dogs fed on mosquitoes nor those kept at Porto showed any signs of infection at the necropsy

The negative result in the dogs kept at Porto Dr Noè explains by supposing that the dogs did harbour filariæ, but that they were killed too soon and that the worms escaped research on account of their diminutive size. The negative result of the feeding experiments, on the other hand, is triumphantly brought forward as "absolutely proving that infection cannot take place through ingestion as suggested by Manson" Why the explanation given in the case of the dogs kept at Porto should not be equally applied in the case of dogs fed on mosquitoes is not quite clear One of the three dogs subjected to the feeding experiment was killed after eight months but the other two were killed after one month and two months respectively And here I must say that Dr Noè in stating that Dr Manson suggested the ingestion theory is incorrect, because it was Dr Manson who suggested the inoculation theory and it was through him that the first and most suggestive evidence was produced. But Dr Manson has worked at filariæ for more than 20 years and he has acquired that true scientific spirit of caution which seems to be wanting in Dr Noè We shall see further how Dr Manson's reservations are fully justified by the observations of Dr Noè himself

The following are the experiments reported by Dr Noè in which mosquitoes (anopheles maculipennis) supposed to contain fully metamorphosed filariæ were made to bite dogs apparently immune from filarial infection 1. A bitch bitten on July 19th by two anopheles was killed in August, the result was negative 2. A dog bitten on July 26th and several times after that date by many anopheles, it was killed in October, the result being negative 3. A dog bitten on August 9th by eight anopheles was killed in October, the result was negative 4 A dog was bitten on August 23rd and 24th by anopheles gathered at Porto On Dec 5th some few embryonic nematodes were found in its blood and Dr Noè, mistaking them for the embryos of filaria immitis, supposed them to have been derived from the inoculated filaria and published the experiment as successful [*] Early in February, 1901, this dog was killed, but notwithstanding the most careful researches during four whole days no adult filariæ were found, and Dr Noè was obliged to suppose that the embryos found in the peripheral circulation of this dog must have been those of some other nematode, possibly those of filaria recondita, a parasite the location of which has, so far, escaped investigation 5 A dog, two years old, was bitten on August 23rd and 24th, 1900, by anopheles infected on a filariated dog in the laboratory Early in the following February embryos similar to those of the previous dog were found in its blood This dog was killed on April 12th. After a very careful search one immature female filaria immitis was found in the subcutaneous connective tissue. It measured six centimetres, contained no embryos, and to all appearances had not been fertilised This filaria had evidently nothing to do with the embryos in the blood. Besides, the latter were much smaller than the embryos of filaria immitis, they showed peculiar spring like movements, and were provided with an erectile spine at the anterior extremity 6 A small bitch was bitten several times between Oct. 15th and 20th, 1900, by anopheles captured at Porto It was killed on April 14th, 1901, although no filaria embryos had ever been found in its blood Nine adult filariæ were found, eight in the connective tissue and one in the pericardium All were sexually mature. The females had been fertilised and they contained numerous embryos but they had not yet commenced parturition. The longest males measured five centimetres and the longest females 11 centimetres 7 A dog, bitten in August, 1900, by anopheles collected at random in various localities, was killed on Sept. 3rd, 1901. A female filaria immitis was found in the subcutaneous connective tissue, but the worm had not been fertilised and no embryos of any kind had ever been found in the blood of the host.

Of these seven experiments Nos 1, 2, 3, and 4 were negative, but Nos 5, 6, and 7 were considered to be positive, because one or more filariæ were found at the necropsy On account of the last three experiments Dr Noè concludes "It is fully demonstrated that the filariæ enter their definite host by means of the bite of mosquitoes" The negative experiments he explains by supposing that the experiment-mosquitoes were probably not infected or that the inoculated filariæ were not detected at the necropsy of the dogs on account of their diminutive size, the hosts having been killed too soon

The crudeness of the above mentioned experiments might be somewhat explained if the experiments had been instituted by Dr Noè alone, who was at the time only a student, but we are told that they were carried out in Professor Grassi's laboratory and under his tuition, and, indeed, they were first published in the name of both The methods of the attempts to procure infected mosquitoes and the extraordinary carelessness shown in the choice of suitable dogs, are most surprising, especially in a man who was supposed to have gained some appropriate experience during the researches he made while studying the mosquito propagation of the malaria parasites The mosquitoes for the experiments should have been reared and infected in the laboratory and the dogs should have been puppies born after the end of the last season of infection (October) and carefully guarded from every possible source of infection till the time of experiment Instead of which we find Dr Noè experimenting with non-infected mosquitoes and with dogs, two and more years old, already harbouring various species of filariæ.

Of the two experiments in which filariæ were inserted into skin wounds one is reported as successful and the other as negative In the experiment considered to have been successful only a small fragment of a nematode was found. We are told that it proved sufficient for the identification of the parasite, but I doubt this very much and my doubt is not a retort to the insinuation made by Dr Noè that perhaps the nematodes described by Dr Manson were not filariæ, but is very justly based on Dr Noè's most awkward mistakes. In fact Dr Noè owns himself that he mistook the embryos of some other nematodes for those of *filaria immitis which he, a zoologist, had been studying for* nearly two years, but another very bad mistake is found at page 325 where, after stating that filaria immitis at its maximum stage of development within its intermediary host measures about 900μ, he adds that once he found one that had attained the enormous length of two centimetres. Dr Noè found this filaria amongst the thoracic muscles of an anopheles and explains its gigantic proportions by its unusual location which must have caused a long permanency in the body of the mosquito. While in the Roman Campagna Dr Low and I found similar filariæ in the thoracic muscles of anopheles maculipennis, but time and circumstances prevented us from determining the definitive host of these nematodes. However the greater dimensions of those parasites and the different location for their development suggest at once a specific distinction.

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[*] Rendiconti dell Accademia dei Lincei vol ix 2 sem, serie 5 fasc 12.

Even allowing that the identification of the tiny bit of worm was possible and absolutely correct, it is not by any means proved that it was derived from one of the artificially introduced filariæ. It was ascertained that the dog at the time of the experiment had no filaria embryos in its blood but it was not proved that it did not already harbour young filariæ in its tissues.

In experiment No 6 of the series, in which anopheles *supposed* to be infected were made to bite dogs *supposed* to be non infected nine sexually mature filariæ were found six months after the date of *supposed* infection. In experiment No 5 a filaria only half grown was found at the post mortem examination eight months after the date of experimental inoculation and in experiment No. 7 a filaria still immature was found 13 months after experimental inoculation. Supposing for one moment that the immature filaria found in experiment No 7 had really been derived from one of the larvæ inoculated 13 months previously it would be difficult to understand how in experiment No 6 the filariæ could *have reached full maturity in less than six months*

From what I have said it is clear that no account can be taken of Dr Noè's experiments but Dr Noè mentions an observation of a different kind by which he says he obtained quite unexpectedly a most definite proof as to the direct inoculation of filaria by means of the bite of mosquitoes. On July 25th he gathered a large batch of anopheles. On August 5th he examined a number of these mosquitoes and ascertained that some of them were filariated. On the 10th he examined the remaining mosquitoes but did not find a single filaria in any of them. Supposing that the mosquitoes might have lost their filariæ while feeding on fruit he looked for the nematodes in the fruit pulp on which the mosquitoes had fed but was unable to find any On the 23rd, having found filariæ in the labium of certain mosquitoes out of a large quantity which had been fed on the 10th and 11th of that month on a filariated dog he closeted some of these mosquitoes all night with a healthy dog (experiment 4 or 5) On the next morning *these* anopheles were heavily gorged with blood. On dissection he did not find a single filaria in any of them, but he says that he found in their Malpighian tubes lesions undoubtedly significative of filarial infection. He at once examined the remaining mosquitoes and found that five out of 11 contained filariæ in their labia and showed in their Malpighian tubes changes similar to those of the gnats previously examined. Thereupon Dr Noè concluded that the anopheles which had bitten the dog must have emptied out their parasites during puncture and that the remaining anopheles of the previous batch which on August 10th had no filariæ while others of the same batch five days earlier had been found infected must have emptied their larvæ in the fruit pulp and that the liberated filariæ must have escaped detection on account of their very minute size.

This observation is, like the others, most unsatisfactory We know that only a certain proportion of the mosquitoes employed were infected it is quite possible therefore that those dissected after biting the dog or feeding on fruit were the non infected ones Admitting that those in which Dr Noè say he found lesion of the Malpighian tubes were really infected it is in no way proved that the filariæ were liberated during puncture and not evacuated with the fæces. Dr Noè was unable to demonstrate the presence of filariæ in the fruit pulp and his experiments upon dogs, as we have already seen are totally untrustworthy Against Dr Noè's surmise as to the liberation of filariæ in fruit during puncture stand the observations of T L. Bancroft and Dr Low which prove the contrary Besides Dr Noè himself in another part of his paper says that to obtain the liberation of the filariæ *the labium must bend and rupture* In the case of fruit, when the insect can absorb the juices at the surface without thrusting the stylets to any depth, and therefore without bending sufficiently the labium, the liberation of the parasites does not take place Then again, how is it that all the mosquitoes examined had emptied all their filariæ simultaneously while Dr Noè states that the parasitic larvæ do not reach maturity all simultaneously but successively and that, therefore, this migration to the mouth parts of the host takes place by 'successive stages.

In fact, he says I have frequently observed that after an emission of parasites the Malpighian tubes still contain a certain number of filariæ ready to leave in a short lapse of time their larval seat. It is obvious therefore, that the labium becomes again gradually invaded by and stuffed with, filariæ and that thus a second emission may take place on a subsequent puncture. Thus the mosquitoes when abundantly infected may have the power of inoculating the parasites two and perhaps even more times."

Now leaving aside Dr Noè's contradictions and admitting for a moment that as he believes, the filariæ might escape from their intermediary hosts while the latter imbibe the juices of fruit we obtain a strong proof of the judiciousness of Dr Manson's caution in writing that the fact of the presence of the filaria in the proboscis of the mosquito suggests without actually proving that the parasite is directly inoculated into man by mosquito-bite At the same time we must remember that the fully metamorphosed filaria is sometimes found around the stomach about the viscera, and elsewhere than in the head of the mosquito. It is quite possible, therefore, that it may leave the insect by some other channel than the proboscis and it may be passed into water with the fæces, the eggs or even by the proboscis Finally Professor Grassi and Dr Noè claim to themselves the discovery of the inoculation theory of filariasis because, they say Dr Low was not able to prove how the filariæ escaped from the labium. They suggest that the filariated labium tears towards the middle of its dorsal aspect while bending during puncture But this is nothing more than a hypothesis and Dr Noè himself says I think that an absolute certainty is difficult to obtain on this point because, as everyone understands one would have to surprise the filariæ in the act of escaping during the opera*tion of the puncture, and this is far from easy* " T Everett Dutton has suggested a far more rational point of escape at the tip of the labium, between the labellæ. This area is covered by a very delicate membrane which tears very easily and is practically over the point of puncture when the mosquito draws blood—a very important condition to insure the inoculation of the liberated filariæ. Personally I believe that the filariæ pass into the wound along the dorsal groove of the hypopharynx having reached the mouth cavity by *piercing the delicate membrane which connects the chitinous* pharynx to the base of the hypopharynx, and I believe that their presence within the labium has no other significancy than that of their presence within the palpi which is just as frequently observed. However this may be, the hypothesis advanced by Professor Grassi and Dr Noè is certainly the least probable.

I think that it is to be very much regretted that Dr Noè did not limit his paper to the researches which he *made on* the development of filaria immitis in anopheles maculipenni His observations on the structure of this parasite during its larval development are certainly accurate I do not agree with any of his interpretations but that is perhaps a matter of opinion. For instance Dr Noè thinks that the jutting posterior intestine of the filaria in its early stages becomes an organ of adhesion and fixes the parasite to the cells of the Malpighian tubes. I think instead that it subserves the function of nutrition If we examine the filaria larva between the sixth and ninth day of its development within the Malpighian tubes of a mosquito we find that its posterior intestine does not communicate with the rest of the alimentary apparatus but forms a completely closed bladder like body part of which projects outside the body of the worm into the cytoplasm of the host to absorb nutriment and, indeed, the vesicle gradually fills with a clear, transparent fluid Besides, on the ninth day or thereabouts the chyliferous intestine becomes connected with the posterior intestine and the protruding part of the latter opens to form the anus Thenceforth the filaria feeds by the mouth

Dr Noè has observed that the filariæ undergo at times a brown degeneration within the Malpighian tubes of their host and, true to the traditions of the Roman school, he believes this degeneration to be a retrogressive process of the parasite. This so-called brown degeneration begins by scattered brown spots which under a strong magnifying power have a lenticular shape. The spots gradually increase in number and coalesce into large dark brown patches These brown bodies may appear on a few or on all the filariæ contained in one or in all of the Malpighian tubes of a mosquito They are no other than the "black spores" described first by Major Ross in connexion with the hæmamœbidæ I believe that they represent a parasitic infection comparable to the pebrine disease of silk worms

Dr Noè closes his paper with a most extraordinary remark. He recognises that the prodigious fertility of filaria immitis is an admirable adaptation for the perpetuation of the species, but he explains its operation in a way which seems to me to be far more original than reasonable. He says that the mosquitoes become so easily infected that if numbers of them did not die the canine species would soon become totally extinct and with the disappearance of dogs the filariæ would necessarily also disappear, therefore, to avoid such a disaster the filariæ have excogitated the admirable means of killing off their necessary intermediary hosts by a prodigious fertility and consequent heavy infection. Dr Noè explains the passage of the filaria from definitive to intermediary and from intermediary to definitive hosts in a totally passive way and I will not ask him why other filariæ develop in other parts of the mosquito instead of gravitating, like *his* filaria immitis, first into the Malpighian tubes when the mosquito sits up after its meal, and then into the labium when the latter comes down again head foremost to draw blood, but I feel that I must protest against the stigma of suicidal mania which he casts on the worm, forgetting the universal significancy of an enormous fertility which is common to numberless species, and forgetting that the domestic dog may possibly not be the only definitive host of filaria immitis and that filaria immitis, although widely distributed, is strictly limited to certain swampy stations

SOME FURTHER STATISTICS REGARDING THE EFFECT OF INOCULATION AGAINST TYPHOID FEVER IN SOUTH AFRICA,

WITH SPECIAL REGARD TO THE QUESTION OF AGE.

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IN THE LANCET of May 3rd, 1902, at p 1241, will be found the statistics of 250 officers invalided from South Africa for various causes. These figures showed a higher percentage incidence of typhoid fever among the inoculated (28 5) than among the non inoculated (22 0), and it was pointed out that this might be due to a higher rate of recoveries among the inoculated I do not propose to discuss the figures which might be adduced in support or otherwise of this opinion My figures also showed that the average date of attack after disembarkation in South Africa was shorter among the inoculated (9 4 months) than among the non inoculated (10 3 months), but that the non inoculated were more susceptible during the first five months after disembarkation than the inoculated. The inference to be drawn from these figures was that inoculation conferred a certain measure of protection for a period of about six months After that period the inoculated appeared to suffer more than the non inoculated I hinted that these differences indicated the operation of some law affecting the figures

The publication of these statistics led to a correspondence with Professor Wright of Netley who suggested that the law referred to was probably that of age and susceptibility He thought it probable that the inoculated would be found to be younger men than the non inoculated and that the higher incidence among the former after the six months of protection afforded by inoculation had passed was in all likelihood due to the re assertion of their greater susceptibility on account of their comparative youth I had not recorded the ages of the 250 officers who furnished the statistics and I accordingly commenced a new series of observations with a view to ascertain what truth there was in Professor Wright's suggestion. The following figures are the result of this inquiry Table I shows that the average age of the inoculated was 25 4 years and that of the non inoculated was 30 6 years, a difference of five years The incidence of typhoid fever among the former was 33 3 per cent. and among the latter 32 9 per cent

TABLE I.—*Showing the Average Age of the Inoculated and Non inoculated*

—	Number	Average age (years)	Cases	Per cent
Inoculated once	89	25 4	24	26·9
" twice	13	25 5	10	76 9
Total inoculated	102	25·4	34	33 3
Previous attacks	19	32 1	3	15 8
Not inoculated	85	30·6	28	32·9
Totals	206	28·2	65	31 5

The figures in Table I show a distinct advantage in favour of a single inoculation, but they indicate a strong susceptibility to enteric fever among those who were inoculated twice. In this series 10 out of 13 officers who were inoculated twice on the outward passage contracted typhoid fever after disembarkation in South Africa. In my first series the proportion attacked was smaller, two in 10 Taking the two series together it will be found that of 23 double inoculations 12 were infected, or over 50 per cent., as against 33 per cent among the non inoculated I do not think that a difference of age amounting to five years would account for this greater incidence, and it is possible that the double inoculation is excessive and diminishes the resisting power of the blood to infection. The incidence among those twice inoculated is just double that among the once inoculated, and such a result would not be in discord with some of Professor Wright's more recent experimental work

In the following tables (Tables II, III, IV, and V) the incidence in relation to age is shown in detail They show that 60 per cent of the inoculated were under 26 years of age, against 22 per cent among the non inoculated The incidence at this age among the non inoculated was 63 4 per cent, among those inoculated once 27 8 per cent., and among those inoculated twice 71·4 per cent. This gives a *difference of 35 per cent. in favour of a single inoculation* at this age, which must be regarded as a very substantial gain. Between the ages of 26 and 35 years the number of inoculated constituted 31 per cent. of the total inoculated, against 50 per cent among the non inoculated At these ages the incidence among 42 non inoculated was 31 per cent., among 27 inoculated once 22 per cent., and among five inoculated twice 80 per cent. Here there was a gain of 9 per cent. among those inoculated once

TABLE II —*Inoculated Once*

Age in years	Number	Cases	Per cent.
17–20	28	5	17·8
21–25	26	10	38 4
26–30	16	4	25·0
31–35	11	2	18 2
36–40	5	1	20·0
41–45	3	2	66 7
Average age 25 4	89	24	26 9

TABLE III —*Inoculated Twice*

Age in years.	Number	Cases.	Per cent.
17-20 ..	5	4	80·0
21-25	2	1	50·0
26-30	3	2	66 7
31-35 ..	2	2	100·0
36-40	1	1	100·0
Average age 25·9	13	10	70·9

TABLE IV —*Total Inoculated*

Age in years	Number	Cases.	Per cent
17-20 ..	33	9	27·7
21 25 ..	28	11	39·3
26-30	19	6	31·6
31-35	13	4	30·7
36-40	6	2	33 3
41-45	3	2	66·6
Average age, 25·6	102	34	33 3

TABLE V —*Non inoculated*

Age in years	Number	Cases.	Per cent.
17-20	10	5	50·0
21-25	9	7	77·7
26-30	24	10	41 7
31-35	18	3	16·6
36-40	15	1	6 6
41-45	9	2	22·2
Average age 30·9	85	28	33 1

Above the age of 35 years the advantage was in favour of those not inoculated, of whom 28 per cent. were included in this section against 9 per cent. of the inoculated The incidence of enteric fever at this period of life was 12 5 per cent. for the 24 non inoculated 37 5 per cent. for the eight inoculated once, and 100 per cent. for the one individual inoculated twice—an advantage of 25 per cent. in favour of non inoculation over one inoculation. I am not in a position to offer any explanation of this remarkable outcome of my statistics.

For the more ready perception of the effect of inoculation at different ages I append in Table VI the differences observed in the incidence of the disease in the different classes taking that among the non inoculated as a standard at each quinquennial period

TABLE VI.

Age in years.	Incidence per cent.		
	Non inoculated	Inoculated once.	Inoculated twice
17 20	50·0	−32·2	+30·0
21-25	77 7	−39·3	−22·7
26-30	41 7	−16·6	+50·0
31-35	16·6	+ 1·6	+83·0
36-40	6·6	+13 4	+93·0
41-45	22·2	+44·5	
Average ...	33 1	− 6·2	+43·8

These tables show that the period of greatest susceptibility to enteric fever is from 20 to 25 years of age. This was true for the inoculated as well as the non inoculated but it was precisely at this period that the evidence of the protective effect of inoculation was most marked. Up to the age of 30 years the advantage of a single inoculation is distinct, the incidence in this class being 27 per cent. against 51 per cent among those not inoculated Beyond the age of 30 years the position is reversed and the advantage is with the non inoculated, the incidence among them being then only 14 3 per cent against 27·4 per cent. among those inoculated once These figures would seem to suggest that as the period of natural susceptibility to the disease is passing away inoculation is to be avoided as likely to increase the liability to infection. The whole question of immunity and the effect of inoculation on immunity is evidently and admittedly a most difficult and complicated one I am glad, however to be able to point out by these statistics the unmistakeable evidence which they afford of the clear and substantial advantage a single inoculation gives to the young soldier under the age of 30 years and especially at the age when his susceptibility to the infection is greatest.

With regard to the period which elapsed between disembarkation in South Africa and the attack the average for those not inoculated was 14 4 months for those inoculated once it was 11 8 months for those inoculated twice it was 7 7 months and for those who had had a previous attack of enteric fever 11 months These periods bear the same relation to each other as in my previous series of cases. The advantage of the non-inoculated in this respect is doubtless to be accounted for by their greater average age and consequent lower susceptibility The early attack of those inoculated twice is corroborative of the opinion expressed above that a double inoculation increases the susceptibility to infection

Bickenhall mansions W

THE TREATMENT OF APPENDICITIS

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IT may be of some interest if I endeavour to report the practical conclusions derived from 140 operations for appendicitis. In order that no misunderstanding may arise I will commence by quoting an extract from Sir Frederick Treves s excellent work on Surgical Applied Anatomy " which I consider fully illustrates the complex anatomical nature of the infection and the difficulties which must necessarily attend clinical diagnosis. *The mesentery of the appendix* which contains an artery derived from the ileo-colic, may be so short as to produce obstructive kinks in the appendix. The mucous lining is so crowded with solitary lymphoid follicles as almost to occlude its lumen. In some forms of appendicitis these follicles are involved. They are surrounded by lymph spaces from which vessels pass to the lymph glands in the mesentery and others pass upwards behind the ascending colon (Lockwood). It is probably through these latter vessels that infection passes from the appendix and gives rise to abscesses in the subdiaphragmatic region The muscular coat of the appendix is scanty and through breaks in it the submucous tissue communicates with the subserous Inflammation of the mucous membrane may therefore, spread without hindrance to the peritoneum. At present there are three operative procedures in vogue for purulent appendicitis—cœliotomy and drainage without subsequent removal of the appendix cœliotomy with drainage and secondary appendicectomy, and cœliotomy removal of pus separation of adhesions and appendicectomy at the same time. The advocates of the first method have not as yet got rid of the erroneous idea that in the wreck of matter attending abscess formation destruction of the appendix not infrequently occurs. Personally I never believed in such a doctrine and I have had ample practical proof that the appendix never completely disappears without the help of a surgical instrument, but I have frequently operated on cases in which the organ appeared to be transformed into a kind of fibrous cord which by the way was invariably adherent to something and caused the patients continual indigestive worry which can be explained by its tent-rope action on a distensile and sluggish cæcum

On three occasions I have had to remove the appendix during a recurrent purulent attack in patients who had incision and drainage performed by other surgeons years before and in each instance I found the appendix entire. In four of my early cases, from want of experience, I abandoned the appendix. The first patient discharged pus for 18 months, at the end of which he not unnaturally sought other advice and I have not heard of him since (The other day I saw Mr Lockwood operate on a case which had discharged for 12 months after incision and drainage) The second patient had a very large incision made as there was a huge iliac abscess, the wound took 10 weeks to heal About a year afterwards a hospital surgeon in Scotland wrote to me inquiring what was the meaning of such a large cut and what was my diagnosis as the patient had entered under his care with what appeared to be an attack of purulent appendicitis The third patient returned within three months, very much disgusted, with a recurrent attack. On separating some dense posterior cæcal adhesions I found a decomposing prawn like appendix tucked up behind the cæcum I have little doubt that in this case a smouldering fire continued since the primary attack. (I recently saw Mr Burghard operate on a case during what the absence of any symptoms declared to be in the "quiescent' stage, he found the appendix deeply adherent and its distal half was literally converted into a bag of pus.)

The fourth case was very interesting in that the site of the abscess differed on each occasion At the first operation a large fœtid abscess was found external to the cæcum and colon, three and a half years later the patient returned to hospital complaining of intense pain and tenderness in the right lower abdomen On palpation a large tumefaction was readily detected On opening the parietal peritoneum I was surprised not to meet with any pus, instead, a mass of thickened inflamed adherent omentum presented On separating this from underlying intestines I discovered a large intra intestinal tumour completely covered over by coils of bowel Having packed all round I separated the adhesions between the cæcum and the ileum and evacuated about a quart of foul green pus, and at the bottom of the abscess cavity I found a gangrenous perforated appendix, about five inches of an adjacent coil of ileum was gangrenous on its under surface and tore right across on separating the appendix from it. As the patient showed signs of collapse at this stage of the procedure two 10 minim injections of liquor strychnine were administered as well as a warm enema. I rapidly removed the appendix and then excised some six inches of gangrenous gut, including my tear, a Murphy button was inserted As there was intense shock, 10 minim injections of strychnine were given every half hour for the succeeding three hours, reaction took place and an uneventful recovery ensued The button was passed on the nineteenth day and when the nurse exultingly showed it to him he replied "It was right enough where it was" I believe that the strychnine saved his life, and since I first read of the treatment in Baldy's "Gynecology" I have used it constantly in cases of shock with the best results I like to see a little muscular twitching as it indicates that a sufficient dose has been administered.

The following case occurred in the practice of a colleague A middle-aged man suffered from a primary attack of purulent appendicitis Owing to the dread of operation hot poultices were applied for some six weeks As nothing had burst by this juncture his medical attendants persuaded him to allow them to make "a little cut just big enough to let out the matter," which they said was devoid of risk This was done and the toxic symptoms rapidly disappeared. The purulent discharge had almost ceased 10 days later and one day as the surgeon was leaving the room after changing the dressing the patient said that he ' felt wet." On removing the bedclothes the dressings were found to be saturated with blood and he rapidly succumbed, pressure and plugging proving futile As no post-mortem examination took place the cause of the catastrophe remains uncertain, but one cannot help thinking that if a complete operation had been performed the infection would not have travelled into and ruptured presumably, the iliac vein.

The following is an interesting example of the inefficacy of suppuration as a cure for appendicitis A young woman suffered from purulent appendicitis in 1895, poultices were applied for two months when a large discharge of pus took place by the rectum After this she continued to have recurrent attacks of pain occasionally accompanied with fever and rostration and suffered very much at each menstrual period th severe pain in the right pelvis After five years of such try she resolved to have the matter settled "one way or r" and insisted on having a radical operation performed uld be difficult to describe the labyrinth of dense adhesions in which I found myself, omentum, bowels, fibrous cord like appendix, right tube and ovary, uterus, left appendage, and rectum forming a conglomerate of which I have never seen the like After a most trying ordeal and at the expense of much intestinal peritoneum I effected separation of the above structures, performed appendicectomy, right oöphorectomy, excision of a large mass of omentum, and concluded by fixing the uterus to the lower angle of the parietal wound, and by suturing over all the denuded surfaces of the bowel. A desperate peritonitic struggle followed on the fourth and fifth days which, luckily, was got over by purgation. A year later I had to remove some silkworm gut ligatures from a sinus which tracked down to the bottom of the pelvis She is now quite well

Particular attention must be devoted to the treatment of intra intestinal appendical abscesses If the whole mass cannot be delivered through the wound the field must be thoroughly exposed and isolated by gauze packing before adhesions are separated, and any laceration of intestinal serous membrane must be subsequently repaired by a few Lembert sutures Occasionally patients reproach one for the length of scar or for a subsequent ventral hernia. I can generally appease the cosmetic indignation of the fashionable lady by replying that both afford strong evidence that I saved her life

One has next to consider the expediency of the second method which is unquestionably a step in advance of the above-mentioned one in that the danger attending the derelict appendix is fully recognised, but it fails in the assumption that risk is removed by a subsequent appendicectomy in the "quiescent" period The reason usually assigned for this two stage procedure is that there is a great danger of setting up diffuse septic peritonitis by separating adhesions in the presence of pus I do not think such a fear is founded on fact, for I have at least on 100 occasions separated peritoneal adhesions after removing free pus and in no instance has such a complication supervened The supposed risk is a mere nightmare developed from a faulty appreciation of the function of an adhesion The formation of inflammatory adhesions is nature's method of staying the advance of infection and acts as a temporary barrier until one of three things occurs—the abscess empties itself somehow, the patient dies from sepsis, or the surgeon intervenes and relieves the adhesion of all further responsibility, and this is amply proved by the fact that peritoneal adhesions usually disappear after the exciting cause is removed. Under no condition excepting impending death on the table, or a most enfeebled constitution do I admit that a retreat before a friendly adhesion is justifiable without the removal of the cause of infection, and, furthermore, I consider that the greater the density of the adhesion the greater the necessity for pushing home the attack, for it may be taken as a general rule that the density of adhesions is in due ratio to the intensity of primary trouble. The following are excellent illustrations of the futility of attempting to treat a case of purulent appendicitis without separation of adhesions, as neither pus nor appendix can be dealt with without doing so

CASE 1—An American, aged 68 years, while crossing the Andes was seized with an acute attack of purulent appendicitis On opening the peritoneal cavity no parietal serous adhesion or pus was met with, but a moveable tumour surrounded by congested adherent intestines presented. Realising the probability of an intra-intestinal appendical abscess I delivered the whole mass through the parietal wound, and on separating adhering bowels an abscess containing some 12 ounces of offensive pus was evacuated and at the bottom of the cavity I found a suppurating appendix. Free drainage was provided and a rapid recovery ensued

Cases 2, 3, and 4 were identical in that, as no pus was found until a thickened adherent mass of omentum was separated from the cæcum and in each instance I found a partially gangrenous appendix lying in a circumscribed pool of fœtid pus, appendicectomy with drainage was performed All the patients recovered

CASE 5—A man occupying an important position in a company entered hospital for an operation for appendicitis The omentum was adherent to the parietal wall and to adjacent intestines When freed the cæcum was found to be glued to the ileum which when separated revealed a small intra intestinal abscess and a gangrenous perforated appendix with a gall stone (of about the size of a cherry stone) working its way out through the perforation

Appendicectomy with drainage was performed. Recovery ensued.

CASE 6.—A boy aged 13 years, was operated on for what I considered to be an attack of "simple" appendicitis. I had great difficulty in finding the appendix, which was adherent behind the cæcum, surrounded by a tablespoonful of pus. (On post-operative examination a small gall-stone was discovered near the distal extremity of the organ.) Recovery ensued.

I may here mention that these were the only foreign bodies I have met with in my series of cases.

CASE 7.—A sailor entered the hospital suffering from an obvious appendical abscess in the right iliac fossa. When the peritoneum was incised about one and a half pints of pus escaped. Having carefully dried the cavity I proceeded to search for the appendix and on liberating some omentum which was adherent to the cæcum and the pelvic brim a large pelvic abscess was found. Appendicectomy was performed and recovery ensued. In this instance the adherent omentum formed a partition between the two collections of pus.

CASE 8.—A patient was operated on for a large appendical abscess which filled up the right fossa. After evacuation of the same I found the cæcum densely adherent posteriorly and on freeing the adhesion opened into a small post cæcal abscess which contained a gangrenous appendix. Recovery ensued.

CASE 9.—A young woman, aged 21 years, was operated on for what I took to be "simple" appendicitis. On opening the abdomen I discovered nothing except a small intra-intestinal tumefaction of about the size of a plum. On separating the adherent coils a small fæcal abscess was found as well as a gangrenous perforated appendix and three infective concretions loose in the cavity. Appendicectomy was performed and recovery ensued.

These cases cannot be considered in any way exceptional for as Sir Frederick Treves states "the appendix, as a rule is seen to lie behind the end of the ileum and its mesentery and to point in the direction of the spleen; it frequently also lies behind the cæcum." From this it is obvious that any surgeon who counts on meeting the appendix externally to the cæcum will in the majority of instances meet with disappointment, and in order to effect a cure the besieging adhesions must sooner or later be reinforced by surgical aid and the diseased appendix removed. Indeed Dr. Cullingworth's statement about pelvic collections, "as one's experience increases the fewer become the number of incomplete operations," ought to apply with equal if not greater force to such an acute deadly disease as appendicitis.

In a previous paper I gave details of a case in which I thought the patient had recovered from an attack and was on the point of discharging him from the hospital, as he had no signs or symptoms left of any infective process in the appendical region. Taking into consideration the possibility of a recurrence at a distance of 300 miles (where he resided) from Buenos Ayres I advised him to have his appendix removed. At the operation I found nothing until I attempted to elevate the cæcum, which was adherent posteriorly. On exploration I discovered a tubular form of abscess tracking up behind the cæcum and ascending colon and a gangrenous perforated appendix. I confess this case gave my diagnostic sense a rude shock from which it has never recovered—I am happy to be able to state that the patient did.

The key to success in these purulent cases is to operate early and to introduce the sense of sight by a large incision, without the latter disaster is bound to occur. The method which I adopt is as follows. A four inch oblique incision (to begin with) is made over the centre of tumefaction, the external oblique is split parallel to its fibres and the underlying muscles are divided by a scalpel through the whole length of the wound. I found McBurney's gridiron method very unsatisfactory for it constantly happened that transverse muscular separation of the internal oblique and transversalis had to be supplemented by vertical incisions in order to gain sufficient room for manipulation and to see what one was doing. Also the barbarous practice of forcibly dragging muscles asunder by retractors opened up muscular planes which increased the risk of parietal infection during the evacuation of pus. For this reason I endeavour to disturb the muscles as little as possible and on opening the peritoneum hasten to insert silkworm gut sutures through the parietal wall on each side (as suggested by Mr A. Marmaduke Sheild) in order to avoid any muscular separation. These sutures are tied and the ends are grasped by pressure forceps which serve as excellent retractors or what is even better the ends may be sewn to the skin at some distance from each edge of the wound drawn taut and knotted, and in this manner they act as most convenient self retaining retractors. The pus having escaped the whole cavity is thoroughly mopped and brushed with large rolls of iodoform gauze. Then the hands are washed in a fresh solution of corrosive sublimate and alcohol (1 in 1000) and the towels are changed. Any adherent thickened omentum is first separated and excised, intestinal adhesions are next deliberately freed the field being kept dry on gauze pads. When the appendix is differentiated and brought to the surface an assistant grasps the appendical segment of the cæcum between the thumb and forefinger of each hand. His fingers act as efficient clamps and furthermore, steady the part while the appendix is looped off close to the cæcum by one stroke of the scissors and the little wound is closed by two rows of fine silk continuous sutures. After a final mopping of the whole field a large petticoat drain is inserted at the lower angle of the incision the end being placed at the most dependent point in the cavity the upper portion of the wound is closed by silkworm gut sutures, and a strip of iodoform gauze is passed down by a long blunt forceps to the bottom of the drainage-tube; a hole is made in the dressings so that the capillary drain may be changed by the nurse as often as may be necessary. I usually remove the tube on the third or fourth day substituting a small roll of iodoform gauze. A movement of the bowels is brought about on the second day which may be comfortably effected by one or two preparatory belladonna pills followed by an enema.

As to the treatment of ventral hernia, I should like to mention that I find that elliptical excision of the skin cicatrix and complete exposure and approximation of the muscular layers effect a cure. The important detail in the operation is not to leave a remnant of scar tissue in the depth of the wound, as fresh surface must be united to fresh surface in order to obtain a good result. Interrupted silkworm gut sutures passed methodically (by aid of pressure forceps applied to each layer) is the most satisfactory method of union.

With regard to fulminating appendicitis all surgeons are agreed as to the necessity for prompt intervention in this grave form of appendicitis and I very much regret that I am unable to report a single cure, as the six patients on whom I operated were practically moribund before admission to hospital. One feels at a loss how to explain the absence of adhesions in these cases. I think that rapidity and intensity of infection affording no time for their formation before perforation and the escape of fæcal matter takes place, is an inadequate explanation. A case which I operated on 18 months ago first raised my doubts on this point. A young man was attacked on a Thursday evening with severe pain in the right lower abdomen and vomited frequently during the night. On the following morning my friend Dr Dodds of Lomas was called in and diagnosed acute appendicitis and strongly urged immediate operation which was not acted on until the following Sunday when the patient was brought into the hospital. His temperature was then 104° F. his pulse was 120 and his tongue was very dry the abdomen was very much distended there were constant hiccough and absolute constipation no flatus or motion having passed since the onset—truly a poisoned state. I operated soon after admission and found the intestines very distended the appendix was gangrenous *without perforation* surrounded by a small quantity of turbid serum lying between the cæcum and the ileum no attempt at adhesion having taken place and the adjacent bowels presented a peculiar dusky dry appearance. On further exploration of the peritoneal cavity no flakes of lymph or pus were visible. I removed the appendix and provided free drainage. No reaction followed the bowels continued recalcitrant, and as a last resource I incised the cæcum on the second day. A little gas and fæcal matter escaped. Enterotomy proved useless the ileus continued, and he died on the following day. I had not known of Mr Sheild's suggestion at the time if I had I should certainly have injected magnesia directly into the cæcum through the appendical opening before suturing the latter.

It is possible that the absence of adhesions in this form of appendicitis may be explained by streptococcic infection causing intense toxæmia with destruction of the plastic elements in the blood. Possibly bacteriologists will soon be able to subdivide septicæmia into streptococcæmia and staphylococcæmia, the former being characterised by profound poisoning, little liquid, and no plasticity as in erysipelas and surgical scarlet fever, and the latter by less intense toxæmia, abundant pus, and adhesions In the majority of cases there is probably a mixed form of infection and the formation of adhesions may then depend on the streptococcus or staphylococcus being the predominant partner

As to the treatment of non purulent appendicitis I can only endorse what I advocated in my former paper, that owing to the impossibility of determining the exact pathological condition, and to the insidious nature of the disease, I consider it a duty to operate on every case within 24 hours after admission to the hospital, and the operation I perform differs from that employed in obvious purulent cases in that I commence with a two inch incision, which is promptly extended if the appendix cannot be brought easily to the surface Recently I have seen a case operated on in which the appendix was deeply adherent, and after one hour's poking with two fingers at the bottom of a small dark hole the surgeon succeeded in breaking off the top of the appendix, which afterwards could not be discovered even with the aid of head lights Such a procedure is really more dangerous than the disease itself The appendix is next carefully ligated and although the vessels may be of small calibre they deserve serious attention I operated on a most simple case about a year ago, and five days later had to re open and to enlarge the wound in order to clear out a huge mass of blood clot which occupied the greater part of the right abdomen the result of hæmorrhage coming from a small vessel in the meso appendix which had escaped ligation The patient recovered. Having ligated and separated the mesentery from the appendix a circular incision is made around the latter close to the cæcum, which exposes the mucous coat, this is ligated with fine silk Pressure forceps are then applied to the distal portion of the appendix, about one-third of an inch from the ligature, the appendix is divided between and the stump is covered over by three or four Lembert sutures which take a firm grip of the cæcal wall I find that the pressure forceps prevent any leaking when the appendix is divided and no peritoneal soiling takes place. Some surgeons divide the appendix with a hot iron, quite oblivious of the fact that the formation of eschars, even within the forgiving peritoneum, is inconsistent with modern ideas as to the healing and treatment of wounds

In all recent surgical text-books one sees illustrations of what is usually described as the "cuff" operation, in this the peritoneal coat is circularly divided and dissected down towarded the cæcum. The mucous coat is then ligated with silk, the appendix is divided, and the above mentioned web of serous membrane is drawn over the stump by sutures The advocates of this finicking procedure evidently have not studied the late Mr Greig Smith's definition of a good intestinal suture (See the diagram, Fig 129, "Abdominal Surgery," illustrating the best and the worst methods) As he stated "Halsted first pointed out the importance of catching up a few fibres of the submucosa to give holding power to the suture, to pick up many fibres by pushing the needle along the line of fibrous layer gives greatly increased firmness to the suture grip The muscular and peritoneal coats are easily torn through the fibrous coat is not easily torn " The parts are finally thoroughly dried with gauze pads and the external wound is united by interrupted silkworm gut sutures, which are usually removed from the seventh to the tenth day and the patients are discharged at the end of the third week. In conclusion I should like to add that in this series of 140 cases 63 were purulent, in all I had nine deaths, six of which occurred in fulminating cases, as stated before, and I venture to think that a mortality of 2·2 per cent. in the remaining 134 operations compares favourably with the results of any other form of treatment

Buenos Ayres

A CASE OF RUPTURED GLUTEAL ANEURYSM, TRANSPERITONEAL LIGATURE OF THE INTERNAL ILIAC ARTERY

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THE rupture of an aneurysm is always a grave incident in surgery The rupture of a gluteal aneurysm can never fail to be of interest to surgeons because of the classical case of the great Syme who by a memorable example pointed out for all time the way to deal with it. Circumstances may, however, at any moment render it impossible in the course of an operation for turning out the clot to rest content with applying a ligature to the bleeding gluteal artery even though the bleeding may be stayed thereby, and the surgeon may find it imperative to proceed at once to tie the feeding trunk of the internal iliac artery Such was the state of things in the case which I desire here to place on record

A man, aged 44 years, but looking many years older, wasted, anæmic, and ill with a history of rheumatic fever in childhood and with physical evidences of cardiac and vascular disease, a coachman by occupation, was admitted to St. Mary's Hospital on Feb 23rd, 1902. At the beginning of his illness five weeks before admission he had suffered some pain in the course of the right sciatic nerve with tingling in his toes, but he had no pain now He had not been ill recently nor had he met with an accident, but one day on getting down from his box he had noticed a swelling in the right buttock. This swelling had steadily increased so that on admission it was of huge size, reaching from the crest of the ilium to below the great trochanter It was fluctuant and non pulsatile, while towards its lower end it became dusky in colour, and immediately above the trochanter there was some inflammatory redness Believing that it might possibly be an abscess, with which ready made diagnosis the man had been sent to the hospital, my house surgeon, Mr A. Whitmore, made a small inch-long exploratory incision a couple of inches above the great trochanter, where the skin was red, but finding nothing except blood clot immediately closed the wound. He acted, indeed, with excellent judgment. Per rectum it was thought that some swelling could be felt high up on the right side of the pelvis and that a vessel was beating over it. Personally, I was unable to satisfy myself of the accuracy of this observation. Abscess being excluded by the exploratory incision, the diagnosis clearly lay between ruptured aneurysm, simple hæmatoma owning no known cause, and new growth So markedly fluctuant, however, was the swelling that new growth seemed to be out of the question, and the belief was held that we should in all probability have to deal with a ruptured gluteal aneurysm, and preparations for meeting any difficulty which might arise in the course of operation were made accordingly This was undertaken on Feb 25th, my colleague, Mr Silcock, very kindly helping me

The original exploratory incision was first laid open and then gradually enlarged in the upward direction With a spoon and a stream of sterile water more than two pints of old and recent blood-clot were rapidly evacuated, and so vast was the cavity that of necessity the incision was by degrees extended from the crest of the ilium to below the great trochanter From the depths of the cavity laminated clot was turned out, one large portion being spherical in form, and looking much as if it had at one time been part of an aneurysmal sac Deeper clots and laminated fibrin being detached it was now for the first time obvious that active hæmorrhage was taking place from the sciatic notch This was controlled by sponge pressure until all clot had been quickly removed and we were then able to see that blood came in spurts from within the sciatic notch, evidently from the gluteal artery itself. Happily, this bleeding was under complete control by the finger but the actual bleeding point could not be seen, and evidently lay deeply on the inner side of the bone After several unsuccessful attempts to seize the bleeding point with pressure forceps, Mr Silcock ultimately made a luckly hit with a pair of forceps bent at the end to a right angle and completely stopped the bleeding It seemed to us both, however, that no reliance could be placed on these forceps for the *permanent* arrest of hæmorrhage, especially as the very awkward projection of the handles of the forceps from the wound made it impossible to secure them in such a manner as to be perfectly safe in the various unavoidable movements of the patient His condition allowing it, it was therefore resolved to tie the internal iliac artery at once. With the man still lying on his side the abdomen was opened in the right semilunar line, a position which favoured the fall of the intestines out of the way towards the left. Exceeding thinness of the abdominal wall was, moreover helpful in making the discovery of the vessel comparatively easy The covering peritoneum having been incised a single ligature of small silk was applied in the usual way This transperitoneal ligature of the internal iliac artery had not indeed added much to the length of the operation and the condition of the patient when he left the table was exceedingly good, this being due of course, in no small measure to the efficient way in which the bleeding had been controlled. He rallied well and for three days gave promise of recovery His temperature then suddenly rose to 103° F pneumonia set in and from this he died on March 2nd. Whether this was in any degree the result of septicity in the wound I cannot say but it is quite certain that perfect asepsis was not maintained and perhaps in all the circumstances—the size and depth of the cavity and the great probability that the parts were septically inflamed before the operation—this is no matter for surprise. Nevertheless, it is deeply to be regretted because there had been no return of bleeding and at the necropsy the internal iliac artery from the site of ligature onwards into the gluteal artery itself was found firmly occluded by healthy clot. The peritoneal and abdominal wounds were soundly healed There was grey hepatisation of the lower lobe of the right lung with extensive vegetations on the mitral and aortic valves.

The point of chief interest in this case is the necessity which arose in the course of the usual operation of turning out the blood-clot and aneurysmal remains of ligaturing the main trunk from which the diseased gluteal vessel sprang In more accessible parts this would hardly have called for comment but in the case of the gluteal artery the surgeon cannot lose sight of the fact that the opening in the vessel may perchance be intra pelvic and the application of a ligature impossible It was a happy chance and nothing else that the bleeding point was in this instance secured by bent forceps on the inner side of the bone. Had we failed to secure it in this manner it would have been a matter of exceeding difficulty if not impossibility to stay the bleeding and the patient might have bled to death before the iliac artery could have been tied I do not know how such a state of things could be foretold before the ruptured sac was laid open and the clots were turned out, and it is a question whether in the case of ruptured gluteal aneurysm it would not be good practice to secure the internal iliac artery before proceeding to deal with the aneurysm itself Here it is that transperitoneal ligature comes to the surgeon's aid, for in comparison with the old method of reaching the vessel this procedure is easy of execution and without much risk And if such a step involves departure from the principles which hold good in dealing with ruptured aneurysm it is surely justified by the anatomical arrangement of the vessels in this region of the body and absolves the surgeon from the necessity of following a law which may be here inapplicable and of no avail.

ON THE PRECIPITIN OF COBRA VENOM A MEANS OF DISTINGUISHING BETWEEN THE PROTEIDS OF DIFFERENT SNAKE POISONS

BY GEORGE LAMB, M B, GLASG

CAPTAIN INDIAN MEDICAL SERVICE

(*From the Research Laboratory Bombay*)

PRELIMINARY ACCOUNT

SINCE Bordet[1] in 1899 first demonstrated that the serum of a rabbit which was treated by intra peritoneal injections of the serum of another species of animal acquired after a time the property of forming a coagulum or precipitum when mixed with the serum of an animal of the same species this phenomenon has been worked out by other observers[2] for the sera of many species of animals and for various other proteid substances. It is not my intention in this note to trace in detail the evolution of the subject up to the present day It will suffice to mention that specific precipitins have been prepared for the sera of many species of animals and for such proteid substances as casein of milk the albumin which occurs pathologically in urine crystallised egg albumin, pure serum globulin from the sheep and from the bullock and Witte's peptone. The research made with the precipitins of the latter four of these substances was among the last published works of the late Dr Walter Myers In a paper in THE LANCET[3] he showed that the precipitin prepared by injections of egg albumin had no action on the other proteids with which he worked—namely serum globulin from the sheep, serum globulin from the bullock and Witte's peptone. He found however that the precipitin of serum globulin from the sheep did form a slight coagulum with the globulin got from bullock's serum and that, *vice versâ* the precipitin prepared with bullock's serum globulin precipitated to a slight degree the globulin got from sheep's serum Myers also demonstrated that the precipitins are used up in the course of their action. He looked upon this fact as strong evidence that the action of these bodies is a chemical action

It would appear then from these observations that we had at hand a means of distinguishing between various proteids and mixture of proteids for there can be no doubt that this animal test is more delicate than any chemical method of discrimination at present available. Up to within a few months ago all workers on the precipitins of immune sera looked upon this reaction as practically a specific one Thus for example it was thought that a precipitin prepared with human serum, while forming a slight precipitum with monkey's serum especially with the serum of the anthropoid apes gave absolutely no reaction with the sera of other animals more distantly related to man and that the same law held good for the precipitin of horse's serum when tested with the serum of the ass and of fowl's serum when tested with the serum of the pigeon &c

Quite recently however two French observers, Linossier and Lemoine,[4] have published a summary of their researches with the precipitins prepared for the sera of several species of animals. In a series of most interesting papers these workers have shown that the precipitins for proteid substances in general are not absolutely specific to any one chemical form of proteid and further, that the precipitin prepared for the serum of one species of animal is not absolutely specific for the serum of that species or even of allied species. Thus they found that a precipitin prepared by injections of the serum of an animal precipitates also the proteids in the saliva, in the semen, in the milk, and in the muscle juice of the same species of animal and also that such a serum precipitin causes a certain amount of precipitation with sera of other species of animals But they showed that while the reaction is not absolutely specific a marked degree of specificity is demonstrable inasmuch as the precipitum obtained is less voluminous as the animal the serum of which is being tested is separated in the animal scale from the animal the blood of which was used for the preparation of the precipitin They have shown in short, that there is in this phenomenon a marked relative specificity This relative specificity is apparent from the following two facts (1) the minimum quantity of precipitin necessary to give a precipitum is much less in the case of the corresponding serum than in the case of other sera and (2) the precipitum obtained is much more voluminous with the corresponding serum than with other sera. Further these workers found that in order to give a numerical expression to this relative specificity it is only necessary to ascertain at what maximum dilution the different sera begin to be precipitated under the action of a known precipitin the proportion of precipitin to diluted serum remaining the same in all the preparations Thus working with a serum prepared with the blood of the ox they found that the precipitin obtained began to cause a precipitation when mixed with the following sera at the maximum dilutions of serum of ox 1 in 5000 serum of horse, 1 in 300 and serum of man 1 in 50 It follows then, that in order to demonstrate the specificity of proteid precipitin the proteid which is being experimented with must be greatly diluted before an exact and trustworthy result can be obtained In the case of sera these observers advocate that to get a specific reaction the serum to be tested should be diluted at least a thousand fold. They show further that the test is so delicate that 0 01 milligramme of the proteid used for preparing the precipitin can be easily detected if a suitable amount of precipitin is brought in contact with this quantity [illegible]

[illegible] — 225 and 773.
p. 367 Uhlenhuth [illegible]
Nos 16, 17 and 45.
Wochenschrift 1901
Medical Literature
[illegible] Jan 8th 1902

[3] THE LANCET July 13th 1901, p. [illegible]

[4] Comptes Rendus de la Société de Biologie Tome [illegible] 1902, pp 25, 278, 320 and 1[illegible]

however, evident for *a priori* reasons that the quantity of precipitin in a sample of immune serum must vary according to the degree of immunity obtained by the injections, it is unnecessary here to enter into the figures detailed by these observers of the amount of serum which they consider necessary completely to precipitate a given quantity of proteid and of the amount of proteid which can use up completely the total quantity of precipitin in a sample of immune serum.

Such, then, are the general principles upon which the specificity of this reaction depends. And while these two French workers hold that the reaction is not absolutely specific they consider that it is quite trustworthy as a means of distinguishing proteid substances from one another if strict attention is paid to the details of technique roughly outlined above. We shall see later, from the observations which I have to put on record, that these principles are well founded.

With this introduction I may now pass on to put forward the results which I have obtained, working with an immune serum prepared for pure cobra venom. For the preparation of this serum rabbits were the animals employed. The rabbits the sera of which I used in the experiments about to be detailed were treated with subcutaneous injections of pure unheated cobra venom over a period of from four to five months, the injections being made at intervals of about 10 days. At the time of my observations they were able to stand a quantity a little over four times the minimum lethal dose of venom. For the demonstration and measurement of the precipitation action of the serum on the solution of poison the sedimentation tubes and the technique devised by Professor A. E. Wright[5] of Netley were employed. The advantages of using these tubes, as against small test tubes, I found to be very great. By their means exact measurements and dilutions, either of serum or of venom solution, can be accurately accomplished; only a small quantity of serum is necessary; the resulting precipitum, when present, is easily seen; further, after the precipitum has completely settled at the bottom of the tube the clear supernatant fluid is easily obtained by merely filing off the end of the tube containing the precipitum. The tubes, however, should be of slightly greater diameter than those recommended by Wright for serum diagnosis. It may be noted in passing that the precipitum obtained with cobra venom is indistinguishable, both macroscopically and microscopically, from the bacterial deposit obtained when the organisms of typhoid and Malta fevers are agglutinated and sedimented under the action of their specific sera. There was no doubt of the purity of the snake venoms with which I worked. With the exception of the poison of *Hoplocephalus curtus*, for which I am indebted to the kindness of Dr. F. Tidswell of Sydney, these were all collected, carefully dried, and stored under my own supervision. This precaution seems to me to be necessary, for a perusal of the literature of snake venoms shows one the great importance of working with pure venoms and of carefully differentiating the poison of one species from that of another even when the species are closely allied. I have pointed out in previous papers that no conclusions as to the physiological action of any one kind of venom can be drawn from the investigation of the action of the venom of even a closely allied species.

We shall first consider, then, the action which a serum prepared in the manner which I have indicated has on cobra venom itself, and then pass on to see its effect when mixed in the same way with a few other varieties of snake poison. As a preliminary measure, however, it was necessary to ascertain if normal rabbit's serum contained any precipitin for cobra venom. I experimented with the sera of six normal rabbits, mixing these in two different proportions—namely, four parts to one part—and in equal parts with solutions of cobra venom of four different strengths—namely, 1 per cent., 0·1 per cent., 0·01 per cent., and 0·001 per cent. In practically all the tubes which were filled in with one part of 1 per cent. venom and four parts of serum either a trace of or a marked precipitum was obtained after 24 hours; in a few instances in which the serum and the 1 per cent. venom solution were mixed in equal proportions a mere trace of precipitum was observed. On the other hand, in not a single instance in which the weaker strengths of venom solution—namely, 0·1 per cent., 0·01 per cent., and 0·001 per cent.—were employed was any precipitum found after the tubes had stood for 24 hours. It would appear, then, that normal rabbit's serum contains a trace of a substance capable of causing a precipitum with the proteids of cobra venom, but that the presence of this substance is only demonstrable when the solution of poison used is a comparatively strong one. It is evident, therefore, that in order to demonstrate the specific precipitin which, as we shall see, makes its appearance in considerable quantity in the blood as a result of repeated injections of cobra venom it is essential to use comparatively weak solutions of the poison. With the sera with which I worked it is also essential, as we shall see, to use an excess of serum in order to get the best results.

Working in this way and employing, as I have said, Wright's sedimentation tubes for the purpose of measuring the proportions of serum and venom solution and for the purpose of appraising the result of the reaction, one observes a copious and well marked precipitum when the serum of an immunised rabbit is brought in contact with a solution of cobra venom. A reference to Table I. of the protocols will show the result when solutions of cobra venom of strengths of 0·1 per cent., 0·01 per cent., 0·001 per cent., and 0·0001 per cent. respectively were mixed in varying proportions with cobra venom serum. In this table, also, for the sake of a comparison to be referred to later, the result of the similar reaction got with daboia venom and the same serum is included. Confining our attention, however, for the present to the precipitation reaction which this serum gives with cobra venom, it is evident from a study of the table that in order best to demonstrate this action an excess of such an immune serum as the one with which I worked should be added to a comparatively, but not too, weak solution of venom. Thus in those preparations in which two, three, or four parts of serum were mixed with one part of 0·1 per cent. and 0·01 per cent. solutions of venom a copious precipitum was obtained. When, however, the proportion of serum to venom solution was gradually decreased the precipitum became less and less and ultimately none was formed. With the weaker solution of venom—namely, 0·001 per cent., only a slight precipitum was obtained and that only when the serum was less in quantity than the venom solution. Finally, with the very weak solution of venom—namely, 0·0001 per cent.—no precipitum was formed at all.

Before proceeding to attempt to give a numerical expression of the amount of precipitin in the serum which was used for these experiments I have to draw attention to two facts of importance: (1) that the serum is active for those proteids in cobra venom which are incoagulable by heat, and (2) that heating the serum to a moderate degree does not affect the action of the precipitin. To demonstrate this first fact a 0·2 per cent. solution of cobra venom was divided into two portions, one portion was left unheated while the other portion was heated in a water bath at 75° C. for half an hour. The proteids coagulated in this way were then removed by filtration. The serum of a rabbit immunised with cobra venom was then mixed in different proportions with each of these two solutions after the manner which I have already described. The results of these experiments are detailed in Table II. of the protocols. From this table it will be seen that no difference was noticed between the precipita obtained with the filtrates containing the incoagulable proteids of the venom and the precipitate got with the solutions of the whole poison. As a like result was obtained with daboia venom, and for the sake of convenience and comparison, a similar series of experiments with this venom is detailed in this table. This will be referred to later. To demonstrate the second fact which I have stated above—namely, that heating to a moderate degree does not affect the precipitin of cobra venom—serum of a rabbit which had been treated with repeated injections of cobra venom was divided into two portions, one portion was left unheated while the other portion was heated in a water bath at 55° C. for half an hour. The precipitation reaction of these two samples of serum was then tested side by side with a 0·1 per cent. solution of cobra venom. This series of experiments is detailed in Table III. of the protocols. From this table it will be seen that no difference was apparent between the preparations made with unheated serum and those made with heated serum. In this table also, for the sake of convenience, similar observations with the same sample of serum and daboia venom are included. Reference will be made to these observations later.

I have stated above that Myers found that the precipitins with which he worked were used up in the course of their action and that he looked upon this fact as strong evidence that the action of these bodies is a chemical action. I have found also that the precipitin of cobra venom is completely used in the course of its action and that by estimating with what proportions of serum and venom solution of known strength this occurred a numerical expression could be given to the precipitation value of the serum. Thus, if a suitable proportion of serum and venom solution be mixed and left in contact for from 18 to 24 hours so that a copious precipitum settles down to the bottom of the tube it is found that the clear supernatant fluid contains neither precipitin nor precipitable proteid I found that with the serum of the rabbit with which I worked this complete neutralisation took place when six parts of serum were brought in contact with one part of a 0·05 per cent. solution of poison A reference to Tables IV (*a*) and (*b*) of the protocols will show the method by which this fact was experimentally demonstrated. From these tables it will also be seen that when the serum was present in greater amount than six parts to one part of venom solution (0·05 per cent.) the supernatant fluid contained free precipitin, the quantity of this free precipitin depending on the amount of serum used, and *vice versâ* when the serum was present in less amount than six parts to one part of the poison solution (0·05 per cent.) the supernatant fluid contained free precipitable substances which were precipitated on the addition of fresh serum. If we take it, then, that six parts of serum were exactly neutralised by one part of a solution of venom of 0·05 per cent. strength a simple calculation will show that 1 cubic centimetre of this serum—namely the immune serum which I used in this experiment—would be neutralised by 0·083 milligramme of cobra venom as far as the precipitin was concerned. Until however I have obtained a serum for cobra venom of much greater antitoxic power than this serum I am unable to experiment with the view of ascertaining whether the precipitin value, estimated [illegible] following will serve as a method of standardising the [illegible] therapeutic purposes. Should this method be avail. [illegible] it seems to me that we shall have at hand a method of standardisation much simpler easier to put into practice and more exact than any method in which animal's lives are used as the index of the neutralisation point For instead of depending on a variable element—namely an animal's personal idiosyncrasy to the poison—we shall have as our basis of observation a chemical reaction the result of which can be easily seen by the naked eye Many more experiments, however will have to be undertaken before any definite conclusions on this point can be arrived at.

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[5] THE LANCET, July 5th, 1902, p. 11. Brit. Med. Jour., Feb. 5th, 1898.

From this brief preliminary account of the precipitin of the proteids of cobra venom it is evident that this reaction is of the same nature as the specific serum reaction to which I have referred above, and also strictly analogous to the reaction which Myers[6] described with the precipitins of white of egg and serum globulins.

We have now in conclusion, to pass on and to show how this reaction can be used as a means of differentiating the proteids of one kind of snake venom from the proteids of any other variety Up to now I have had at my disposal only the serum of animals immunised with cobra venom, I hope, at a later date, to extend these observations, using sera prepared with several other kinds of snake poison I have tested this cobra venom serum with four other snake venoms—namely (1) with the venom of *Daboia Russellii* the Indian chain viper (2) with the venom of *Echis carinata* or phoorsa, a small Indian viper (3) with the venom of *Bungarus fasciatus* or banded krait, an Indian snake of the colubrine family, and (4) with the venom of *Hoplocephalus curtus* the Australian tiger snake, also a colubrine snake. I have already incidentally drawn attention to the action of cobra venom precipitin on the first mentioned of these poisons. We shall consider immediately the results of the whole of these observations.

The technique which was used in these experiments was slightly varied from that which I have already described This variation consisted in bringing the same proportions of serum and venom solutions of different strengths in contact with one another the observation of the result being as in the other experiments, appraised in Wright's tubes 18 to 24 hours after the preparations were put up. In one series of experiments three parts of serum and in a second series two *parts of serum were mixed with one part of venom solution*, which varied in strength from 0·1 per cent to 0·001 per cent. The results of these two series of observations are recorded in Tables IV and V of the protocols respectively As a control and for the sake of comparison with the daboia venom series, a similar series of observations with the same sample of serum and cobra venom the poison which was used in the preparation of the serum is included in each of these tables A glance at these tables will show that the precipitin which is developed in the animal body as a result of injections of pure cobra venom has no reaction on three of the poisons with which I experimented—namely (1) the venom of *Echis carinata* (2) the venom of *Bungarus fasciatus*, and (3) the venom of *Hoplocephalus curtus* Two of the snakes—viz., *Bungarus fasciatus* and *Hoplocephalus curtus*—are colubrine snakes while *Echis carinata* is a viper Without entering at present into the consideration of the physiological action of these venoms compared with the action of cobra poison—a question which I shall take up in another communication—we can at once say from this precipitin test that the proteids which these three venoms contain have not the same chemical composition as the proteids of cobra venom. We have here, then, another example of the extreme delicacy of this biological test for proteids when compared with the crude methods of discrimination which have been available to physiological chemists up to the present day This result further completely disproves Martin's[7] hypotheses—namely that at least two proteid substances are present in all snake venoms (1) a proteid substance which is coagulable by heat and which exerts its physiological action on the blood and heart and (2) one which is incoagulable by heat and which kills by causing paralysis of the central nervous system and that snake venoms only differ from one another in physiological action according as they contain mo[illegible] less of one or other of these proteids—for the observ[illegible] which I have just recorded definitely prove th[illegible] on[illegible] these three kinds of poison contains any of the pro[illegible]stances which are present in cobra venom.

Let [illegible] on, finally to notice the reaction given with daboia venom and cobra venom serum. The problem which arises out of the fact that the serum prepared with cobra venom forms a coagulum with daboia venom as well as with its corresponding poison is a problem which will require careful investigation. I do not, therefore, intend in the present note to go into this question beyond drawing attention to one or two points which suggest themselves from the data contained in the various tables of the protocols. A reference to Table I of the protocols will show that when a 0·1 per cent. solution of both cobra and daboia venoms was used no difference was noticed in the precipitation reaction when varying amounts of the immune serum and of the venom solutions were brought in contact. Such a result would appear to warrant the *conclusion that the proteids of* cobra and daboia venoms were chemically identical. Now in a recent paper[8] along with Dr W Hanna, and in a paper which is in process of publication, I have definitely shown that the physiological action of cobra venom is quite different from the physiological action of daboia venom I have shown that even the actions which these two venoms have on the red blood cells and on the coagulability of the blood plasma, which at first sight appeared of the same nature, can be shown on closer investigation to be quite distinct. It is also important in this connexion to point out, as was shown by Hanna and myself[9] that Calmette's antivenomous serum does neutralise cobra venom but has no effect on daboia poison. If then, this biological test should show on further investigation that the proteid constituents of cobra venom are exactly the same as those of daboia venom we must conclude that the proteids contained in these venoms are not the toxic constituents of the poisons. The results tabulated in Tables II and III go to support this hypothetical conclusion for a glance at these two tables will show (1) that cobra venom serum forms a precipitum with the proteids of daboia venom which are incoagulable by heat, exactly the same as the precipitum given with the proteids of cobra venom which are incoagulable by heat and (2) that heated cobra venom serum forms a precipitum with daboia venom in every way the same as that formed with however, evident for *a priori* reasons that the quantity of precipitin in a sample of immune serum must vary according to the degree of immunity obtained by the injections, it is unnecessary here to enter into the figures detailed by these observers of the amount of serum which they consider necessary completely to precipitate a given quantity of proteid and of the amount of proteid which can use up completely the total quantity of precipitin in a sample of immune serum.

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[6] Loc. cit.

[7] Snakes Snake Poisons and Snake Bites Holmes's Medical Supplement Dec 4th 1896.

[8] Journal of Pathology and Bacteriology 1902, vol. viii No. 1 p. 1.

[9] The Lancet June 15th, 1901 p. 1661. Journal of Pathology and Bacteriology 1902, vol. viii., No 1 p 1

Such then, are the general principles upon which the specificity of this reaction depends. And while these two French workers hold that the reaction is not absolutely specific they consider that it is quite trustworthy as a means of distinguishing proteid substances from one another if strict attention is paid to the details of technique roughly outlined above. We shall see later, from the observations which I have to put on record, that these principles are well founded.

With this introduction I may now pass on to put forward the results which I have obtained, working with an immune serum prepared for pure cobra venom. For the preparation of this serum rabbits were the animals employed. The rabbits the sera of which I used in the experiments about to be detailed were treated with subcutaneous injections of pure unheated cobra venom over a period of from four to five months, the injections being made at intervals of about 10 days. At the time of my observations they were able to stand a quantity a little over four times the minimum lethal dose of venom. For the demonstration and measurement of the precipitation action of the serum on the solution of poison the sedimentation tubes and the technique devised by Professor A. E. Wright[5] of Netley were employed. The advantages of using these tubes, as against small test tubes, I found to be very great. By their means exact measurements and dilutions, either of serum or of venom solution, can be accurately accomplished ; only a small quantity of serum is necessary ; the resulting precipitum, when present, is easily seen ; further, after the precipitum has completely settled at the bottom of the tube the clear supernatant fluid is easily obtained by merely filing off the end of the tube containing the precipitum. The tubes, however, should be of slightly greater diameter than those recommended by Wright for serum diagnosis. It may be noted in passing that the precipitum obtained with cobra venom is indistinguishable, both macroscopically and microscopically from the bacterial deposit obtained when the organisms of typhoid and Malta fevers are agglutinated and sedimented under the action of their specific sera. There was no doubt of the purity of the snake venoms with which I worked. With the exception of the poison of *Hoplocephalus curtus*, for which I am indebted to the kindness of Dr F Tidswell of Sydney, these were all collected, carefully dried, and stored under my own supervision. This precaution seems to me to be necessary, for a perusal of the literature of snake venoms shows one the great importance of working with pure venoms and of carefully differentiating the poison of one species from that of another even when the species are closely allied. I have pointed out in previous papers that no conclusions as to the physiological action of any one kind of venom can be drawn from the investigation of the action of the venom of even a closely allied species.

We shall first consider, then, the action which a serum prepared in the manner which I have indicated has on cobra venom itself, and then pass on to see its effect when mixed in the same way with a few other varieties of snake poison. As a preliminary measure, however, it was necessary to ascertain if normal rabbit's serum contained any precipitin for cobra venom. I experimented with the sera of six normal rabbits, mixing these in two different proportions—namely four parts to one part—and in equal parts with solutions of cobra venom of four different strengths—namely, 1 per cent , 0·1 per cent , 0·01 per cent., and 0·001 per cent. In practically all the tubes which were filled in with one part of 1 per cent venom and four parts of serum either a trace of or a marked precipitum was obtained after 24 hours ; in a few instances in which the serum and the 1 per cent venom solution were mixed in equal proportions a mere trace of precipitum was observed. On the other hand, in not a single instance in which the weaker strengths of venom solution—namely, 0·1 per cent 0·01 per cent , and 0·001 per cent —were employed was any precipitum found after the tubes had stood for 24 hours. It would appear, then, that normal rabbit's serum contains a trace of a substance capable of causing a precipitum with the proteids of cobra venom, but that the presence of this substance is only demonstrable when the solution of poison used is a comparatively strong one. It is evident, therefore, that in order to demonstrate the specific precipitin which, as we shall see, makes its appearance in considerable quantity in the blood as a result of repeated injections of cobra venom it is essential to use comparatively weak solutions of the poison. With the sera with which I worked it is also essential, as we shall see, to use an excess of serum in order to get the best results.

Working in this way and employing, as I have said, Wright's sedimentation tubes for the purpose of measuring the proportions of serum and venom solution and for the purpose of appraising the result of the reaction, one observes a copious and well marked precipitum when the serum of an immunised rabbit is brought in contact with a solution of cobra venom. A reference to Table I of the protocols will show the result when solutions of cobra venom of strengths of 0·1 per cent., 0·01 per cent , 0·001 per cent., and 0·0001 per cent. respectively were mixed in varying proportions with cobra venom serum. In this table, also, for the sake of a comparison to be referred to later, the result of the similar reaction got with daboia venom and the same serum is included. Confining our attention, however, for the present to the precipitation reaction which this serum gives with cobra venom, it is evident from a study of the table that in order best to demonstrate this action an excess of such an immune serum as the one with which I worked should be added to a comparatively, but not too, weak solution of venom. Thus in those preparations in which two, three, or four parts of serum were mixed with one part of 0·1 per cent. and 0·01 per cent. solutions of venom a copious precipitum was obtained. When, however, the proportion of serum to venom solution was gradually decreased the precipitum became less and less and ultimately none was formed. With the weaker solution of venom—namely, 0·001 per cent., only a slight precipitum was obtained and that only when the serum was less in quantity than the venom solution. Finally, with the very weak solution of venom—namely, 0·0001 per cent.—no precipitum was formed at all.

Before proceeding to attempt to give a numerical expression of the amount of precipitin in the serum which was used for these experiments I have to draw attention to two facts of importance (1) that the serum is active for those proteids in cobra venom which are incoagulable by heat, and (2) that heating the serum to a moderate degree does not affect the action of the precipitin. To demonstrate this first fact a 0·2 per cent solution of cobra venom was divided into two portions ; one portion was left unheated while the other portion was heated in a water bath at 75° C for half an hour. The proteids coagulated in this way were then removed by filtration. The serum of a rabbit immunised with cobra venom was then mixed in different proportions with each of these two solutions after the manner which I have already described. The results of these experiments are detailed in Table II of the protocols. From this table it will be seen that no difference was noticed between the precipita obtained with the filtrates containing the incoagulable proteids of the venom and the precipitate got with the solutions of the whole poison. As a like result was obtained with daboia venom, and for the sake of convenience and comparison, a similar series of experiments with this venom is detailed in this table. This will be referred to later. To demonstrate the second fact which I have stated above—namely, that heating to a moderate degree does not affect the precipitin of cobra venom—serum of a rabbit which had been treated with repeated injections of cobra venom was divided into two portions ; one portion was left unheated while the other portion was heated in a water bath at 55° C for half an hour. The precipitation reaction of these two samples of serum was then tested side by side with a 0·1 per cent. solution of cobra venom. This series of experiments is detailed in Table III of the protocols. From this table it will be seen that no difference was apparent between the preparations made with unheated serum and those made with heated serum. In this table also, for the sake of convenience, similar observations with the same sample of serum and daboia venom are included. Reference will be made to these observations later.

I have stated above that Myers found that the precipitins with which he worked were used up in the course of their action and that he looked upon this fact as strong evidence that the action of these bodies is a chemical action. I have found also that the precipitin of cobra venom is completely used in the course of its action and that by estimating with what proportions of serum and venom solution of known strength this occurred a numerical expression could be given to the precipitation value of the serum. Thus, if a suitable proportion of serum and venom solution be mixed and left in contact for from 18 to 24 hours so that a copious precipitum settles down to the bottom of the tube, it is found that the clear supernatant fluid contains neither precipitin nor precipitable proteid I found that with the serum of the rabbit with which I worked this complete neutralisation took place when six parts of serum were brought in contact with one part of a 0·05 per cent. solution of poison A reference to Tables IV (*a*) and (*b*) of the protocols will show the method by which this fact was experimentally demonstrated. From these tables it will also be seen that when the serum was present in greater amount than six parts to one part of venom solution (0·05 per cent.) the supernatant fluid contained free precipitin, the quantity of this free precipitin depending on the amount of serum used and *vice versâ* when the serum was present in less amount than six parts to one part of the poison solution (0·05 per cent.) the supernatant fluid contained free precipitable substances which were precipitated on the addition of fresh serum. If we take it, then, that six parts of serum were exactly neutralised by one part of a solution of venom of 0·05 per cent. strength, a simple calculation will show that 1 cubic centimetre of this serum—namely the immune serum which I used in this experiment—would be neutralised by 0·083 milligramme of cobra venom as far as the precipitin was concerned. Until however I have obtained a serum for cobra venom of much greater antitoxic power than this serum I am unable to experiment with the view of ascertaining whether the precipitin value, estimated following will serve as a method of standardising the therapeutic purposes. Should this method be avai seems to me that we shall have at hand a metho standardisation much simpler easier to put into practice more exact than any method in which animals lives used as the index of the neutralisation point. For ins of depending on a variable element—namely an ani personal idiosyncrasy to the poison—we shall have as basis of observation a chemical reaction the result of w can be easily seen by the naked eye Many more ex ments, however will have to be undertaken before definite conclusions on this point can be arrived at.

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[5] THE LANCET July 5th, 1902, p 11 Brit Med Jour Feb 5th, 1898

From this brief preliminary account of the precipitin of the proteids of cobra venom it is evident that this reaction is of the same nature as the specific serum reaction to which I have referred above, and also strictly analogous to the reaction which Myers described with the precipitins of white of egg and serum globulins.

We have now in conclusion, to pass on and to show how this reaction can be used as a means of differentiating the proteids of one kind of snake venom from the proteids of any other variety Up to now I have had at my disposal only the serum of animals immunised with cobra venom I hope at a later date, to extend these observations using sera prepared with several other kinds of snake poison. I have tested this cobra venom serum with four other snake venoms—namely (1) with the venom of *Dabola Russellii* the Indian chain viper (2) with the venom of *Echis carinata* or fhoorsa, a small Indian viper (3) with the venom of *Bungarus fasciatus* or banded krait an Indian snake of the colubrine family and (4) with the venom of *Hoplocephalus curtus* the Australian tiger snake, also a colubrine snake. I have already incidentally drawn attention to the action of cobra venom precipitin on the first mentioned of these poisons. We shall consider immediately the results of the whole of these observations.

The technique which was used in these experiments was slightly varied from that which I have already described This variation consisted in bringing the same proportions of serum and venom solutions of different strengths in contact with one another the observations of the result being as in the other experiments, appraised in Wright's tubes 18 to 24 hours after the preparations were put up In one series of experiments three parts of serum and in a second series two parts of serum were mixed with one part of venom solution which varied in strength from 0·1 per cent to 0·001 per cent The results of these two series of observations are recorded in Tables IV and V of the protocols respectively As a control and for the sake of comparison with the dabola venom series, a similar series of observations with the same sample of serum and cobra venom the poison which was used in the preparation of the serum, is included in each of these tables A glance at these tables will show that the precipitin which is developed in the animal body as a result of injections of pure cobra venom has no reaction on three of the poisons with which I experimented—namely (1) the venom of *Echis carinata*, (2) the venom of *Bungarus fasciatus*, and (3) the venom of *Hoplocephalus curtus* Two of the snakes—viz. *Bungarus fasciatus* and *Hoplocephalus curtus*—are colubrine snakes, while *Echis carinata* is a viper Without entering at present into the consideration of the physiological action of these venoms compared with the action of cobra poison—a question which I shall take up in another communication—we can at once say from this precipitin test that the proteids which these three venoms contain have not the same chemical composition as the proteids of cobra venom. We have here, then another example of the extreme delicacy of this biological test for proteids when compared with the crude methods of discrimination which have been available to physiological chemists up to the present day This result further completely disproves Martin's[7] hypotheses—namely that at least two proteid substances are present in all snake venoms (1) a proteid substance which is coagulable by heat and which exerts its physiological action on the blood and heart and (2) one which is incoagulable by heat and which kills by causing paralysis of the central nervous system and that snake venoms only differ from one another in physiological action according as they contain mo less of one or other of these proteids—for the obser which I have just recorded definitely prove that no these three kinds of poison contains any of stances which are present in cobra venom

on, finally to notice the reaction given with and cobra venom serum. The problem which the fact that the serum prepared with cobra a coagulum with dabola venom as well as with ding poison, is a problem which will require estigation. I do not therefore intend in the te to go into this question beyond drawing atten one or two points which suggest themselves from the contained in the various tables of the protocols. A reference to Table I. of the protocols will show that when a 0·1 per cent. solution of both cobra and dabola venoms was used no difference was noticed in the precipitation reaction when varying amounts of the immune serum and of the venom solutions were brought in contact. Such a result would appear to warrant the conclusion that the proteids of cobra and dabola venoms were chemically identical. Now in a recent paper[8] along with Dr W Hanna, and in a paper which is in process of publication, I have definitely shown that the physiological action of cobra venom is quite different from the physiological action of dabola venom. I have shown that even the actions which these two venoms have on the red blood cells and on the coagulability of the blood plasma, which at first sight appeared of the same nature, can be shown on closer investigation to be quite distinct. It is also important in this connexion to point out, as was shown by Hanna and myself[9] that Calmette's anti venomous serum does neutralise cobra venom but has no effect on dabola poison If then, this biological test should show on further investigation that the proteid constituents of cobra venom are exactly the same as those of dabola venom we must conclude that the proteids contained in these venoms are not the toxic constituents of the poisons The results tabulated in Tables II and III. go to support this hypothetical conclusion for a glance at these two tables will show (1) that cobra venom serum forms a precipitum with the proteids of dabola venom which are incoagulable by heat, exactly the same as the precipitum given with the proteids of cobra venom which are incoagulable by heat and (2) that heated cobra venom serum forms a precipitum with dabola venom in every way the same as that formed with

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Loc. cit.

[7] Snakes Snake Poisons and Snake-bites Hrime's Medical Supplement Dec. 4th, 1896.

[8] Journal of Pathology and Bacteriology 1902, vol viii., No 1 p. 1

[9] THE LANCET June 15th 1901 p. 1661 Journal of Pathology and Bacteriology 1902, vol viii. No 1 p. 1

cobra poison If, then, this test is a relatively specific test for proteids we have in all these data to which I have drawn attention evidence which suggests that the proteids of cobra venom are either identical with the proteids of daboia venom or failing this, that they possess the same "haptophoric group" It may be noted that if the former alternative were established it would follow that the proteid substances which are precipitated in these reactions are not the toxic elements of the venoms

On the other hand, when we come to look more closely into the results tabulated in Tables I. V, and VI., a slight difference is seen to exist between the reaction that the serum gave with cobra venom and that which it gave with daboia venom This difference consists in the fact that with the same amount of serum a precipitum is formed with a weaker solution of cobra venom than is the case when daboia venom is used This fact is shown best in the results detailed in Tables V and VI The difference certainly is not very great and it is just a question as to whether or not it is sufficient to warrant the conclusion that the proteids of the one poison are different from the proteids of the other venom so different (granting that these substances are the toxic constituents of the poisons) as to lead one to expect the physiological actions of the two venoms to be so distinct as they are I propose, however, to leave the problem in this position for the present, hoping that the experiments which are now in progress in this laboratory will settle the question one way or the other

PROTOCOLS

TABLE I —*Experiments to show the Precipitation Reaction of Cobra Venom Serum on Cobra Venom and on Daboia Venom*

The rabbit the serum of which was used for these experiments had received for over a period of four months repeated subcutaneous injections of pure acheated cobra venom At the time of these observations, the receiving about four times the minimum lethal dose further, ood we collected in the bent capsules figured by the bottom of allowed to clot and the clear serum was pipsily obtained two or three hours after withdrawal Four difftaining the of solutions of cobra and daboia venoms wereof slightly namely 0 1 per cent, 0 01 per cent., 0 001 pWright for 0 0001 per cent These were made with normg that the tion (0 75 per cent) The serum was brought inguishable, each venom solution in varying proportions as inacterial the table All dilutions, &c, were made by means of Malta sedimentation tubes in which also the mixtures were of for from 18 to 20 hours at laboratory temperature (about 29° C) after which time the observations were recorded In this and in all subsequent tables the following signs are used + signifies a copious precipitum, × signifies a marked precipitum, * signifies a slight or trace of precipitum, and 0 signifies no precipitum

Parts of serum	Parts of venom solution	Result							
		C V 1/	D V 1	C V 01/	D V 01/	C V ·001/	D V 001/	C V 0·01	D V 0001
4	1	+	+	+	0	0	0	0	0
3	1	+	+	+	0	0	0	0	0
2	1	+	+	+	*	0	0	0	0
1	1	×	×	×	×	0	0	0	0
1	2	*	*	×	×	*	0	0	0
1	3	*	*	×	×	*	0	0	0
1	4	*	*	*	*	*	0	0	0
1	5	0	0	*	0	0	0	0	0
1	10	0	0	*	0	0	0	0	0

TABLE II —*Experiments to Compare the Precipitation Reaction of Cobra Venom Serum with whole Cobra and Daboia Venoms and with the Same Poisons from which the Proteids Coagulable by Heat had been Removed*

The serum of the same rabbit as was used for the experiment detailed in Table I was employed A 0 2 per cent. solution of each poison was heated in a water bath for half an hour at 75° C The coagulated proteids were then removed by filtration The precipitation reaction of the serum with unheated and heated solutions of each venom was determined by a technique the same as I have already described

Parts of serum	Parts of venom solution	Results			
		C V unheated	C V heated	D V unheated	D V heated
4	1	+	+	+	+
3	1	+	+	+	+
2	1	+	+	+	+
1	1	×	×	×	×
1	2	×	×	*	*
1	3	*	*	*	*
1	4	*	*	0	0
1	5	0	0	0	0
1	10	0	0	0	0

TABLE III —*Experiments to Demonstrate the Effect on its Precipitation Reaction which Heating the Serum of a Rabbit Immunised with Cobra Venom has when Tested with both Cobra and Daboia Venoms*

The serum of the same rabbit as was used in the series of experiments already detailed was divided into two portions One portion was left unheated while the other portion was heated in a water bath for half an hour at 55° C The precipitation reaction of those two portions of serum was then tested side by side with cobra and daboia venoms (0 1 per cent solutions) The same technique was used as in the previous experiments

Parts of serum	Parts of venom solution	Cobra venom (0 1 per cent)		Daboia venom (0·1 per cent)	
		Unheated serum	Heated serum	Unheated serum	Heated serum
[illegible]	1	+	+	+	+
3	1	+	+	+	+
2	1	+	+	+	+
1	1	×	×	×	×
1	2	×	×	×	×
1	3	*	×	*	*
1	4	*	*	*	
1	5	0	*	0	0
1	10	0	0	0	0

TABLE IV (*a*) *and* (*b*) —*Experiments to Determine what Quantity of Cobra Venom Serum was required exactly to Neutralise and Precipitate a Given Quantity of Cobra Venom*

The serum used was got from a rabbit which had received repeated doses of pure cobra venom for over a period of four months The strength of venom solution employed was 0 05 per cent Two series of experiments were made.

In the first series varying proportions of serum were mixed with one part of the venom solution The preparations were allowed to stand at laboratory temperature (about 29° C) for 24 hours The following was the result obtained

Parts of serum	Parts of venom solution	Result
16	1	+
14	1	+
12	1	+
8	1	+
6	1	+
4	1	+
2	1	×
1	1	×
½	1	*

In the second series of experiments the clear supernatant fluid in each of these tubes was got by simply filing off the end of the tube with the contained precipitum The supernatant fluid was divided into two portions To one portion was added an equal quantity of cobra venom solution (0·05 per cent.) and to the other portion there was added an equal

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[10] Brit Med Jour Feb 5th 1898.

amount of the same cobra venom serum as was used in the first series. The mixtures were stored in Wright's tubes. The result was observed from 20 to 24 hours after the preparations had been put up. It was as follows —

Proportion of serum to venom solution in original preparation	C V (0·05 per cent.)	Serum
16-1	×	0
14-1	×	0
12-1	*	0
8-1	*	0
6-1	0	0
4-1	0	*
2 1	0	×
1 1	0	+
½-1	0	+

It is evident, then, that the neutralisation point was reached when six parts of serum were mixed with one part of the venom solution (0 05 per cent)

TABLE V —*Experiments with Cobra Venom Serum and other Varieties of Snake Poison.*

The serum of the same rabbit as was used for the previous series of experiments was employed Two parts of this serum were mixed in Wright's sedimentation tubes with one part of each solution of each variety of snake venom as indicated below The snake poisons used were (1) cobra venom = C.V (2) *Daboia Russellii* venom = D V (3) venom of *Echis carinata* = E C.V , (4) venom of *Bungarus fasciatus* = B F V and (5) venom of *Hoplocephalus curtus* = H.C V The dilutions of venom were made with normal saline solution the measuring being accomplished by means of Wright's tubes. Observations were recorded from 8 to 20 hours after the preparations had been put up The following were the results obtained —

Serum = 2 Parts Venom Solution = 1 Part

Strength of venom solution per cent.	C V	D V	E.C V	B F V	H.C V
1·0	×	×	—	—	—
0·5	×	×	—	—	—
0·1	+	+	0	0	0
0·05	+	+	0	0	0
0·025	+	+	0	0	0
0·0125		*	0	0	0
0·01	×	0	—	—	—
0·0062	×	0	0	0	0
0 006	×	0	—	—	—
0 0031		0	0	0	0
0·0015	0	0	0	0	0
0 001	0	0	—	—	—

TABLE VI —*Experiments with Cobra Venom Serum and other Varieties of Snake Poison.*

This series of experiments was similar to that tabulated in Table V the only difference being that three parts of serum instead of two parts were mixed with one part of each dilution of each variety of snake venom as indicated below The following were the results obtained :—

Serum = 3 Parts Venom Solution = 1 Part.

Strength of venom solution per cent.	C V	D V	E.C.V	B F V	H.C.V
0·1	+	+	0	0	0
0 05	+	+	0	0	0
0·025	+	×	0	0	0
0·0125	+		0	0	0
0·00625		0	0	0	0
0 0031	0	0	0	0	0
0·0015	0	0	0	0	0

Bombay

"FOURTH DISEASE"

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THE definite existence of a "fourth disease" distinct from measles, scarlet fever and rubella was first advocated by Dr Clement Dukes[1] in a paper on the Confusion of Two Different Diseases under the name Rubella (Rose rash) ' It is true that Thomas[2] after stating that according to his observations the exanthem of rubeola possesses a similarity to that of measles only and not the slightest to that of normal scarlet fever then wrote I am willing to admit the possibility of the existence of an equally important specific affection with a scarlatinous condition of the skin, although with all watchfulness I have as yet never met with such a form " Further Dukes[3] himself may be said to have foreshadowed the possible existence of two distinct diseases in the latter part of the paragraph which says 'Another remarkable fact about rose rash is that although both varieties of rose-rash may appear in the same epidemic, as I have shown, yet the measles variety like measles itself usually occurs in large numbers while the scarlet fever variety like scarlet fever itself always occurs to a much more limited extent. The definite statement, however was not made until this writer in the article first quoted[4] said

On the verge of the twentieth century we are only just discovering and not merely surmising that a fourth disease, perfectly distinct from measles, rose-rash and scarlet fever is to be distinguished."

However much we may regret the introduction of a source of greater confusion into our already indefinite ideas of the distinguishing features of the commoner exanthemata, yet as Ker[5] says we should all be working in the pursuit of truth and the easiest way to settle a question is not to burke it but to discuss it openly " For a consideration, therefore of this subject it is in the first place desirable to obtain a clear and detailed idea of the characteristics of the three diseases from which this is to be differentiated. The distinguishing features have however been already so thoroughly described and contrasted by Atkinson[6] Edwards[7] Dukes,[8] and others that it would be a work of supererogation to recapitulate all the points here. On account, however of the apparently great similarity of most of the features of fourth disease" with those of rubella and of the undoubted confusion which exists concerning this disease I think it is advisable that we should carefully consider some points which have a very important bearing on the differential diagnosis Despite the fact that Thomas[9] concluded that the exanthem of rubeola possesses a similarity to that of measles only it must be admitted that the majority of writers support the dual appearance of the eruption in this disease. Dukes himself[10] says In one epidemic of rose-rash the whole of the cases will resemble measles. In another epidemic of the same illness every case will resemble scarlet fever as occurred in an entire series of cases in the two schools where I was consulted comprising 16 cases at one school and 12 at the other In another epidemic some cases will simulate measles and others scarlet fever Watson Williams[11] says

There is undoubtedly a tendency for rubella to breed true so that in any given epidemic the cases mostly exhibit either the morbilliform or the scarlatiniform type but the occurrence of the two types together leaves no room for doubt that such two types of one and the same disease do exist " He describes an epidemic of rubella mild at first but later typically morbilliform, in which were two cases that would be termed fourth disease" by those who believed the scarlatiniform variety to be a distinct affection. One at least he says exhibited all the characteristic features associated with that case and others showed every gradation between the morbilliform variety of rubella and fourth disease It is unnecessary then to adduce further evidence in support of the existence of the two types of rubella.

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[1] THE LANCET July 14th 1900 p. [illegible]
[2] Ziemssen's Cyclopædia, 18[illegible] article Rubeola.
[3] THE LANCET March 31st 18[illegible] p [illegible]
[4] Loc cit
[5] Practitioner 1902 vol lxviii. p. 1[illegible]
[6] International Journal of Medical Science [illegible]
[7] Keating's Cyclopædia Diseases of Children, article Rubella.
[8] Loc cit [9] Loc cit [10] Loc. cit
[11] Brit Med Jour., Dec [illegible]

Now, in his original article advocating the recognition of a "fourth disease ' Dr Dukes says, when speaking of German measles (rubella) "I hope to prove to the satisfaction of the profession that this disease does not consist of two varieties of one kind, as I have hitherto contended with the profession in general, but that two definite and separate diseases have been confounded under one name," and Dr Ashby,[12] in the discussion on the early diagnosis of the acute specific fevers at the meeting of the British Medical Association in 1901, "believed with Dr Dukes that there were two diseases often included under the term "rubella," the common one with a long incubation period which mimicked measles and a rare one only diagnosable when it prevailed in epidemics and with a short incubation which mimicked scarlet fever" More recently Dr Dukes[13] states that the majority of cases of rubella begin and terminate with an eruption resembling measles, but that there is another set in which the eruption at the commencement is like measles and then finishes in patches like scarlet fever "It is not, however, such cases to which the name of 'fourth disease' is applied" One cannot help agreeing with Killick Millard[14] that it is to be regretted that the expressions used in introducing the subject should have been so indefinite as to allow such an erroneous conclusion to be drawn.

A differential diagnosis must then keep in mind the following types of disease (1) scarlet fever, (2) scarlatiniform variety of rubella, (3) morbilliform variety of rubella, and (4) measles According to Dr Dukes the rash of "fourth disease" presents a similarity to the eruption of scarlet fever only, so that types 3 and 4 do not need any further consideration. Turning, then, to type 2 one finds that this change in the appearance of the rash of rubella as it develops has been described by previous writers (Tonge-Smith,[15] J Brownlee, and Marshall[16]) I have already pointed out[17] that the eruption occurring at first as discrete spots may later in its coalescence retain throughout an exaggerated morbilliform appearance, but that this characteristic though not always persisting yet when it occurs is specially noted in certain regions (viz., the face, the limbs, and the buttocks), whereas on the trunk it tends to retain a punctate and scarlatiniform aspect. Moreover, when the exanthem is deep in colour the morbilliform appearance on the regions affected is still further enhanced, whilst with faint rashes, and usually in milder cases, it is distinctly more scarlatiniform. At the same time it must be remembered that the rash varies in intensity in different regions, so that it is essential to a correct appreciation to keep its polymorphic character constantly in mind.

Now, despite the description of the two types of rubella, it seems to me that there is a lack of definite information on the very point which enters most into the question So far as I have been able to gather writers are apparently unanimous that at the beginning of the attack the eruption is always morbilliform, consisting of discrete spots spread over the region affected It is evidently not sufficient to say generally that the rash was scarlatiniform. Dr Dukes admits that in its further development it may assume this character, one wants more especially to know what was the appearance at the onset. According to my own experience in the cases in which I have been able to note the appearance of the eruption, it has never had the close and even distribution of punctæ which alone would entitle one to use the term "scarlatiniform ' Were I to meet with such a series of cases I should, with Thomas,[18] require indisputable evidence to be brought forward of their arising by contagion from the usual rubeola exanthem resembling measles, and *vice versâ* to establish their identity. We may then, ask with Ker,[19] "What room can we find for the fourth disease?" He himself says that it may if it exists, occupy "one of two positions, either between measles and rubella or between the latter disease and scarlatina ' and further admits that he would be inclined to expect it in the former position Apparently Sir William Broadbent[20] would also favour this choice, for in reference to the subject he writes "I have said for many years that there were at least three kinds of measles ' On the other hand, from the reasons which I have given I am equally disposed to the demonstration of its position between scarlet fever and rubella, and since according to the description of "fourth disease" one gathers that from the first the eruption is practically indistinguishable from the rash of scarlet fever, one must, admitting the possibility of its occurrence, carefully examine the evidence adduced in its support. This testimony is supplied by Dukes in the citation of three epidemics in his original article. One finds on reading his account that the factors on which his conclusions are based may be grouped under the following headings (1) the inviolability of Cullen's law, (2) the fact that each disease possesses its own characteristic seed which is entirely *sui generis*, (3) inability to afford protection against the other exanthemata, (4) a suggested explanation of the real nature of the extensive mild epidemic of scarlet fever in 1892–93, and (5) clinical manifestations

1 According to Cullen's law, "one attack of an eruptive fever entails immunity from a second attack in the same individual during childhood." The rule is not absolute, but Dukes is of opinion that "the insignificant exceptions may be regarded as scientific curiosities only" On the other hand, the general opinion is against the view of such an extreme rarity of relapses and second attacks of the exanthemata, and this opinion seems to have the support of many of the practitioners who have had exceptional facilities for the study of these diseases—viz, Foord Caiger, Washbourn, Killick Millard, and Ker In this connexion Dukes would seem to infer that many of these are instances of patients with "fourth disease" contracting another infectious disease in the hospital Caiger,[21] however, who, one must admit, is in a better position to judge, points out (*a*) that he has not seen the "fourth disease" transmitted to the patients in the scarlet fever wards, (*b*) that in his experience cases answering to the description do not contract scarlet fever, (*c*) that the cases which do contract scarlet fever are those in which one felt originally that one would like to isolate, and (*d*) that relapses in scarlet fever are rare, occurring in about 1 per cent. of the cases in the Metropolitan Asylums Board (incidentally he mentions that there was no increase during the years 1892 and 1893), whereas if they were cases of "fourth disease" one would expect them to occur more frequently My own experience is exactly in accordance with the foregoing statements.

2 On this point I must confess myself at a loss concerning the exact meaning which Dr Dukes wishes to convey In so far as the micro-organism is concerned it is to be regretted that its specific nature will not assist us in this instance, since as yet its existence is a pure speculation, not only for the "fourth disease," but even for diseases with which it may be confounded Moreover, from what little we know of the micro organisms causing other infectious diseases, it is remarkable with what difficulty a clear line of demarcation can be made One has only to refer, as regards diphtheria, to the different forms of true diphtheria bacilli, their occurrence in healthy situations, the difficulty in separating them from so-called pseudo diphtheria bacilli, and as regards typhoid fever to the existence of Eberth's bacillus, bacilli of the Gaertner group, and of the coli communis type, in order to feel that from analogy the argument is by no means convincing But from our total ignorance on this point we must presume that Dr Dukes refers to the constant character of the manifestations by which we are enabled to detect its presence—i.e., to the symptoms diagnostic of the disease Here, again, we are familiar with what is spoken of as the protean aspect of disease, and we are accustomed to believe that its varied character in different individuals, dependent doubtless to some extent on the variability in the complex surroundings, or what we call the soil in each individual, is a rule which must always be kept in mind. Writing of rubella in reference to this point Thomas[22] says "Starting with the incontrovertible fact that anomalous eruptions of measles and scarlet fever occur the imperfectly characteristic nature of which is due solely to individual idiosyncrasies (which is proved by the fact they generate again, by contagion, cases which are perfectly normal) we must not expect of epidemic cases of roseola that their exanthem should be in all cases of a precisely similar type"

3 Dr Dukes informs us that the "fourth disease" gives no immunity to scarlet fever or rubella and similarly that these diseases afford no protection against it. The same fact

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[12] Ibid Sept 7th 1901 p 594

[13] Ibid Nov 2nd 1901 p 1379

[14] Ibid Dec. 21st 1901

[15] THE LANCET June 9th 1883 p 994

[16] Glasgow Medical Journal March 1897

[17] Medical Chronicle May 1902.

[18] Loc. cit

[19] Loc cit

[20] THE LANCET July 21st 1900 p 289

[21] Brit Med Jour Nov 16th 1901

[22] Loc cit

holds good for measles, but from lack of difficulty in the differential diagnosis there is no need for its further consideration. It seems to me that this statement is the crucial point in the whole argument and if proved would completely establish Dr Dukes's claims. Having completed an account of the three epidemics he considers that he has proved the definite existence of fourth disease" since he has shown (*a*) its occurrence concurrently with scarlet fever in the same epidemic, (*b*) that some patients had both diseases in the same epidemic (*c*) that one patient had scarlet fever followed by fourth disease" (*d*) that several had fourth disease" followed by scarlet fever, and (*e*) that although it has been confused with rose rash and regarded as a mere variety of rubella this conclusion is fallacious, since nearly one half the cases in an epidemic had already suffered from this latter disease within a year or two. The first four points are conclusions drawn from an epidemic which occurred some time previously and which the writer himself at that period regarded as one of the scarlatinal variety of epidemic roseo-rash. In these circumstances, I think one may legitimately question despite the high authority of the writer whether a sufficient degree of detail in events, connexions and appearances, which would be required to establish its identity even now after we have been made acquainted with its characters, would be accumulated and retained over such a period of time as to warrant the extremely important deductions which have been made

Concerning the first epidemic Washbourn[23] and Millard[24] consider that from the evidence adduced, beyond the statement that Dr Dukes now regards them as instances of 'fourth disease," there is nothing to compel one to differ from the original diagnosis of the scarlatinal variety of rubella. As Ker[25] says, the position would have been stronger if it had been noted what diseases the boys had had previously While this would not have been final it would have been interesting to know how many had had rubella before and, further whether Dr Dukes was himself satisfied as to the authority for the previous history

The second epidemic evidently consisted of two co-existent diseases which the two above-mentioned writers regard as scarlet fever and the scarlatinal variety of rubella, in agreement with Dr Dukes's original diagnosis. *I am of the same* opinion as Ker, that this would at any rate appear to be a reasonable view regarding it.

Concerning the third epidemic, from the facts observed in which the fifth point is deduced one finds that in it 19 boys were attacked 42 1 per cent. of them having previously suffered from rubella As pointed out in the leading article on the subject in THE LANCET of July 14th 1900 p. 114 this epidemic affords the strongest proof of the existence of a "fourth disease." On account of the high percentage of previous attacks of rubella it is impossible to imagine them as instances of this disease, since though relapses have been described, yet second attacks are practically unknown or at any rate undescribed. On the other hand, one is struck by the facts that in these cases the rash was quite indistinguishable from scarlet fever and that desquamation was often copious. Further, the almost continuous development of the cases during a period of 18 days strongly suggests a short incubation whereas Dr Dukes informs us that the fourth disease possesses a long incubation period practically identical with rubella. Finally one notes that scarlet fever had not occurred previously in a single instance. In such circumstances the difficulty of excluding the diagnosis of scarlet fever is very great, and one finds that it seems to have been dependent on the following facts (*a*) the occurrence of a very full rash without markedly accelerated pulse or marked rise in the temperature (*b*) the absence of peeling of the tongue about the fourth day (*c*) the absence in some cases apparently with an abundant rash of subsequent free desquamation and (*d*) the absence of sequelæ and spreading of the disease (with one exception) though the patients were removed from bed after five days and allowed to go out after eight days. I must confess myself in sympathy with previous writers who are of opinion that these points do not carry conviction that the disease was not scarlet fever On numerous individual occasions I have met with undoubted cases of scarlet fever exhibiting these peculiarities and it seems to me that the only unusual feature is the uniform persistence of the type throughout the 19 cases though as stated in the leading article which I have mentioned a "remarkable constancy of type is occasionally observed in connexion with a localised prevalence of scarlet fever"

4 In a previous article in THE LANCET Dr Dukes[26] hazarded the query whether the extensive but non fatal epidemic of scarlet fever which raged throughout the country in the autumn of 1892 and the spring of 1893 was not really to a large extent an epidemic of the scarlatinal variety of rubella, and more recently having considerably altered his opinion about previous epidemics of this disease, he naturally inquires whether it was not really to a large extent an epidemic of the fourth disease." It seems to me that in such circumstances the disease having been diagnosed as scarlet fever the most conclusive evidence ought to be obtained from the experience in the various fever hospitals during that period. In this respect, as I have already mentioned, Caiger informs us that the percentage occurrence of relapses after scarlet fever showed no alteration at that time, and he further adds ' Were I to come across even a short connected series of such attacks as would constitute a limited epidemic in a ward inhabited by patients convalescent from undoubted scarlet fever—and such outbreaks should be common enough surely if Dr Dukes is right as to its prevalence, infectivity and the frequency with which it is erroneously admitted into the scarlet fever wards—I would at once be prepared to register my allegiance to the fourth disease. Such an occurrence, however he has never yet succeeded in observing It seems incredible that such an extensive epidemic of another disease could have occurred and by admission to the various fever hospitals have been submitted to special scrutiny running the risks, too of giving and receiving infection without its identity being discovered. I cannot help feeling that the inclusion of such a suggestion is a distinct weakness on Dr Dukes's part. In this place also when laying stress upon the importance of the experience in large fever hospitals and knowing the relatively large number of doubtful and very mild cases which are certified for admission I must most strongly enter a protest against the statement made by Dr Dukes[27] that this experience 'is one-sided as slight cases of scarlet fever are not sent."

5. Turning now to the symptomatology as given in the tabular list we find that in this respect fourth disease and rubella appear to be very closely allied. In both diseases the premonitory symptoms, the seasonal prevalence the period of incubation, the subjective sensations, the condition of the throat, eyes, glands, urine tongue, pulse, and temperature, the course of the illness, and the absence of sequelæ are practically identical. The only distinctive points of difference apparently concern the rash the desquamation, and the period of infection. Concerning the exanthem, in contrast with the eruption seen in rubella, Dr Dukes says that in fourth disease' it will cover the whole body with a considerable diffuse rash in a few hours" Further its hue is bright rosy red and it is raised somewhat from the surface of the skin. As pointed out by Ker it is unfortunate that there is no mention of its occurrence on the face We feel bound to infer that it must be absent, though Weaver[28] specially draws attention to its appearance in this situation As regards desquamation in rubella it is absent or branny whereas in fourth disease" it may be slight or complete Its degree is stated to have no relation to the intensity of the eruption, though the slight rash is usually accompanied by little or no desquamation. On the other hand even when free it occurs mostly in small scales. Rubella seems to be most infectious in its earliest stages but according to Dr Dukes fourth disease" is not so very infectious at that period. Finally it is stated that rose rash like measles, occurs in large numbers usually whilst fourth disease" like scarlet fever is met with oftener in smaller epidemics.

It must be remembered that these slight differences are drawn from a consideration of three epidemics which as the late Dr J W Washbourn[29] has said are assumed to have been necessarily of the same nature though such an assumption from the evidence adduced is quite unjustifiable. It may be that the variety in the manifestations of fourth disease' itself is due to *differences in the three epidemics*. Thus it would be interesting to know the condition of the face as regards the exanthem in the first two epidemics which were originally diagnosed as rubella and in the third epidemic which, as already stated, could not possibly have been examples of this disease Similarly concerning the desquamation, one would like to have a detailed description with special reference to a separation of the different epidemics Necessarily such facts as its slight infectiousness in the early stages and its tendency to occur in limited numbers are less easy of corroboration or refutation, though if deduced from the more carefully observed third epidemic it may be remarked that they are quite in agreement with its suggested mild scarlatinal nature

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[23] Brit Med Jour., Dec. 21st 1901

[24] THE LANCET Nov 3rd 1900 p. 1304

[25] Loc cit., p. 153

[26] THE LANCET March 31st 1894 p. 31

[27] Brit. Med Jour., Nov 2nd 1901

[28] Dublin Medical Journal June 1897

[29] Brit. Med Jour Dec. 21st, 1901 1849

Reviewing, then, the evidence upon which the differentiation of a "fourth disease" has been based, I think that it must be admitted that more conclusive details must be brought forward before we can feel satisfied that its definite nature has been distinguished. But I am far from denying its existence

Manchester

A CASE OF NASAL VERTIGO SIMULATING EPILEPSY

BY EDWARD WOAKES, M.D LOND ,

LATE SENIOR AURAL SURGEON TO THE LONDON HOSPITAL SURGEON TO THE LONDON THROAT HOSPITAL.

With Supplementary Notes by W J PROCTER, M B , B S LOND

TOWARDS the end of November, 1896, a man, aged 40 years, attended at the ear department of the London Hospital with the following statement of his case furnished by Dr W J Procter, of Great Bookham, Surrey "The patient came to see me in September, 1896, complaining of fits He stated that his first fit occurred at Christmas, 1895, when he was brought home insensible, very cold, and with his face dusky He was seen by a neighbouring medical man but had recovered consciousness before his arrival He remained in a weak state for some time and could not bear a noise. The next attack happened during haymaking in 1896, he was again brought home insensible and remained so for 15 minutes, his face and general condition being the same as after the previous attack. From that time to September he was under treatment but had several fits It was about this time that I (Dr Procter) first saw the patient and was led from his remarks to suspect nasal disease This suspicion was confirmed on examination of the nose, there being marked hypertrophy of the middle turbinated bones, more especially on the right side. At the wish of his employer he was sent to a general hospital, being made an in patient on the medical side. Here the nasal condition was dissociated from the symptoms and the fits, regarded as epileptiform in character, were referred to an attack of sunstroke from which he had suffered 15 years previously He remained an in patient for a fortnight, during which time he had two seizures, and was then treated as an out-patient for seven weeks The attacks occurred now almost daily, his memory became defective, and he wept frequently On one day he had three attacks in which his wife states he lay like one asleep, except that his throat got full and his eyelids twitched. On recovery he was extremely prostrate and excitable, the least contradiction bringing on an attack. There was some evidence of an antecedent aura, as he knew when a fit was coming on, but could not describe the feeling"

When I (Dr Woakes) examined the patient at the hospital on the first-named date he was in feeble health and his spirits were very depressed. Nasal examination showed enlargement of both middle turbinated bones, the left to a slight extent only, while the right presented a firm, nodulated tumour, occupying the anterior ethmoid region of the nostril from its outer wall to the septum So firmly did it press against the latter that it was impossible to pass the loop of a snare between the opposed surfaces It was therefore removed with my cutting ring forceps The sections showed expansion of the intertrabecular spaces but no considerable cyst or cavity He attended several weeks as an out-patient when feeling quite well and having had no return of the attacks he discontinued his visits. In the early part of the year 1901 some four and a half years after the operation, Dr Procter reported on his condition that he "had not had a single attack since the operation and described himself as 'not like the same man'"

Up to this time it does not appear that Dr Procter had ever actually witnessed one of these attacks, but there seems to have been no doubt in the minds of those physicians who did observe them that they were of an epileptic character—a quite justifiable view of the case considering the absence of any other generally recognised alternative class of disease to which it might otherwise have been referred. Three symptoms, however, mentioned by Dr Procter as associated with the fits seemed in my mind to differentiate this case from one of true epilepsy and to transfer it to the group of vertigos due to disturbance of the equilibrating apparatus of nasal origin, an opinion which the sequel tends strongly to confirm. The three symptoms above referred to are (1) hyperacousis, indicated by the distress occasioned to the patient by the occurrence of loud noises and evidencing implication of the cochlear portion of the octavus nerve, (2) the tendency to uncontrollable weeping, and (3) loss of memory These symptoms, but especially the last two, are shown by experience to be in constant association with chronic forms of vertigo of nasal origin They point to extension of the reflexes to the vestibular branch of the octavus supplying the end organs of equilibration That these symptoms were the outcome of reflex irritation and were not due to central lesion is evidenced by their immediate and complete cessation following removal of the exciting cause

After an interval of over four years, during which time the patient had no recurrence of the symptoms above detailed, I was informed by Dr Procter in July, 1901, that the man had recently experienced "one very bad seizure and several slight ones" A few weeks afterwards he had the opportunity of witnessing an attack and was good enough to send me the following description of it The patient "lay as if he were asleep with no convulsive movements of the limbs During this time there occurred several violent contractions of the lower jaw The jaw moved up and down so quickly and violently that the room on the floor of which he was lying quite shook. There was also violent pulsation of the carotids The skin was warm and there was no marked rigidity of the body" Particulars of other attacks occurring at this time and showing variations of the symptoms in different seizures state that "he always knew when an attack was coming on and generally managed to sit or to lie down. There was a sort of premonitory aura which the patient described as a cold chill starting in the feet and passing up the body to the head, when he experienced a darting pain and became unconscious. The period of unconsciousness varied from 15 minutes to two or three hours The face was pale Sometimes the eyes were open and the eyeballs rolled (nystagmus), but more frequently the eyes were shut. The breathing was always quiet. There was no struggling and no twitching of the face or limbs. These in some of the attacks became very stiff, so that he could be lifted without the joints bending If the attack was of considerable duration the skin became very cold There was no loss of control over the sphincters and he never bit his tongue Recovery was gradual, the mind being quite vacant at first, and he was quite oblivious to what had happened during the attacks Catalepsy and malingering were suggested to the minds of the medical men who attended him, but both were rejected as inapplicable to the case"

I saw the patient again in the autumn of 1901. The ethmoid region of the nose had considerably changed as regards the left middle turbinal. In the interval of four years the disease in it had developed to such an extent that it presented much the same enlargement as that of the right side in 1896 It differed, however, from it inasmuch as the enlarged osseous structures were covered with abundant soft proliferations, especially were these abundant on the inner surface adjacent to the septum The stump of the right turbinal had not materially changed since the operation in 1896 It was therefore inferred that the recrudescence of the symptoms was due to the subsequent morbid development of the left turbinal. On Nov 13th, 1901, the patient was admitted to the London Throat Hospital under the care of Mr Claud Woakes who ablated the entire left middle turbinal bone as well as the stump on the right side under anæsthetics On the third day the patient was up and about the ward, no symptoms whatever following the operation. He left the hospital and returned to his home on Dec. 6th, 1901. In reply to recent inquiries Dr Procter quotes from the steward of the estate on which the patient is employed: "He has not had any more fits since his last operation. He seems to be quite well, much better than I have ever seen him before."

This case may be regarded as an extreme type of a class of which there are many examples—that is to say, of vertigo of nasal origin, with its varied and often curiously puzzling phenomena. Though constituting a group of disease which is *sui generis* and quite distinct from epilepsy it sometimes simulates one or other of the forms embraced by this latter term. It has, however, these advantages over true epilepsy: the existence of a recognisable *causâ causans*—viz., ethmoidal disease and its almost certain cessation when this disease is radically dealt with.

It would be advantageous to determine the exact area within the nostrils irritation of which will induce epileptiform symptoms. It must be granted that the evidence bearing on this point is not quite conclusive. In Dr. Procter's patient this area was recognised as the portion of the septum nasi, including the septal nerve traversing it, against which the mass of diseased spongy bone impinged. But I have on record other cases in which irritation of the same portion of the septum was associated with quite other symptoms. Thus one patient who had for weeks been the subject of incessant hacking cough as soon as a mass of granulation tissue was pressed away from the septum experienced immediate cessation of the cough, which cessation remained permanent on destruction of the growth by the cautery. Another example occurred in a sufferer from chronic asthma, in whom a grave attack of suffocative dyspnœa was relieved even during the process of cauterising a soft mass which touched the septum in the situation indicated. Respecting these latter examples it is to be observed that the symptoms were excited by soft growths which tickled rather than pressed upon the septal mucous membrane. In the numerous instances of vertigo occurring concurrently with the presence of ethmoid disease the middle spongy bone has usually assumed the character of a hard mass more or less resembling that above described as existing in the present case.

Of growths presenting the characteristic of great hardness by far the most remarkable in my experience occurred in a man, aged 38 years, who was sent to me for the treatment of nasal polypus. Underlying a covering of polypi in the left nostril was a firm mass corresponding in situation with the left middle turbinal bone and tightly wedged between the septum and the outer wall of the nose. It was removed entire by means of the curved gouge and weighed a few hours thereafter 93 grains. The whole mass was solid, the inferior half being of ivory density and hardness, the remainder being finely spongy.[1] (It is necessary to remind the reader that the pathological condition just described is quite an exceptional one. For though exostosis in minor degrees is not by any means rare in the inferior turbinals this is the only instance of its presence in the middle spongy process that has occurred to me in 25 years' experience of nasal surgery. The history of this patient, moreover, suggests that the disease was congenital, or at any rate that it commenced soon after birth—the polypi being a much later development.) The reflexes excited by the presence of this mass differed from any of those exhibited in the foregoing cases. From earliest childhood this patient had been subject to severe attacks of gastric disturbance which had recurred with but little variation up to the time of the operation. The attacks commenced with shivering followed by vomiting and sweating and left him in a state of great prostration; he was never free from uneasiness in the region of the stomach and suffered much from frontal and basal headache. He experienced one or more such attacks every week and they lasted from two to three days. It is not surprising that in consequence of this life-long affliction his education had been so far neglected that he could neither read nor write, though able to participate in the practical side of a large business. After removal of the mass in question these symptoms ceased entirely and with the exception of one slight recurrence during convalescence from the operation he has since been quite free from them. This patient reports himself every year or two and when last seen was the picture of robust health.

So far the cases thus briefly cited afford no decisive clue to the exact area of the Schneiderian membrane irritation of which is responsible for the symptoms. Neither do they afford definite information respecting the physical nature of the growth as determining the character these will assume. The one point they do establish is the potentiality of certain forms of nasal disease to induce a variety of symptoms, usually of grave aspect and of long continuance. That these sometimes approach closely enough to the epileptiform state to be easily confused with it is apparent from the case first above reported. Possibly its record will be found to contain some details which may aid in the differential diagnosis of such occurrences in the future.

Harley-street, W.

A CASE OF

ACUTE MENTAL DISORDER, PROBABLY TOXIC IN ORIGIN, SECONDARY TO INFLUENZA

RESULT OF THE NECROPSY PRACTICALLY NEGATIVE, EXCEPT THAT THE BACILLUS DIPHTHERIÆ WAS FOUND IN THE BLOOD

BY ALICE N. V. JOHNSON, M.D. BRUX., L.R.C.P. & S. EDIN., D.P.H. CANTAB.

AND

EDWIN GOODALL, M.D., B.S., M.R.C.P. LOND.
JOINT COUNTIES ASYLUM, CARMARTHEN

A MARRIED woman, aged 43 years, was admitted into the Joint Counties Asylum, Carmarthen, on May 21st, 1902, suffering from an acute confusional condition. It was her first attack and had lasted for from three to four months. At Christmas, 1901, she had a severe attack of influenza (this was believed to be correct by the medical man who subsequently attended her) after which she became gloomy and depressed, eating and sleeping little. In March, 1902, she became very restless, excitable, and destructive, tearing her clothes and rushing about the house attacking people if they interfered with her. These symptoms increased until she was admitted. One sister suffered from fits. Otherwise there was no family history of mental or nervous disease. The patient was described as of temperate habits and this was borne out by the necropsy.

On admission the patient was very restless, resistive, hostile, destructive, and dirty in her habits. She was very noisy and shouted incoherently day and night. She was very exalted in her ideas, made mistakes in identity, had hallucinations of vision, and freely expressed delusions of persecution. She was quite unconscious as to time and place and could not answer any questions. She was a strong, well-nourished woman. Her trunk and limbs were covered with bruises; her face, hands, and feet were cyanosed. She had some old aortic regurgitation and the heart was enlarged. Both eyes were covered with old interstitial keratitis. She had marked tremors of the lips, tongue, and hands. She refused to walk. Subsequent examination pointed to an inability to walk owing to weakness of the legs. Her pupils were equal in size, regular in contour, moderately dilated, and sluggish in reaction to light and to accommodation. The lungs were normal. The teeth were very bad and the gums were inflamed. The tongue was clean and the bowels were well open. The patient struggled too much to allow a view of the throat. There was no indication for using the gag for this purpose. A diagnosis of acute confusional state, possibly a phase of dementia paralytica, was made, the causation being probably influenza. Prognosis: "Probably fatal."

On May 22nd the report was that she had passed a very restless night and was very noisy although she had been given hypodermically five minims of a ½ per cent. solution of liquor hyoscyami. She took all her food. She continued in this muttering unintelligible condition with restlessness but taking her food well until the 27th. A large abrasion appeared over her sacrum the result of banging herself on the bedstead. The tongue became very dirty, the gums were covered in sordes, and the breath was very foul. Sleep was very broken. On the 28th moist sounds were heard over both lungs, the pulse was very quick and irregular, there was no increase in temperature. She was placed on fluid diet, which she took well, and on carbonate of ammonia and strychnine every four hours She died at 9 50 A.M on the 29th.

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[1] Examined and reported on by Dr. E. B. Waggett in June, 1894.

Necropsy —A post-mortem examination was made at noon on May 30th The body was well nourished, there were no superficial lesions The calvarium was of normal thickness and fairly dense, no exostosis was present. The dura mater was adherent anteriorly The convolutions were normal with regard to size and arrangements The pia mater peeled easily, some slight opacities were present over the sulci, otherwise the leptomeninges were normal, there being only slight increase in vascularity The basal arteries and ventricles of the brain were normal. The mid brain and cerebellum were normal. Vascularity of the grey and the white matter of the brain was only slightly increased. There were no focal lesions The left ventricle of the heart was hypertrophied and the myocardium was friable, slight atheroma of the aorta was present and the aortic cusps were thickened. There was some slight congestion of both lungs The pharynx and the larynx and trachea were very congested Some old mechanical congestion of the liver was present and the gall-bladder was distended The spleen and alimentary canal were normal. In both kidneys the capsule was adherent, but they were normal in other respects. The peritoneum was normal As regards the uterus there was a polypus at the internal os and some old endometritis was present, the ovaries and tubes were normal.

Some small pieces of brain were immediately frozen and sections were stained with aniline blue black and examined They showed some slightly increased vascularity but nothing else was noted A tube of blood serum was inoculated with strict antiseptic precautions with some blood from the right side of the heart, and another with cerebro spinal fluid from the lateral ventricle. Both tubes were incubated at 35° C On June 1st and 2nd no growth was present on either tube. On the 3rd there was a slight fine growth on the tube inoculated with the heart's blood. A film was made and a fairly long bacillus with clubbed ends was demonstrated, staining with simple stain and with Gram's method No growth was present on the tube inoculated with cerebro-spinal fluid On the 4th both tubes were sent up to Dr D N Nabarro of University College, London, who kindly made a subculture and examined films, and reported that the growth was a pure growth of the bacillus diphtheriæ and that the tube inoculated with the cerebro spinal fluid showed no growth at all The medical man who certified the patient was asked if there were any diphtheria near her home. He replied "There has been none in the immediate neighbourhood as far as I know, but plenty of it at distances varying from two to five miles away"

Remarks —Clinically the condition is best described as acute confusional insanity The necropsy negatived dementia paralytica and acute delirious *mania*. The patient appears to have been the subject of toxæmia, though the precise nature of the toxic agent is obscure. The record of the mental disorder dates from the supposed attack of influenza, although it is rather remarkable that there should have been marked exacerbation of mental symptoms, without any recrudescence of the disease, from two to three months after their appearance Again, the patient's physical condition was good (she was a well-developed, powerfully built woman), not that which one would expect to find in an individual suffering from influenza or its after effects The negative result of the necropsy, beyond the slightly increased vascularity of the brain substance and the cardiac changes, was very remarkable. There was nothing in the respiratory tract to raise the suspicion of diphtheria, although certain parts were much congested

As there had been no question of diphtheria during life no swab preparation was made. Indeed, there was no thought of diphtheria at the necropsy and tubes were inoculated from the blood and cerebro-spinal fluid on the possibility of finding some organism which might be held accountable for the toxæmic symptoms manifested. It is a remarkable fact that such acute mental disorder should have existed with such trifling macroscopic evidence of disease in the brain and its membranes Microscopically Nissl's method was unfortunately not used, but the aniline blue-black method showed only slightly increased vascularity

As regards the presence of the bacillus diphtheriæ in the blood observers have pointed out that this is sometimes found in the organs (lung, liver, &c.) post mortem, and it is conjectured that the bacillus has, in such cases, passed into the blood stream after death. This occurrence, however, is, as far as is known, very rare. The patient may have had diphtheria, and this disease may have been the cause of her later mental symptoms In addition to the organism in the blood there were the facts of the congestion of the upper air passages, the apparent inability to stand, and the prevalence of diphtheria in the neighbourhood of her home

Appendix —Some sections from the parietal region, that had been hardened in Müller's fluid and stained with Kulschitzky's hæmatoxylin solution, were examined microscopically The tangential fibres and the superradiary were found to be scanty and degenerate

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare —MORGAGNI *De Sed et Caus Morb*, lib iv, Proœmium.

NEW HOSPITAL FOR WOMEN

A CASE OF PLEURO-PNEUMONIA SIMULATING ABDOMINAL DISEASE.

(Under the care of Dr JANE H WALKER.)

WE have drawn attention elsewhere (p 446) to the risk which exists of mistaking intrathoracic disease for a serious affection of some abdominal viscus, and in this connexion the following case is of great interest, for the history of the patient and the course of the disease pointed very clearly to gastric ulcer, yet the morbid condition present was a pneumonia with a localised pleurisy

A board school teacher, aged 25 years, was admitted into the New Hospital for Women on May 24th, 1902, complaining of anæmia She was in her usual health till September, 1901, when she began to grow breathless and pallid and to have swelling of the legs and abdomen, puffiness under the eyes, noises in the head, and giddiness She had a cough and brought up some expectoration which was occasionally blood streaked In February, 1902, she had influenza and went to Worthing for five weeks to recruit her health but came back no better She did her work as a teacher till her admission into the hospital, but she was evidently considerably ill, being constantly sick and suffering from most obstinate constipation. On inquiring further into her past history it was ascertained that she had an attack characterised by all the symptoms of gastric ulcer six years before when she was in Charing Cross Hospital and again a second seizure of the same nature three years since. She had pleurisy as a child but no other illnesses bearing on the case.

On admission it was noted that she was very anæmic and was very well nourished, her weight having increased by 14 pounds during the past year—i e., during the time of her increasing illness She had hæmic bruits over the cardiac area. No abnormal signs in the lungs were detected. The temperature was 102 4° F, the pulse was 112, and the respirations were 28 The abdomen was somewhat distended but it moved fairly well. There was slight tenderness on pressure on the right side, most marked in the right iliac fossa, where there was some increased sense of resistance The note was resonant all over and there was no dulness in the flanks. The blood count showed very considerable diminution of hæmoglobin and some decrease of blood cells and no leucocytosis.

From admission on May 24th to the 31st it was noted that the patient's temperature went up to points varying from 103° to 105° Suddenly and unexpectedly at the same time the pulse rate varied from 90 to 128 and the respirations from 18 to 54, neither pulse nor respiration having any direct relation to the temperature. Her chest, which was carefully examined every day, showed no abnormal signs. On June 1st, on the advice of Dr Walker's surgical colleagues who regarded the case as probably one of abscess in the abdomen either in connexion with the appendix or tracking down from a perforated ulcer of the stomach, it was decided to make an exploratory incision. Accordingly, on

June 1st, under ether as the anæsthetic, this was done and the abdominal and pelvic viscera were carefully examined. Beyond a very small quantity of clear serous fluid in the abdominal cavity nothing abnormal was found The right lung was percussed while the patient was anæsthetised and no dulness was found. A large exploratory needle was passed into the right pleura and a small quantity of blood was drawn off. This was subsequently examined bacteriologically and no organisms were present On the following day impaired breath sounds were noticed at the right base and on the next day friction was heard. During the following week the patient had several attacks of breathlessness and also on several occasions the temperature reached a high level—105 8° being once noted. The signs in the chest gradually developed, giving those of a limited pleuropneumonia, some muco-purulent material being expectorated which was examined for both tubercle bacilli and other organisms with a negative result. The signs in the lung gradually cleared up and when the patient left the hospital on July 16th slight impairment of the note at the right base and prolonged expiration at the right apex were all that remained.

Remarks by Dr WALKER.—The above case belongs to the class described by Mr H. L. Barnard in his interesting paper published in THE LANCET of August 2nd p 280 It is worth recording both from its intrinsic interest as well as from the fact that it is another case of a kind where a mistaken diagnosis is not impossible, the consequences of which might be most deplorable. The case is obviously one where a correct diagnosis was extremely difficult The symptoms and previous history of abdominal trouble, the vomiting pain tenderness and localised resistance all pointed to abdominal disease. The chest signs were negative and so clearly was the possibility of chest mischief before the mind that the lungs were daily examined, but nothing abnormal was detected nor were the respirations unduly quickened.

LIVERPOOL ROYAL INFIRMARY

TWO CASES OF "RELAPSING" GASTRIC ULCER.

(Under the care of Dr J HILL ABRAM and Mr W THELWALL THOMAS.)

THE value of surgery in intractable ulcers of the stomach and duodenum is very clearly shown by the following two cases The tendency to cicatrisation in gastric ulcers varies in different cases, but that some heal spontaneously there can be no doubt. According to Einhorn[1] 50 per cent. of all cases of gastric ulcers heal completely without any severe complication but a large proportion require active surgical treatment.

CASE 1.—A spinster aged 42 years was sent to Dr Abram by Mr R. A. Jones of Holywell on Dec. 8th, 1900. She had always been delicate. In 1896 she had a bad attack of gastric trouble which lasted for 18 months and recurred at short intervals until October 1900 when severe pain in the stomach and back supervened and was accompanied by vomiting The vomited material was copious (two pints) On admission to the Liverpool Royal Infirmary she was emaciated slept badly and complained of headache dizziness and pain in the stomach. The molar teeth were greatly decayed in both upper and lower jaws The *tongue was dry and there was a constant bitter taste in the* mouth Ingestion of food caused dull aching pain in the stomach which persisted until vomiting occurred The vomited material was copious, smelling strongly of butyric acid. The bowels were very costive. Physical examination of the abdomen revealed marked tenderness in the epigastrium a dilated stomach extending well below the umbilicus and an *irregular* flattish mass in the upper right quadrant of the abdomen. The urine was scanty and alkaline (fixed alkali) With routine treatment the patient improved to such an extent that from Dec. 14th to Jan. 3rd there was no vomiting and in fact, the patient considered herself well. However Dr Abram considered that an operation was advisable and the patient was transferred to the care of Mr Thelwall Thomas in January 1901 On opening the abdomen a mass of adhesions was found in the pyloric region which were covering a duodenal ulcer lying just beyond the pyloric ring and so situated anatomically that excision was impracticable. The surface of the ulcer was scraped and pyloroplasty was performed. She made an uninterrupted recovery and had remained free from any gastric symptoms up to the time she was last seen (July 1902) and there is now no trace of dilatation of the stomach.

CASE 2.—The patient was a nurse aged 26 years. The first gastric symptom, vomiting occurred in February 1899 and was definitely associated with mental shock. Food caused discomfort but not actual pain. After a month's rest no symptoms appeared for seven months. From this time (October 1899) constipation was marked and slight pain after food was frequent. In March 1900 Dr Abram saw her for a severe attack of pain in the epigastrium with a slight degree of collapse Mr Thelwall Thomas saw the case with him and it was decided that perforation in the general cavity of the peritoneum had not occurred and that immediate operation was not indicated. On May 8th she left the infirmary practically free from all symptoms and during a three months holiday could golf and cycle. *After returning* to duty she had occasional attacks of colicky pain. In November 1901 she had a septic throat and as the temperature fell, a severe attack of abdominal pain came on. Dr Abram was now able to detect a lump in the epigastrium lying to the left of the middle line. Although by careful dieting and attention to the bowels this patient could be kept free from pain, yet she was always in danger of a relapse, and moreover was off duty nine months in three years—a serious matter to a nurse. Dr Caton also saw the patient and agreed as to operation. Mr Thelwall Thomas operated in December 1901. There was a dense mass of adhesions, covering an ulcer of the stomach. The ulcer lay on the lesser curvature rather nearer the cardiac than the pyloric end of the stomach. The ulcer and adhesions were excised The patient made a good recovery from the operation and *has remained well up to the time of writing* (August 1902).

Remarks by Dr ABRAM.—I wish to record these two cases because I believe physicians will have to consider the question of surgical interference in cases of chronic gastric ulcer *or as* they might well be called "relapsing" gastric ulcer I should like to emphasise the fact that in both these cases relief was obtained by ordinary treatment, and yet in Case 1 life was becoming a burden and in Case 2 the repeated relapses were seriously interfering with the patient's training as a nurse In Case 2 the adhesions were extremely dense and in fact, Mr Thomas thought that he had a tumour to deal with Subsequent microscopical examination by Dr E. E. Glynn showed however simply scar tissue Although not tumour the adhesions were so tough that their removal was most difficult and it would have been in my opinion absolutely hopeless to *interfere successfully for an acute* perforation It seems to me, therefore that surgical intervention should be invoked during a quiescent period Finally the term which I have suggested for these cases—viz "relapsing"—needs a word or two of comment. The cicatrisation of a true gastric ulcer is a much rarer thing in my opinion than is commonly believed I have no note of such a condition post mortem, and the pathologist to the infirmary Dr Glynn has only found one in a hundred cases in which the stomachs were specially treated and any cicatrix could have been readily detected. Many writers on gastric ulcer hold that the cicatrices are overlooked hence Dr Glynn's experience is important. From the history of the above two cases it is obvious that the symptoms may all disappear and yet the ulcer has not cicatrised, it has merely become callous The cause of *relapse is obscure*; errors of diet and so on, account for some cases but Case 2 is of interest for in this instance a severe relapse attended, or rather followed, a septic throat and it may well be that infection has much to do with relapses This again, emphasises the necessity for most rigorous attention to the state of the mouth in all cases of gastric ulcer

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VACCINATION GRANT.—Mr J Chestnutt B.A., public vaccinator for Howden, East Yorkshire has for the second time been awarded the special grant for the efficient state of vaccination in his district.

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[1] Quoted by Robson and Moynihan, Diseases of the Stomach and their Surgical Treatment p 100.

Reviews and Notices of Books.

Dangerous Trades the Historical, Social, and Legal Aspects of Industrial Occupations as Affecting Health By a number of Experts Edited by THOMAS OLIVER, M A Durh , M D Glasg , F R C P Lond , Medical Expert on the White Lead, Dangerous Trades, Pottery, and Lucifer Match Committees of the Home Office , Professor of Physiology, University of Durham , Physician to the Royal Infirmary, Newcastle upon Tyne London John Murray 1902. Pp 891. Price 25s net

IT is now 20 years since the late Dr Arlidge published his book on "Hygiene and the Diseases of Occupation" The work done by Dr Arlidge has not been hitherto, and is not yet, sufficiently appreciated, but the seed which he sowed is bearing fruit and the future historian of dangerous trades will not fail to give due credit to a man who worked alone and unrewarded The writings of Dr Arlidge, it is true, lacked the literary skill which has made those of Sir John Simon so popular, but his book will outlive many more pretentious works A very large amount of information concerning dangerous trades has been accumulated during the last few years, and most of it has been published in the annual reports of the Chief Inspector of Factories and Workshops which are issued by the Home Office A book containing all the latest available information on dangerous trades and the diseases induced by them has long been wanted The work edited by Dr Oliver has been designed to meet this want "This," Dr Oliver tells us in the opening passage of his preface, "is the first occasion on which, on the special lines indicated in this book, any adequate attempt has been made in this or any other country to deal with the conduct of trades and other occupations in respect to the dangers to life and health to which the workers are liable" The field covered by "dangerous trades and occupations" is, as the editor goes on to say, a very wide one, and he used a wise discretion when, feeling that there is "no one person competent to deal adequately with the whole," he decided to engage the coöperation of a number of writers to contribute articles on the various subjects with which the volume deals The book is written not only for medical men but for the educated public, and it is hoped also that it will be of assistance to members of both Houses of Parliament From what has been said it will be seen that the task which Dr Oliver set himself was by no means light and was beset with difficulties from the beginning Two of these are at once apparent. In the first place, which are the industrial occupations? Dr Oliver includes the army and "the marine services" A second difficulty was, how is it possible to write on diseases in such a way as to be instructive to the general public and at the same time to be of use to medical men? The task appears to be almost an impossible one

The introductory chapter is written by Dr Oliver It appeals rather to the "educated public" and to Members of Parliament than to medical men The next two chapters comprise an historical sketch of the Development of Legislation for Injurious and Dangerous Industries in England, and the Regulation of Injurious or Dangerous Occupations in Factories and Workshops in some of the Chief European Countries The history of factory legislation is poor in facts and is not up-to-date, having been written before the passing of the Factory Act of last year

Dr John Tatham of the Registrar General s office contributes a chapter on the Mortality of Occupations and one on Dust producing Occupations These are both admirable. The facts given may be relied upon as being accurate. The statements are made clearly and concisely No extraneous matter is introduced The chapter on the Safeguarding of Machinery is written by Mr H S Richmond, H M Superintending Inspector of Factories The subject is treated by one who is thoroughly familiar with the subject on which he writes and who can clearly express what he has to say Mr Richmond has embodied the provisions of the Factory Act (1891) in so far as they bear on the subject on which he treats and his work is done in that thorough and scholarly way which is possible only to one who has an accurate knowledge of his subject and the power of literary expression

A chapter on Lead and its Compounds is written by Dr Oliver who has of late been much engaged in the subject on behalf of the Home Office His work is familiar to readers of THE LANCET and it need only be said that this chapter is not unworthy of his reputation. Dr Oliver contributes also articles on China and Earthenware Manufacture , Phosphorus and Lucifer Matches , Indiarubber, and the dangers incidental to the use of Bisulphide of Carbon and Naphtha , Dry Cleaning by means of Benzine , on the Use of Inflammable or Spirit Paints , on Flour Mills , on Diseases due to Working in Compressed and Stagnant Air , on Diseases due to Diminished Atmospheric Pressure , on the Effects of Concussion of the Air , on the Iron and Steel Industries , on Diseases due to Excessively Repeated Muscular Actions , and on Miscellaneous Trades, amongst the workers in which are included tobacco manufacturers and cooks, coal-heavers and housemaids, workers in sequoia wood and chimney sweeps Finally, the editor has written on "Dust Women" and Dust as a Cause of Occupation Disease. Like dust itself, the information contained in this book on the subject of dust is very irregularly distributed Of Dr Tatham's article on dust-producing occupations mention has already been made The dust women of whom Dr Oliver writes are, of course, those unfortunate people who sort rubbish for the metropolitan boroughs and for contractors The chapter on dust as a cause of occupation disease is illustrated by a number of micro photographs, most of which are of little practical use Ganister crushing (of which a good account was given in the Factory Reports for 1900), mill stone building, and steel grinding are dusty occupations which are separately described Dr Morison Legge contributes an instructive chapter on the Dangers in the Use of Mercury and its Salts and one on the Lesions resulting from the Manufacture and Uses of Potassium and Sodium Bichromate.

As editor of the book Dr Oliver must be held responsible for the selection of the writers, for the allocation of the subject on which each contributor was to write, and for the general arrangement of the book It is not easy to account for the selection of some of the contributors There is an unnecessary overlapping in some of the articles and the general arrangement of the contents of the book cannot be explained except on the supposition that it is the result of chance. In the next edition of this book, which is certain to be wanted and of which the publication should not be delayed (for the present volume is already in parts out of date), the editor will do well to arrange the contents on some definite principle The book, however, possesses a full table of contents and a moderately good index, so that any reader can usually refer to any point on which he requires information

We welcome the present volume as the standard book on dangerous trades The parts to which we have called attention are amongst the best in the book and it would not be right to disguise the fact that there are some chapters in the present edition which should be eliminated, some which should be entirely rewritten, and very many which require editorial supervision

A Practical Manual of Insanity By DANIEL R. BROWER, M.D, Professor of Nervous and Mental Diseases in Rush Medical College, and HENRY M BANNISTER, M.D formerly Senior Assistant Physician to the Illinois Eastern Hospital for the Insane. Philadelphia and London W B. Saunders and Co 1902. Pp. 426. Price 13*s.* net

THE past three or four years have been marked by the making of many text-books in insanity a thing due partly at least to the fact that a knowledge of mental disease is become increasingly important, if not compulsory in the higher medical examinations The aim of the present work is to present to the student and to the general practitioner the essential aspects of mental disease, and to give an 'intelligible and up-to-date statement of facts " With these objects after a preliminary sketch of the causes of insanity a few pages are devoted to the commoner symptoms of mental diseases such as alteration of spirits hallucinations and delusions and aberrations of the will Then follow brief accounts of the examination and general treatment of patients. The preceding portion occupies 130 pages The next chapter deals with the Classification of Mental Disease and while it summarises several schemes of classification propounded by many authorities the subject is not handled with particular discrimination. The next 250 pages are devoted to systematic descriptions of the various types of insanity under the following headings Primary and Secondary Confusional Insanity Melancholia, the Toxic Insanities due to Alcohol Morphia, Cocaine, and other Drugs General Paralysis of the Insane Organic Dementia Epileptic, Hysterical and Hypochondriacal Insanity, Adolescent and Senile Insanity, Recurrent Degenerative Mania, Circular Insanity, Paranoia, Moral Insanity Imbecility and Borderland States between Sanity and Insanity The descriptions given of the various insanities are concise and clear but by no means sufficient for diagnostic purposes, and the frequent absence of clinical cases or details of clinical and pathological interest detracts somewhat from the practical value of the book. This will doubtless be remedied in future editions but in its present form the book can have but a limited scope of usefulness to students or practitioners.

Geburtshilfliche Operationslehre für Studierende und Aerzte. (Text book of Obstetrical Operations for Students and Practitioners) By Dr FELIX SKUTSCH A.O Professor an der Universität Jena. With 145 illustrations in the text. Jena Gustav Fischer 1901. 8vo pp. 348 Price 8 marks.

THIS book is not intended to be a text book of midwifery It is concerned with the indications for and the best methods of carrying out, the various obstetrical operations Primarily a manual for students it should prove of service to the general practitioner After an introductory chapter upon the Prevention of Puerperal Fever the application of forceps in all the presentations suitable for the use of that instrument is discussed Professor Skutsch does not appear to have a very well defined view of English practice at the present day since he says in describing the use of forceps, that while in France and Germany the forceps are often applied to the head while lying high up in the pelvis in England they are mainly used when the head is low down in the pelvic cavity—a statement which certainly does not represent the usual practice in this country He does not appear to approve of *axis-traction* forceps and the section devoted to these is somewhat scanty and poor No mention at all is made of the modern and improved forms and the many advantages of the instrument do not appear to be appreciated by the author There are, of course, many practical points in which the advice *differs from* that usually given by English obstetricians and this adds to the interest of the book For instance, the author recommends that when the forceps are applied to the head while situated low down in the pelvis they should be passed by the right hand applied to the shanks, one or two fingers being placed between the two blades. In this way he thinks there will be less likelihood of injuriously compressing the child's head. In the application of high forceps while the left hand is used to make traction on the axis of the handles of the forceps, the right is used to make pressure downwards at right angles to the long axis of the instrument, the patient lying in the dorsal position By this method, known as Osiander's axis traction is carried out. In many instances the practice of producing rotation of the head by the forceps is recommended a plan not much in vogue in this country In cases of premature rupture of the membranes and incomplete dilatation of the cervical canal the *introduction* of a hydrostatic dilator into the vagina is suggested. This is to prevent the escape of the liquor amnii, to promote dilatation of the cervix, and to set up uterine contraction. We imagine that most English obstetricians would place the bag in the cervical canal and not in the vagina. To render the rotation of the body more certain in dorso-posterior transverse presentation Professor Skutsch brings down both legs. By this method he thinks the rotation of the back of the child to the front is more certainly obtained and the arms are less liable to become extended In transverse positions of the child with presentation of the back Deutsch's method of rotating the whole body of the child upon a transverse axis is described and figured No mention is made of the vertical elongation of the head which occurs in cephalotripsy The author does not consider that symphysiotomy is an operation suitable for private practice, and throughout the book he is cautious about recommending to the private practitioner operations which are really only possible in well-appointed hospitals with skilled assistance. The book is well illustrated and is of interest as an example of the practice in Germany with regard to obstetrical operations.

LIBRARY TABLE

The Buried Temple By MAURICE MAETERLINCK. Translated by ALFRED SUTRO London George Allen. 1902. Pp 276, crown octavo. Price 5*s.*—In this book the author invests with all the charm of his own admirable style the various vague ideas which occur to a brooding mind upon some of the great mysteries of life. The task which he has set himself is eminently a task of criticism. He falls foul of the churches the poets and the philosophers of his time. But the critical faculty is precisely that in which he is wanting In suggestive glimpses of great truths and in convincing statement of what many of us dimly feel to be true Maurice Maeterlinck stands among the great minds not only of his nation but his time, but surefooted criticism is by no means in his way Much of what he says leaves the reader with the impression that he might equally well have said the reverse and all has to be taken upon the authority of his somewhat oracular utterance. How far the author is from that intellectual serenity which is indispensable to the higher work of criticism may be seen at once from his petulant remarks about the Boer war It is not however by such imperfect features of his work that Maeterlinck must be tried, and when he speaks of matters which are truly within his compass he says what is more than notable. For instance the following dictum concerning the use of symbolism in poetry is a sample of much that could be found in these fascinating pages It is time that the poet should realise that the symbol is legitimate only when it stands for accepted truth or for truth which as yet we cannot, or will not, accept, but the symbol is out of place at a time when it is truth itself that we seek. And, besides, to merit admission into a really living poem, the symbol should be at least as great and beautiful as the truth for which it stands, and should, moreover, precede this truth and not follow a long way behind" It remains only to add that the translation has been excellently well done, though for some curious reason here and there the translator uses the auxiliary "will" as a Frenchman or a Scotsman might, meaning thereby "shall."

Letters to Young Wives and Mothers, Nos 1, 2, and 3 By **FREDA LORAINE** London The Cable Printing and Publishing Co, Limited. Price 6*d* each.—These three little pamphlets contain some admirable advice to expectant mothers. Lady Loraine's remarks are shortly summarised by the quotation given at the head of letter 1. "Whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report Think on these things." There is but little doubt, we think, that a mother's temperament, "conversation," and surroundings during her pregnancy have an influence for good or for evil upon her as yet unborn child. If a woman is during her pregnancy contented, in easy circumstances, and surrounded by beautiful objects her child is much more likely to be healthy, good tempered, and patient of control than if in its prenatal days its mother has been worried, anxious, and bad tempered. Although happiness and contentment are not within the reach of everyone Lady Loraine has done well in pointing out to those chiefly concerned that a mother can exercise an influence over her unborn child, and even the trying to be contented will often result in attainment.

JOURNALS

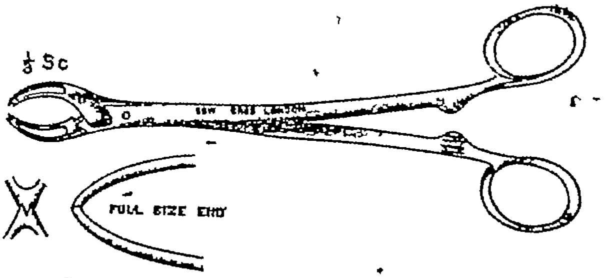
Medical Magazine—The interest of the July number of the *Medical Magazine* centres in an announcement contained therein which is headed "The *Medical Magazine* and Medical Protection." The magazine is to be supplied to all present and future members of the London and Counties Medical Protection Society and an attempt is to be made by special issues from time to time to "keep the medical profession constantly and systematically in touch with those questions which most vitally affect its own interests and thus to enlist its sympathy and coöperation." We are always in sympathy with efforts aimed at stimulating the interest of medical men in the practical politics of their own profession and shall be glad if the *Medical Magazine* succeeds in this direction.

Journal of Anatomy and Physiology Conducted by Sir **WILLIAM TURNER**, K.C.B. F.R.S., **D. J. CUNNINGHAM**, M.D., F.R.S., **G. S. HUNTINGTON**, M.D., **A. MACALISTER** M.D., F.R.S., and **J. G. M'KENDRICK**, M.D., F.R.S. Vol. XXXVI. New Series, Vol. XVI Part 4 July, 1902. With Plates and Figures in the Text. London Charles Griffin and Co, Limited. 8vo Pp 112. Price 6s Index Number—The following articles are contained in this number of the journal 1. On the Succession and Homologies of the Molar and Pre-molar Teeth in the Mammalia, by H. W. Marett Tims, M.D. Edin 2. The Normal Position of the Big Toe, by Joseph Griffiths, M.D. Edin., F.R.C.S. Eng Dr Griffiths gives drawings and measurements which show that in the newly born child, in the adult, in the savage, as well as in civilised man, both of the present day and as represented to us in Greek sculpture, the big toe is asymmetrical gently curved in its long axis with the convexity inwards towards the opposite foot, and is directed outwards more or less from the inner line of the foot as well as from the line of the innermost metatarsal bone. 3. On two cases of Dental Anomaly, by O. Charnock Bradley, M.B. Edin. One of these cases occurred in the horse and in this there was a supernumerary molar in the maxilla, whilst in the other the premaxillary region of a calf prese[illegible] regards as [illegible] the individu[illegible] of reversion [illegible] plement of [illegible] 4 [illegible] note on the [illegible] [illegible]ion in some Arctoid by R. J. An[illegible], M.D. R.U.I. 5 Two Rare Vertebr Anomalies, by E. Barclay Smith, M.D. Camb. 6. On th Natural Preservation of the Brain in the Ancient Egyptian by G. Elliott Smith, Fellow of St. John's College, Cambridg Professor of Anatomy, Egyptian Government School, o Medicine, Cairo, with a plate. 7 The Primary Sub-division of the Mammalian Cerebellum, by G. Ellio Smith. 8 On the Presence of an Additional Incisor Toot in a Prehistoric Egyptian, by G. Elliott Smith. 9 Not on a Case of Muscular Abnormality observed during Lif by Professor T. Wardrop Griffith, M.D. Aberd The ca appears to be one of complete absence of the stern and of a small part of the clavicular origin of th pectoralis major of the right side in a man. 10 On th Arrangement of the Branches of the Mammalian Aortic Arch by F. G. Parsons, F.R.C.S. Eng Drawings of the norm arrangement of the vessels in many animals are given 11. The Relative Weights of the Right and Left Sides of th Body in the Fœtus, by T. G. Moorhead, M.B. Dub 12. Th Comparative Histology of the Urethra, by J. Strickland Goodall, M.B. Lond. 13. A Supra Clavicularis, Propriu (Gruber), by P. P. Laidlaw, St. John's College, Cambridge 14 Emargination of the Patella, by the Rev F. C. Kempson M.B. Camb In addition to an index to the thirty-sixt volume the part contains the Proceedings of the Anatomica Society of Great Britain and Ireland

New Inventions.

LONG ARTERY FORCEPS FOR DEEP WOUNDS

IT is sometimes rather difficult to place a ligature on a bleeding point in a very deep wound, as, for instance on the pelvic floor in an abdominal section when the abdominal incision is small and the walls are thick, or in a vaginal section when the vessel is almost out of reach. Ordinary artery forceps are too short and in using most long forceps one is apt to include the ends of the blades in tying the ligatures Messrs. Down Bros have made to my design a pair of forceps which are figured here and which seem to render considerable help in the conditions indicated The shaft is nine inches long The instrument bears a superficial resemblance to a large pair of Morrant Baker's artery forceps, but it differs from them in the construction of the blades. These are not serrated but terminate in fine toothed ends. The blades are broadly bowed with somewhat obtuse points. They take up but a small piece of tissue, and a loop of ligature thrown over the shoulder and drawn tight runs well over the ends, and it is almost impossible to tie the extremity of the forceps in the tissue seized The instrument has the shafts, handles, and catch of Morrant Baker's forceps and the blades and toothed ends of ordinary artery forceps, except that its bow is shorter and wider. It has an aseptic joint and weighs two ounces.



Complete forceps with enlarged view of bow and grip

Leeds.
J. B. HELLIER, M.D. Lond.

THE LANCET.

LONDON SATURDAY AUGUST 16 1902

The Metropolitan Hospital Sunday Fund for 1902

IF the congregations which assembled in the various places of worship in the metropolis on Hospital Sunday were not equal to the task of raising the Hospital Sunday Fund for 1902 to £80 000 so as to insure with the aid of the munificence of Mr GEORGE HERRING a grand total of £100 000 we may at any rate congratulate them upon a "record" collection wherewith to celebrate the coronation of King EDWARD VII the end of the war in South Africa, and the thirtieth year of the Fund.

In 1873 the Metropolitan Hospital Sunday Fund was inaugurated and in that year it reached £27 700 of which £1844 ranked as donations as distinct from collections obtained in places of worship. This year, as we announced last week in THE LANCET the contributions from places of worship *alone* amounted to £45 000—a sum exceeding nearly all the grand totals of previous years *including* donations In fact, only three times have the grand totals of the Fund exceeded the amount collected this year in the places of worship The grand total also when completed will probably this year exceed that of 1895 when it amounted to £60 361 the highest figure as yet registered. Such a result is satisfactory for while we urged all to contribute upon an unexampled scale, and so to commemorate the great events of a memorable year and although there was much in the declaration of peace and in the approaching coronation of our beloved KING and QUEEN to excite kindly feelings and to stimulate generosity we did not, and do not forget that there were circumstances also to be considered which were likely to diminish rather than to increase the offerings of the majority The year 1895, to which we have referred, was distinguished by a boom in South African mining shares which had a corresponding effect in other markets The late Mr BARNEY BARNATO and his friends contributed £10 000 and the Stock Exchange at large joined the list of donors with £3400 while no doubt other minor givers felt similar impulses towards generosity accompanied by special means to gratify them. This year all the circumstances are entirely different. The country is feeling the effects of a long and costly war the price of most securities is down and the coronation has caused expenses which many have had to take into consideration, and which the untoward illness of the KING has materially increased for many of his subjects. When these things are taken into consideration it will be seen that the Hospital Sunday Fund is to be cordially congratulated upon its thirtieth anniversary, while we may express the hope that years of increased prosperity may be coming and that the forward step now taken may never be retraced.

To THE LANCET the success of the Hospital Sunday Fund is a source of keen gratification. At the time of this year's collection the *Pall Mall Gazette* published an interesting interview with Sir HENRY BURDETT than whom no one is better qualified to speak on every point connected with the financial organisation of our hospitals while all know how much the Hospital Sunday Fund owes to his resource and energy In speaking to his interviewer of the origin of the Hospital Sunday movement Sir HENRY BURDETT described how Sir SYDNEY WATERLOW then Lord Mayor wrote to the Mayor of Birmingham for particulars of the working of the Hospital Sunday movement in his municipality but, he added, the idea had been debated in London before that. Dr WAKLEY a former Editor of THE LANCET for instance, had repeatedly urged upon successive Lord Mayors the necessity of some such scheme. Dr WAKLEY indeed is entitled to claim the paternity of the movement in London. We are particularly gratified at this public acknowledgment of the assistance given to the Fund at its commencement by the late Dr JAMES WAKLEY and trust that it does not savour of family pride if we also allude to the fact that he set the example to private donors of large sums by giving £1000 in 1885 and the same sum in 1886 while his executors in 1887 paid a like amount under his will. These sums in the years named stood alone and the importance of their effect may be judged by examination of the donations of subsequent years among which the gifts of 1895 to which we have already alluded the regular and noble contributions of Sir SAVILE CROSSLEY and the princely generosity of Mr GEORGE HERRING in recent years may be specially referred to

At the meeting of the council of the Fund on August 5th graceful reference was specially made to the efforts of THE LANCET by Mr ALFRED WILLETT in proposing a resolution of thanks to the editors of newspapers who have pleaded the needs of hospitals and advocated the cause of the Metropolitan Hospital Sunday Fund. We appreciate highly such recognition as this of the work that we have endeavoured to do in a good cause, and we shall continue to hope that the annual supplement which we devote to the Fund has some influence in unloosing the purse strings of those who peruse it in their places of worship on Hospital Sunday and elsewhere In the form which it took this year it made the patients in the hospitals themselves the advocates of the hospitals cause and if any of those whose experience in the wards was published by us follow the fortunes of the Fund in the newspapers we hope that it will give them pleasure to see that a record collection has followed the issue of their stories. Those members of the staffs of the hospitals who cooperated in enabling us to prepare the supplement will also we believe enjoy a similar feeling of satisfaction. In fact the steady progress of the Fund is well calculated to be a source of gratification to all those who are labouring to maintain its advance Directly and indirectly the Fund has had a considerable influence on the institutions on whose behalf it was founded and that influence has been wholly for good. We may repeat in conclusion the sincere hope that the splendid collection of 1902 may form part of a continued and well sustained progressive movement and that a substantial increase from year to year may be looked for in the future.

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The Simulation of Abdominal Disease by Intra-thoracic Lesions

IN the present state of medical science it may safely be said that in many morbid conditions the art of diagnosis has far outstripped treatment, and we may, indeed, legitimately pride ourselves on the strides which have been made in introducing and perfecting our methods of diagnosis and in enlisting the assistance of various diagnostic aids There is, however, no small danger that we may over-estimate the exactness with which we can recognise a disease and this danger is especially acute in those cases in which diagnosis is rapidly followed by energetic surgical treatment, for it may easily happen that from a slight misreading of the signs that are present the aid of the surgeon is invoked and an operation is performed which was quite unnecessary and therefore, to some extent at least, harmful There is a well known passage in one of GALEN'S works in which he describes how he detected an error of diagnosis on the part of a Sicilian physician at Rome. The Sicilian physician was himself the patient and suffered from a sharp shooting pain in his right hypochondrium A short dry cough also troubled him and his breathing was frequent and shallow and he therefore had diagnosed pleurisy GALEN by the acuteness of his observation was able to show that the real condition from which the patient was suffering was an acute hepatitis. We see, then, that it is not difficult to mistake a morbid condition of an abdominal viscus for a disease of the thorax. At the present time, however, the reverse mistake in diagnosis is much more likely to be made and an intra thoracic affection mistaken for some abdominal disease In hospital practice this is specially prone to occur A patient with marked abdominal symptoms is far more likely to be admitted under the care of a surgeon than to be sent into a medical ward Even in private practice, too, sudden and severe abdominal pain is so suggestive of perforation of a gastric ulcer or of an inflamed appendix that a surgeon is much more likely to be called in than a physician

This is especially the era of exploratory laparotomy We say this with no invidious meaning When marked abdominal symptoms are present, such as pain, distension, tenderness, and vomiting, the surgeon may hesitate to make an exact diagnosis and yet he may reasonably feel justified in saying that some serious abdominal condition is present and that an exploratory laparotomy is advisable not only to establish a diagnosis but to carry out the treatment For in such cases diagnosis and treatment go hand in hand. Experience justifies the confidence that the surgeon feels, for in 99 cases out of 100 these symptoms are to be attributed correctly to abdominal lesion and the laparotomy in revealing the diagnosis shows also how best to treat the condition. But there are exceptions Occasionally, very occasionally indeed, a case is seen in which a superficial or even a fairly thorough examination will suggest that there is some gross abdominal lesion present and yet the cause is seated within the thorax This very important subject has been brought forward by Mr H L BARNARD who has contributed a paper published in THE LANCET of August 2nd, p 280 He has collected six cases in which a morbid condition of the pleura or the lung has led to symptoms suggesting a general peritonitis. Another case of the same kind appears in the Mirror of Hospital Practice in the present number of THE LANCET (p 440) The intra thoracic conditions which have caused these severe abdominal signs are all to be found in the lowest part of the chest, either affecting the pleura where it covers the diaphragm or the inner surface of the chest wall, or the base of the lung itself In all the cases quoted in the paper that we have mentioned the pleura was affected, but in half of the cases there was also a basal pneumonia The symptoms and signs which suggested the abdominal source of the trouble were numerous and Mr BARNARD divides them into parietal and visceral The wall of the abdomen is exceedingly tender, in some cases universally so, but in others the tenderness is limited sometimes to one area, sometimes to another The spasm of the abdominal muscles is well marked and confirms the diagnosis of an abdominal lesion, and this spasm may be so severe as to cause the greatest difficulty in returning into the abdomen any bowel which may have escaped during a laparotomy The breathing is shallow and chiefly thoracic, but there are two points of diagnostic importance in connexion with the respiration. In the first place, at each inspiration there is a momentary relaxation of the spasm of the abdominal muscles This is not the case when the spasm is due to general peritonitis The other valuable diagnostic sign is the greatly increased frequency of the respiration. The signs and symptoms which are visceral in nature are numerous Nausea, hiccough, and vomiting may be very severe and the intestines are much distended Constipation, too, is nearly always present There is also often great collapse With such symptoms is it to be wondered at that an error of diagnosis is made and that these signs are attributed to perforation of some abdominal viscus? Especially excusable would such an error be if some previous symptoms should point in the same direction For instance, in one of Mr BARNARD'S cases there was a history of gastric ulcer, and the patient, a girl aged 17 years, was suddenly seized with violent epigastric pain and vomiting The abdomen was tender, rigid, and distended, especially at the epigastrium A diagnosis of perforating gastric ulcer was obvious and yet this patient was suffering from a double basal pneumonia with diaphragmatic pleurisy on the right side.

The chief danger in the diagnosis consists in preconceived ideas. A surgeon rarely sees cases of pleurisy, he frequently sees cases of peritonitis, and if he, therefore, should be called to a case with the severe abdominal symptoms already mentioned a diagnosis of peritonitis will very likely be made, but he should be on his guard, and a little further examination, a little consideration of the symptoms will make it clear that he is dealing with a case in which thoracic is simulating abdominal disease The extreme rapidity of the respiration without any corresponding increase of the pulse rate points conclusively to pulmonary or pleuritic disease. Further the abdominal tenderness is merely superficial and disappears when firm pressure is exerted and the presence of intra thoracic signs will confirm the suspicion engendered by the examination of the abdomen Should unfortunately the true nature of the case not be recognised and a laparotomy be performed it may be that little direct harm will be done, but in addition to the difficulty of closing the abdominal wound due to the rigidity of the muscles, the risk of septic peritonitis is not absolutely negligible and the depression from the operation, slight though that depression may be, cannot but impair the patient's chance of recovery from severe pneumonia or pleurisy There is, moreover a further danger the anæsthetic may serve to make worse any pulmonary disease present and this is a risk which must not be forgotten The explanation of these abdominal symptoms is to be sought chiefly in the nervous supply of the skin and the viscera of the abdomen. The terminations of the lower dorsal nerves supply the upper abdominal wall, and the pain caused by lesions in structures supplied by one branch is referred to the distribution of another. Mr BARNARD'S paper is well worthy of careful perusal and its importance is great, for on a correct diagnosis much depends.

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The Notification of Tuberculosis

THE powerful plea on behalf of the adoption of compulsory notification in cases of phthisis advanced in these columns by Dr BYROM BRAMWELL in a recent series of lectures deserves the earnest consideration of the medical profession. He is not alone in his advocacy of a measure which *primâ facie* would seem to be the logical outcome of the recognition of the infectivity of tuberculosis. In the course of a most interesting debate, which took place in the section of State Medicine during the recent meeting of the British Medical Association and which is reported this week in our columns, some of the best known and most experienced of our medical sanitarians took the view that some form of notification is highly valuable to the community in dealing with tuberculosis. Hitherto it must be confessed the suggestion has not commended itself to the majority of the profession or to those responsible for the administration of the laws relating to public health. We have more than once expressed an adverse opinion, holding that even if desirable it is hardly practicable It seems like one of those "counsels of perfection" which cannot be seriously entertained in the present state of society Dr BRAMWELL and those who think with him entertain the belief that unless compulsory notification be enforced it will not be possible materially to reduce the prevalence of tuberculous diseases but compulsory notification is only of value when supported by other measures the fulfilment of which in the case of so widespread a disease as tuberculosis could only be obtained at enormous cost and after disturbance of social and family relations with the infliction of hardships upon individuals which the inexhaustible fount of charity might be unable to remove Dr BRAMWELL has boldly faced these difficulties and balancing the advantages of the plan against its disadvantages is convinced that it is not only feasible but essential to the subjugation of the disease He does well to point out that the method of dealing with tuberculosis differs from the procedure adopted in the case of acute infectious diseases, although the aim in view is the same—namely to limit the spread of infection. Moreover in tuberculosis the question is a comparatively simple one in so far as the measures of protection are concerned for the infective agency is known, its mode of transmission from sick to healthy fairly obvious It is not here that difficulties arise but in the fact that the disease is endemic and fostered by the conditions of life inseparable from large communities. For this reason the task of combating it on the lines pursued by sanitary authorities in the acute infectious disorders is rendered far more complex and the difficulties of dealing with it becomes well nigh insuperable. To carry out thoroughly the measures necessary to banish tuberculosis means the provision of machinery so extensive as to stagger the imagination. One involuntarily pictures the land covered with sanatoriums and hospital which, like the lazar houses that played so large a part in the subjugation of leprosy would in time to come be no longer required, having done the work for which they were intended. Well may we ask if there is no other way to deal with this scourge and pause before setting on foot a scheme which would have such gigantic issues.

On the other hand, it is idle not to recognise the importance of a knowledge of the prevalence of tuberculosis which a system of registration would supply and the use to which such knowledge may be put in enforcing the laws of health, neglect of which has so much to do with thi prevalence. And the modified plan of notification suggested by Dr BRAMWELL on the basis of that adopted in New York for this disease and in Edinburgh for infectious diseases generally would certainly materially aid the struggle against the disease. For on this plan the medical practitioner himself would take on much of the duty falling to the sanitary authority whose aid he would summon if he deemed fit. He would see that proper means of disinfection were carried out, that the people were instructed in the very simple methods involved in the destruction of sputum and that overcrowding was diminished and the dwelling purified by light and ventilation. The public must be instructed how easily the risks of contamination can be avoided and how low is the infectivity of tubercle in healthy environments. Much, very much can be done in this educational manner and it is to the medical man that the public will look for instruction. But it would surely be disastrous if the idea became prevalent that the phthisical patient was one to be avoided and to be removed without delay as if the disease were as dangerous to others as say small-pox. The fear of infection, which has gained perhaps too great a hold of the public mind has doubtless its good purpose albeit it is making modern man a selfish and pusillanimous creature but in such a disease as tuberculosis there is no room for such a feeling to enter in view of the fact that the infectivity is comparatively slight and the means of protecting against it so simple and easy At the same time it is for our profession never to cease impressing on the public that tuberculosis is curable and that the [illegible] can [illegible] to hand in the [illegible] practice [illegible] of the principles which underlie all sanatorial treatment. By all means let these institutions be multiplied, but let us not forget that the rational treatment of the tuberculous subject does not necessarily imply resort to any institution at all.

And this brings us to the great lesson which modern knowledge of the nature of tuberculosis teaches, which cannot be too strenuously urged upon those responsible for the health of large communities. We have suffered generations to grow up under conditions in which tuberculosis is bound to flourish. The measures which the most active sanitary authority can take under the most perfect system of notification are doomed to failure so long as these conditions prevail. Is it not worth while to consider before entering upon a scheme which will involve such heavy burdens whether a wiser course would not be to set steadily to work at the improvement of dwellings and the establishment on the outskirts of all large towns of "garden cities" which should gradually come to replace the courts and alleys which will always remain as hotbeds of disease? If the adoption of compulsory notification and all that is therein implied would tend to check, or perhaps entirely set aside, the more permanent schemes of prevention we should still decline to believe that it was the best means to eradicate tuberculosis. Dr. BRAMWELL speaks of voluntary notification (which is now being adopted in many centres) as a makeshift, but may not the same term apply to the more extended system if it stand in the way of the thorough and only scheme likely to subdue this scourge of civilisation? The debate in the section of State Medicine during the meeting of the British Medical Association, to which we have already referred, terminated in the unanimous adoption of a motion urging the Local Government Board to grant extended powers for dealing with tuberculosis to local authorities. By all means let these powers be granted, for they would be placed in discreet hands. But the public, instructed by the medical profession, must realise that such proceeding would not minimise their own responsibility the matter. A regulation of a Government department cannot convert an unhealthy city into a healthy one, and the prevention of tuberculosis must be largely a question of sanitation in its broadest sense.

Annotations.

"Ne quid nimis."

THE CORONATION

ON Saturday, August 9th, King Edward VII. and Queen Alexandra were crowned at Westminster Abbey, adding to a long list of memorable coronations one the circumstances of which will never be forgotten by their subjects or by future generations. The postponement of the ceremony and the cause which led to it are matters too recent and too well known for us to dwell upon; it is, however, a matter for profound thankfulness that His Majesty was able to go through such a ceremony without distressing fatigue, and that his exertions should have in no way checked or retarded his progress towards perfect health. The ancient and interesting religious rites and observances had been condensed and curtailed as far as possible with a view to their performance on June 26th, the date originally fixed, so that there was little that could be omitted or abbreviated. The ceremony was by no means a short one, and no better proof of his renewed strength could have been given to His Majesty's subjects, both those who were privileged actually to see him crowned and anointed and those who waited his return from the ceremony wearing the insignia of royalty, than the King's demeanour throughout the day. Not only did His Majesty pass through the midst of his people along an extended route, but he afterwards showed himself upon the balcony of his palace to those assembled to greet him. The weather which prevailed in London on August 9th was unusually cold for the time of year, a fortunate circumstance which must have contributed in no small degree towards enabling the King to endure to the end in comfort and without undue exhaustion. Coronation robes are not garments which even a strong man would lightly undertake to wear and move in during what are known as the dog days, but the grey still weather of last Saturday, while it diminished to some extent the magnificence of the spectacle in the streets, was *ideal from the point of view of all who were not merely* onlookers, and if His Majesty is always favoured throughout his reign with days as suitable to the task which he may have in hand he will be fortunate indeed. To the physicians, surgeons, and nurses to whom the charge of His Majesty during the recent weeks of anxiety was entrusted, and particularly to Sir Frederick Treves who performed the operation, we beg to offer our sincere congratulations. With the eyes not of their countrymen only but of the whole world upon them they have successfully done the duty that was allotted to them and the conclusion at which they aimed they have triumphantly arrived at. To the whole world they have given a striking example of the service which medical science places at the disposal of high and low, rich and poor, saving the life of the mechanic in the hospital without hope of reward or restoring to a people the monarch to whose long reign in health, peace, and prosperity we now look forward. To their Majesties we offer our heartfelt congratulations, joining in the chorus of goodwill which has echoed and re-echoed throughout the world. The warmth of the greeting that would be given to them by their people we were safe in predicting last week, and our prognostication was realised in a magnificent outburst of spontaneous enthusiasm. It was, indeed, a fitting reception for the King and his Royal Consort that the streets of London saw last Saturday, a reception that must for ever assure their Majesties of the place which they occupy in the hearts of their loyal subjects.

THE IMPERIAL VACCINATION LEAGUE

IN our issue of July 5th we referred to the formal constitution of the Imperial Vaccination League and the most important points which the promoters of the league considered should be dealt with. In a letter which was published in the *Times* of August 11th, a letter signed by His Grace the Archbishop of Canterbury, the Bishop of London, and the Duke of Northumberland, Lord Kelvin, Sir William Broadbent, Sir Victor Horsley, Sir W. S. Church, and Dr. J. C. McVail, to quote only a few of the names, the league points out that "It will consider if the entire supply of glycerinated calf lymph should not be guaranteed and regulated by some public authority. In Germany for 55,000,000 people there are 22 state laboratories for the preparation of lymph. In Great Britain and Ireland for 40,000,000 people we have but one. Private practitioners have to trust to the vendors of lymph without any guarantee as to its age or quality. If a central authority for vaccination were established under the Local Government Board the provision of an adequate amount of lymph would be an important part of its duties." It cannot be doubted that the fact of the preparation of vaccine lymph being left to a very large extent in private hands makes for a sad want of uniformity in the quality of lymph supplied This want of uniformity and the defects inseparable from haphazard methods of preparation were well brought out by the results of our Special Commission on Glycerinated Calf Vaccine Lymphs which appeared in THE LANCET[1] and it is quite possible that much of the prejudice against vaccination is due to the use of either impure lymphs which produce various septic troubles or else to the insufficient protection afforded by an inert lymph The great experiment of the Vaccination Act of 1898 comes to an end next year and it would be a useful duty on the part of the League to press the Government to consider the question of revaccination

THE KING'S SANATORIUM THE PRIZE COMPETITION FOR THE ERECTION OF A SANATORIUM IN ENGLAND FOR TUBERCULOSIS

DR. ARTHUR LATHAM'S address on the Modern Treatment of Pulmonary Consumption, which will be found in the columns of our present issue, presents some points of historical interest. It was read before the Hunterian Society of St. George's Hospital on Nov 24th, 1901. Last week we announced that the King had sanctioned the award of three prizes for essays on the subject of sanatoriums for phthisical patients and that Dr Latham had gained the first prize of £500. Dr Latham's prize essay was founded upon the address which we now publish.

A WINTER IN CYPRUS

A MEDICAL correspondent has written to us warmly eulogising the climatic conditions of Cyprus from personal experience and calling attention to its suitability as a health resort. He says that at the commencement of the British occupation the initial blunder of encamping our small army on the salt marshes near Larnaca gave the island a wholly undeserved reputation as a fever stricken place. It is true that fever occurs at certain seasons and within certain limited areas but in winter the coast is *free from it*. From *December to April* last winter reminded him of a long English summer, the average temperature at 9 A M. was 55° F on only two or three evenings did he find it necessary to wear an over coat, and at night his bedroom window was always wide open The rainfall was practically *nil*. Limasol he considers to be probably the best town for winter residence. It has a small English colony and an excellent club and polo, cricket, football, hockey and tennis are played. There is an hotel with good bedrooms but the sanitary arrangements have not yet been brought up to date. In February and March he made a leisurely tour of the island, starting from Limasol with mules, some of which carried the camp and belongings, the retinue consisting of two muleteers and a cook. He camped the first night at Pissouri next day he visited the ruins of the temple of Venus and camped that night at Ktima or New Papho A few nights afterwards he camped at Pyrgo on the sea shore, the water being in fact only 10 feet from the tents. In due course he arrived at Nicosia, the capital and the seat of government, the climate here was bracing being colder than on the coast, but in its way it was just as fine. Nicosia is a typical Eastern town walled, and with fine bazaars An enjoyable stay of a week was made here. The High Commissioner showed much interest in the question of Cyprus as a health resort. There is an excellent hospital, ably administered by Mr R. A. Cleveland Two or three days journey camping at night brought the party to Famagusta, where they camped in a pretty plantation at the gate of a fortress. The magnificent old fortifications give an air of picturesqueness to the place, Othello's tower still stands and the harbour is being developed Passing through Larnaca, where there is a model hospital designed and superintended by Dr G A. Williamson an accomplished bacteriologist, they finally returned to Limasol thereby completing the round of the island. Our correspondent was so pleased with his experiences that he hopes to pay a second visit to Cyprus next winter taking patients with him. He considers that the climate is suitable for a variety of pulmonary complaints, especially in the incipient stage. The chief drawbacks are the limited extent of the available accommodation and the absence of pasturage with the consequent want of fresh milk and butter

THE MEDICAL OFFICER OF THE BALLACHULISH SLATE QUARRIES

MORE than a month has now elapsed since the directors of the Ballachulish slate quarry dismissed Dr L. Grant from his position as medical officer at the quarry but they have not yet given him any satisfactory explanation of their reason for doing so. They have, however presented their own version of the case in a published statement which is to our mind anything rather than a justification of their high handed action and is, in fact, about as lame and feeble an apology as can be imagined. This document, which seems to have been posted up or displayed at the quarry on August 4th was addressed to the men was dated July 26th and began by professing to show something of the rights of the case." It then continues as follows —

> The medical gentleman at Ballachulish has always been a quarry doctor in the first instance, but the country is getting filled, big works are opened up, more people are living around, and of late the quarry doctor it appears to the directors of the company has been inclined to take on work which makes it necessary that he should be more and more absent from the neighbourhood of the quarries and the directors do not like it. When the present gentleman came to Ballachulish he signed an agreement with the directors which agreement either party might end on giving one month's notice Most people stick to a bargain but Dr Grant or more likely injudicious friends have raised a cry of dismissal cruel ill-treatment and so forth and have not put before you the facts of the case fully Have you been told that Dr Grant has put it out of his power to practise in the district on the termination of his engagement and that he has barred himself by law from accepting any appointment from you? If you want to know why the directors are not satisfied with the recent agreement I will inform you that it was not sufficiently binding to prevent Dr Grant from taking work on at a distant granite quarry ...... In conclusion, I must express my great regret that people connected with the quarries have interfered .....

The quarrymen's reply to this communication was that their medical committee met on August 4th and confirmed their appointment of Dr Grant as medical officer for the quarrymen requesting him to be prepared forthwith to give such medical services as might be required by themselves or their families. The medical committee further expressed the opinion (1) that the men had already given the directors sufficient notice of their intention to appoint their own medical officer[1]; and (2) that they were better able to judge of the care and attention paid by him to his duties than was possible for the directors who did not reside in the district. On August 7th a mass meeting of the men was held at which a resolution was adopted protesting against the action of the directors in applying to the courts and seeking to interdict Dr Grant from practising in Ballachulish. Our advice to the quarrymen and to Dr Grant is to adhere to the position which they have taken up The essential weakness of the statement published by the directors is the remark that Dr Grant was more and more absent from the neighbourhood of the quarries and the directors do not like it. That would be all very well if the workers in the quarries were helpless dependents like the coolies employed in coffee plantations and tea gardens, but a Highland quarryman is very unlike an East Indian coolie, and if he strongly approves of the *status in quo* he is not likely to be far wrong The "distant granite quarry," which is said to take Dr Grant too far from the slate quarry, is, we understand, about four and a half miles from his house, from which it is reached by a good road It employs about 60 or 70 men, and, considering the sparseness of the population, it is obvious that the men at the two quarries must be acquaintances The distance between the places would not be reckoned great in that part of the country, and for the directors seriously to put this forward as their reason for dismissing the medical officer would almost lead us to imagine that they were influenced by some other motive which they were unwilling to disclose

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[1] THE LANCET April 28th 1900 (p. 1227), and June 7th, 1902 (p. 1621)

[1] THE LANCET August 2nd 1902, p. 300.

ILLNESS FROM THE PATIENT'S POINT OF VIEW

OUR profession is, perhaps, accustomed to look at disease somewhat too exclusively from the point of view of the medical man We are apt to forget that from the patient's side many symptoms wear a very different aspect There are many small contrivances which a patient learns only by experience and which yet serve to mitigate greatly the pain and discomfort of the invalid It would be of interest to gather the experience of medical men on the nursing and general management of illnesses from which they have themselves suffered, for medical men, alas, have no prerogative of immunity from disease In the present number of THE LANCET (see page 455) we publish some suggestions made by a member of our own profession who has suffered for 24 years, and we cannot but think that they may prove helpful to his fellow practitioners

THE PRESIDENTIAL ADDRESS AT THE AMERICAN NEUROLOGICAL ASSOCIATION

IN his presidential address delivered at the recent annual meeting of the American Neurological Association and published in the *Journal of Nervous and Mental Disease* for July last Professor Joseph Collins gives a concise epitome of the most important work that has been done in neurology during the year past Although no epoch making contribution has appeared there was no dearth of effort to solve the many problems in the anatomy and pathology of the nervous system with which we are confronted. The neuron theory which to day stands as the basis of all neurology and neuro-pathology, in spite of criticisms and of the most elaborate histological investigations, has become more firmly established than ever Recent researches notably those of Apáthy and Bethe, were, explains Professor Collins, not in reality in antagonism to the neuron theory All investigation tended to show that "ontogenetically the neurons (or nerve elements) became more intimately united in series and that such intimacy was structually heightened by use." There were, however many obscurities still surrounding the question of the growth of axis cylinders in relation to their cell bodies or trophic centres which required to be cleared up There also remained for solution the question whether in the human cerebral cortex the presence of the dendritic cell-processes and the neuroglia sufficed to account for the relative large separation of the nerve cell bodies, or whether a certain amount of intercellular substance remained which accounted for the appearance in question In the field of cortical localisation the results of Horsley and Beevor as obtained by the methods of local electric stimulation of the cortex in the higher anthropoid apes had been corroborated and expanded by Sherrington and Grünbaum Flechsig in the latest of his wonderful researches on the association centres of the human brain was able to show that from 30 to 40 "areas" or centres could be mapped out on the brain in accordance with their times and rates of development. Important confirmation of the same had come from the researches of Schäffer of Buda pest and Storch of Breslau on general paralysis Much attention had been devoted to the study of tendon reflexes, the most important and valuable discovery in this direction being the so called Babinski reflex, which is now accepted as a definite indication of degeneration of the pyramidal tract The subjects of "toxæmia" and of "internal secretion" were receiving more attention, and further investigations in these directions were needed to elucidate the pathology of exophthalmic goitre, acromegaly, and allied disorders Quite recently Professor Mills of Philadelphia had shown that the Roentgen rays were of use in determining the site and occurrence of certain kinds of cerebral tumours Dr Henry Head had published a suggestive report upon visceral disease and the mental changes accompanying them, and there was still great room for the further investigation of such neuroses as hysteria neurasthenia and hypochondriasis in which mental disorders co existed On the whole, concludes Professor Collins, there has been more than usual activity in the realms of neurology and questions of the vastest importance were still awaiting solution

THE RECEPTION OF DEAD BODIES AT HOSPITALS

AN inquest was recently held at the London Hospital by Mr Wynne E Baxter on the body of a female child, aged about 14 days, of unknown parentage It was stated in evidence that the child was brought in after death had taken place by a woman who stated that the child had been treated at the hospital on the previous day The cause of death was found to be bronchitis The woman gave a name and address but the information was found to be false Some of the members of the jury made remarks which we consider not only uncalled for but showing ignorance of the responsibilities which the resident medical officers should or should not take upon themselves Dead bodies are frequently brought to the hospitals and the medical officer on duty having obtained the name and address of the deceased and of those bringing the body, and having made inquiries as to the nature of the illness or accident which was supposed to have caused death, has discharged his duties satisfactorily It would be on very rare occasions that he would be justified in detaining persons who had brought in the dead body and calling the police. The position of the medical officer is strictly that of a medical man and not that of a detective

THE RESULTS OF A VOLCANIC ERUPTION

AT a recent meeting of the French Academy of Medicine M Kermorgant gave some details taken from reports of the colonial medical officers of the condition in which the victims of the St. Pierre catastrophe were found In the centre of the town there had apparently been the most violent explosion. Bodies were found shattered to pieces or with several fractures in the arms and legs In many cases the skulls were broken to pieces and empty Further away from the centre of the town bodies were found lying exactly as they had fallen at the moment of death and these were in great part carbonised Death appears to have occurred either from the inhalation of gases at an extremely high temperature which had brought about sudden coagulation of the blood or from electric shock Those persons who had not been killed instantaneously must have had terrible difficulty in breathing The nose was generally full of dust and fragments of pumice The pharynx and the larynx showed traces of burning as low down as the bronchi. In some instances portions of mucous membrane had sloughed.

These details are full of interest and appear to justify what we wrote in our issue of May 17th that it is, however some consolation to reflect that the wholesale destruction of human life by rivers of molten lava deluging a town or by the incessant hail of hot sulphurous cinders filling the air does not necessarily imply an agonising death On the contrary it is probable that, in some instances at any rate, there is no struggle—the vapours of lava would quickly overpower and render the victims senseless and in this state they would probably be overcome by asphyxiation and die." In the same article we remarked that it was reported that many of the bodies presented the appearance of having been struck by lightning

CHOLERA IN EGYPT

THE following figures show the distribution of cholera throughout Egypt for the week ending August 4th The total number of cases was 346, of which 185 were new cases. The total number of deaths was 278, of recoveries 13, and 109 cases remained *under treatment*. The *Director-General* of the Sanitary Department reports that he is glad to be able to state that the diminution in the number of cases reported from Cairo last week continues, and it is to be hoped that the epidemic in this city will take no further very serious proportions. The disease is spreading somewhat in the vicinity of Assiout. The report continues —

> During the week Abou Tig Deirout, Mellawi Beni Masoud and Beba have declared cases but in none of the towns up to the present has the disease shown any tendency to spread in an alarming manner *It is much to be hoped that we have succeeded in finding the first* cases early and so shall be able by vigorous measures to prevent the spread of the disease in these towns, but I fear it must be expected for some time to come that we shall hear of fresh towns becoming infected from time to time. A marked improvement has taken place at Mouchs during the last few days. The Sanitary Commission of Cairo has recommended the permanent closure of all wells in Cairo the water of which is considered contaminated by leakage from cesspools, &c. This measure which is in my opinion, of the greatest importance not only for the prevention of the spread of cholera during the present epidemic but also for the prevention of so much enteric fever in the town which no doubt is due in a great measure to the consumption of water from polluted wells will be taken in hand at once. In all towns infected special hospitals have been established for the reception of patients and all possible measures taken to prevent the spread of the disease.

SYNTHETIC SILK.

SYNTHETICS loom large even now although it is true that attention has chiefly been turned to the synthesis of drugs. But there is no reason why equal success should not attend the efforts of the chemist to build up articles of food, drink, and clothing from their elements in the same way as mere chemical compounds have been constructed. It is only a question of the growth of knowledge of the constitution of matter Already the *synthesis* of many articles of common daily occurrence has been effected. The aniline colouring matters are practically synthetics indigo and madder are common products of the laboratory and sugar and alcohol may be prepared from the elements which compose them. The latest achievement of the building chemist appears to be the artificial production of at any rate the most important constituent of silk. Chemists have long known that the chief constituent of silk—insects cocoons and spiders threads—is an insoluble proteid, behaving very much in the same way as proteids in general of which the albumins are types Mulberry silk in particular consists of over 70 per cent. of a proteid substance termed fibroin associated with 22 per cent. of a *yellowish* transparent substance resembling gelatin in composition and character and known as sericin. These two albuminous substances occur in silk with about 3 per cent. of wax and 1 per cent of mineral matter It is sericin however or rather its derivative by hydrolysis serine, which has been successfully synthesised, and inasmuch as silk owes its peculiar and delightful character largely to this substance there is no doubt that an important step towards the artificial manufacture of silk has been made. Day by day synthetics are forcing themselves upon *our* notice and are threatening to take a place somewhere or other in man s ordinary routine. The question has still to be settled whether a synthetically or artificially prepared substance—that is, one which is identical as far as can be judged with the natural product—gives precisely the same satisfactory results. Most people, we are sure will confess so far to a sneaking preference for the thing which nature takes time to elaborate rather than for the product conjured up so to speak, in a few hours in the laboratory But already it is getting difficult in some directions to obtain the natural article. It is so, at any rate, with indigo, and it is just possible that in the near future it will be no uncommon experience to hear in the shops a customer precise in his demand for either the synthetic or natural article in accordance with his choice. It is to be feared, however *that as synthetic successes are scored so fresh room* for fraud will be opened and this fact is quite sufficient to raise a prejudice in the meantime.

A NEW PATHOLOGICAL SCHOLARSHIP

IT was mentioned at the meeting of the British Medical Association recently held at Manchester that Mr J Francis Mason of Freeland Lodge Woodstock, Oxfordshire has through Dr T F S Caverhill of Edinburgh, offered a scholarship *of £200* a year with *extension to two or* three years if the work seems to promise good results for the purpose of carrying on investigation into the physiology and pathology of the thymus gland including if necessary collateral investigations on the other ductless glands. The founder of the scholarship has associated with himself Dr Caverhill and Professor G Sims Woodhead to act as a small committee for the purpose of selecting a suitable candidate. In filling up the scholarship preference will be given to those who have already made a study of the thymus or other ductless glands, or have given some evidence of their fitness to carry on this or similar work, and who will devote the whole of their time during their tenure of the scholarship to the special research mentioned Every facility for carrying on this work in the Pathological Laboratories, Cambridge, will be placed at the disposal of the scholar *and farther particulars will be found* in our advertisement columns

HYPOPLASIA OF THE AORTA

IT more than occasionally happens that morbid conditions of rare occurrence are shown to exist more *frequently than* was previously imagined. This may be explained partly by improved methods of examination (e.g actinomycosis) or because, attention having been drawn to one or two instances, certain observers keep close watch on all cases likely to prove of the same nature. In a communication which we published in THE LANCET of August 9th p. 358, Dr W Lee Dickinson records four cases of hypoplasia of the aorta—a condition which has not been generally recognisable on account of its rarity As Dr Dickinson points out the cases he records having occurred within 10 years in the experience of a single hospital suggest that the association of aortic hypoplasia and aneurysm should be worth *looking for* in the future, especially perhaps in those cases of aneurysm which are least susceptible of explanation by ordinary causes such as aneurysms in women and young children. Women are notoriously more liable to hypoplasia than men and the suggestion presents itself that some degree of hypoplasia not necessarily to be seen unless searched for may be the reason for the more untoward course of their aneurysms Dr Dickinson further mentions the connexion alleged to exist between arterial hypoplasia and hæmophilia, a disease which modern clinical pathology has proved to depend essentially upon deficient coagulability of the blood. He adds that although hypoplasia does not always, or even generally, imply hæmophilia it at least constitutes an ominous link between aneurysm and the possibility of an undesirable condition of the blood. This suggestion may have an important bearing on the treatment of aneurysm and must certainly be taken into account when forming a prognosis. Dr Dickinson has done good service in drawing attention to a condition that has been but little studied

THE RECENT EPIDEMIC OF SMALL-POX IN GLASGOW

IN the year 1896 five cases of small-pox occurred in Glasgow In 1897 there were 59 cases, but from the early winter of that year until March, 1900, the city appeared to be quite free from the disease, except for one patient who was admitted into hospital on June 5th, 1899, having apparently fallen a victim from exposure to infection in Marseilles On March 18th, 1900, a steamer arrived at Glasgow from Bombay *viâ* Liverpool, at which latter port small pox was found to be on board , the crew were therefore kept under medical observation during the time that the vessel lay at Glasgow—namely, from March 18th to 21st. On April 10th Dr A K. Chalmers, medical officer of health of Glasgow, was asked to see a case of illness in an over crowded one-apartment house, No 3, Tobago-street, in the central sanitary district of the city The patient was one of the crew of the steamer in question. He had been reported to Dr Chalmers as having gone away on board the vessel on March 21st, and he had in fact signed the ship's articles for the outgoing voyage, but he remained on shore at the time of sailing , he was now near the end of the second week of an attack of confluent small pox, and he soon died , no medical aid had been obtained until April 9th It was a considerable time since any tenement in the city had been exposed to such concentrated and continued infection as this, and by April 23rd it was found that 11 other cases had originated from this man's illness The disease thus casually introduced has continued to exist until practically the present time with periods of greater or less prevalence and an interval of more than three months—namely, from the middle of July to the beginning of November, 1901, during which it seemed to be absent From the commencement of the outbreak in April, 1900, to the end of that year there were 397 cases or an average of about 10 per week, but during the fortnight ended Jan. 26th, 1901, there occurred 350 cases and the numbers for each of the four next fortnights were successively 202, 127, 299, and 161. The total for the year 1901 was 1399 The number of cases from the beginning of 1902 up to May 3rd was 459 As already mentioned there was an interrupted continuance of small pox from April, 1900, to July, 1901. In his voluminous report on this formidable outbreak Dr Chalmers classifies this epoch as the "pre-epidemic and epidemic periods" During this time there occurred 1759 cases, in only 10 of which the patients were not removed to hospital, the attacks having ended in death or recovery at home before their nature was recognised. There were 234 deaths As the accepted number of the population is 761,712 these figures represent an attack rate for the whole population of 2 3 per 1000, a death rate of 0 3 per 1000, and a case mortality of 13 3 per cent. His detailed statistics repeat and emphasise what has been common knowledge as to the protective power of vaccination Another interesting section of his report describes the measures taken for the promotion of revaccination among the general public. When the outbreak had been about two months in progress—namely, in June, 1900—he was authorised by the health committee to issue a circular to the medical profession urging the desirability of general revaccination and offering them a fee of 1*s* 6*d* for each successful revaccination of persons over 10 years of age and unable to pay for the operation There were 964 revaccinations performed by practitioners in terms of this circular, and at the same time about 7000 revaccinations were performed by officials of the health department When the epidemic increased greatly in January, 1901, a fresh circular was issued offering a fee of 1*s* 6*d* for revaccinations of persons over five years of age and withdrawing the stipulation regarding their inability to pay fees. The age limit was reduced to five years because of the number of children admitted with trifling vaccination cicatrices Dr Chalmers says "The immediate result of these was to convert the consulting rooms of practitioners in infected districts into vaccination stations, where the work of revaccination went on frequently for hours daily" The recurring increase in the number of admissions to hospital early in March led to the adoption of a system of house to house visitation, and a circular was issued to practitioners offering a fee of 2*s* 6*d* for vaccinations so obtained. The summary of the revaccinations done by the officers of the sanitary department and by practitioners during 1901 was as follows —At office, 486, in hospitals, 556 , at residence, by staff of department, 14,763 ; in prisons and poorhouses, 11,293 , by practitioners, in terms of circular letter of Jan. 24th in 1901, 283,423 , by special vaccinators working in enumeration districts, 29,081 , by practitioners in enumeration districts, in terms of circular letter of March 7th in 1901, 12,424 , total, 352,026 The number of tubes of glycerinated calf lymph issued to practitioners in the first four months of 1901 was as follows in January, 18,141 , in February, 37,143 , in March, 39,737 , and in April, 1706 From June 1st, 1900, to March 1st, 1902, the amount expended in connexion with revaccination was as follows calf lymph, £4570 , fees to practitioners, £22,776 , fees to extra vaccination staff, &c , £4177 , fees to prison and parish surgeons, £713 , total, £32,236 The justification of this outlay is to be found in the fact that no case of small pox occurred in a person recently revaccinated prior to exposure to infection , there were, however, 126 cases of the well-known condition of concurrent variola and vaccinia, showing that revaccination had been performed subsequently to exposure to small-pox infection—i.e , after the disease had been already contracted. A very important and instructive section of Dr Chalmers's report is that in which he discusses the dissemination of small pox and comes to the conclusion that a hospital for the disease may become a source of infection for the neighbourhood. Nearly 20 years ago Mr W H. Power, the present medical officer of the Local Government Board conducted a similar inquiry and came to a similar conclusion with respect to the small-pox hospital at Fulham in the west of London, and we have recently published articles making like allegations against the small pox ships moored in the Thames opposite Purfleet.[1]

CANCER RESEARCH FUND

THE Executive Committee of the Cancer Research Fund has decided, as may have been seen by reference to our advertisement columns last week, to appoint a general superintendent to supervise the investigation into the causes, prevention, and treatment of cancer The duties of the office will include (1) the general direction of laboratory investigation , (2) the supervision of workers appointed by or receiving grants from the committee , (3) the collection of statistical, dietetic, topographical, and other information , (4) the organisation of a system of correspondence with colonial,

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[1] THE LANCET Jan 25th (p 273), Feb 22nd (pp 495 and 534), and April 26th (p 1172), 1902.

Indian, and foreign laboratories and workers and (5) attendance at the meetings of the Executive Committee or any committee appointed by them for special purposes relating to the investigation. *The general superintendent may also be* appointed director of the central laboratory For further information reference should be made to the Secretary Examination Hall Victoria Embankment, London, W C. to whom applications must be sent before Oct. 1st It is the intention of the Executive Committee to make appointments early in that month when a serious start to carry out the objects of the fund will be made.

THE DISTRIBUTION OF PLAGUE

THE weekly return of the Director General of the Sanitary Department in Egypt shows that for the week ending August 3rd there were 3 new cases admitted all of which occurred in natives. The deaths numbered 2, the recoveries 9 and 13 cases remained under treatment. With respect to sanitary measures 18,775 rooms were disinfected and 504 were lime-washed 78 sacks of effects were disinfected and 1761 sacks of rubbish were burnt. The number of rats killed and burned was 1128. As regards the Mauritius a telegram from the Governor received at the Colonial Office on August 12th states that for the week ending August 9th there were 2 cases of plague of which 1 was fatal. As regards Hong Kong a telegram from the officer administering the Government received at the Colonial Office on *August 12th, states that for the week ending August 9th* there were 14 cases and 13 deaths.

A CONGRESS OF GYNÆCOLOGY AND OBSTETRICS IN ROME

A Congress of Gynæcology and Obstetrics will be held in Rome on Sept. 15th and following days. The Secretary General to the congress is Dr Ernesto Pestalozza, director of the Maternity Hospital at Florence. The payment of 25 lire (about £1) ensures membership to a duly qualified medical man and railway rates to members of the congress producing their tickets will be reduced by one half In connexion with this congress we are asked to announce that British physicians and surgeons who propose going to Italy will be made very welcome at Salsomaggiore if they desire to visit the place and will communicate with the thermal establishments. A supplementary ticket to Salsomaggiore from Spezzia or Borgo will be presented to them About Sept 11th a commemoration monument to Edoardo Porro the well known obstetrician, will be unveiled at Salsomaggiore a ceremony at which British gynæcologists may like to be present.

THE LIFE HISTORY OF FILARIA BANCROFTI AND FILARIA IMMITIS

IN another column we publish a paper by Dr Louis W Sambon entitled Remarks on the *Life-History* of Filaria Bancrofti and Filaria Immitis." Dr Sambon criticises a paper by Dr Giovanni Noè in which the last named authority strives to prove that the filaria immitis is introduced into the human body by means of mosquito bites, attempting to combat what he terms Dr Patrick Manson's suggestion that infection can take place through ingestion. In our opinion Dr Sambon's is a well reasoned and destructive criticism He clearly proves the fallacies of Dr Noè's experiments pointing out that his observations are unsatisfactory and his conclusions ill founded. He contrasts Dr Noè's rashness with the caution of Dr Manson who having made a special study of filaria for upwards of 20 years, expressed himself with the utmost caution as to the manner in which human beings are infected. Dr Sambon's paper affords interesting *reading* further observations must be made before the analogy of malarial infection can be established with regard to the filaria immitis.

DISCREDIT TO WHOM DISCREDIT IS DUE

IN the daily papers last week the death of a lady was reported under the far too familiar heading ' Fatal Cycle *Accident*." According to the evidence at the inquest the deceased who was 84 years of age was crossing the street near the Army and Navy Stores Westminster when she was knocked down, sustaining a fracture of the femur which subsequently proved fatal. A witness who was not contradicted, said that the unfortunate lady was alongside his bicycle when a cab in front of him suddenly turned round forcing the machine against her He did all that was possible to avoid an accident but could not. The verdict of the coroner's jury was ' Accidental death. Some days later in Kensington High street, a gentleman met with his death while riding *in a trailer* which was attached to a motor-cycle driven by his brother A van in front suddenly turned into Warwick road the result being a collision during which the deceased was thrown violently from his seat, sustaining a fracture of the skull with other injuries which led to his death. The man who was driving the van stated that before he turned into Warwick road out of the main thoroughfare he gave due warning by waving his whip but the rider of the cycle contested this, asserting positively that no recognisable signal was made. In this case also the verdict was 'Accidental death. *The deplorably long list of accidents* in which *cycles* are *concerned* is *not due so much to reckless* or furious riding on the part of the cyclists as to carelessness and indifference on the part of the drivers of vehicles The latter very often turn down side streets or even completely round in the same street without looking behind them or warning the after-comers of their intentions. Primarily of course, it is the duty of a driver to look where he is going but the present state of urban traffic makes it necessary that he should on occasion take a more comprehensive survey The construction of many vans which are permitted to ply in crowded places is certainly conducive to *negligence on* the part of apathetic drivers—a view to the rear and even in some cases sideways, being only obtainable at the expense of personal inconvenience. The unstable cyclist being so often a helpless factor in the causation of street accidents *it certainly does seem unfair that he should* be compelled to wipe up as they say in France, the whole of the discredit. But the crowded streets of cities are not suitable for bicycles.

LOST FINGER-TIPS RESTORED BY "SPONGE EDUCTION

I *American Medicine* of July 26th Dr George E. Abbott of Pasadena, California describes two cases in each of which, after the tip of the right index finger had been crushed off he succeeded in bringing about an elongation of the *stump to the* extent of at least half an inch. In the first case the portion of the nail left after the accident measured only one-sixteenth of an inch. After two or three days the skin began to close in and round over the top of the finger Dr Abbott then *commenced treatment by* sponge eduction ' leading on the granulations by means of a sponge graft so placed that the granulations of the pulp would grow onward and guiding those of the skin until it was time for them to bend round the point of the finger The result was that the finger became quite half an inch longer than it would have been had it been allowed to heal in the usual manner a well shaped nail was formed, and there was in fact no disfigurement whatever The second patient came under treatment two weeks after the accident. Dr Abbott found that more than half an inch of the right index finger had been crushed off The entire nail and apparently all of the matrix were crushed , there was no nail whatsoever, a little callous ridge alone showing an abortive attempt to redevelop the nail , the stump had completely healed except at the extremity where there was a mass of exuberant granulations about an eighth of an inch in diameter The same treatment was followed as in the previous case, with the result that the finger was advanced fully half an inch Photo prints of the restored fingers accompany the article The operations were performed as follows The patient having been anæsthetised a straight incision was made from side to side through the stump, just as a knife would be passed under the matrix and root of the nail had it been in place This gave one straight flap on the back of the finger in which the nail was to develop, in the event of any part of the matrix being still in a living condition The end of the stump was then incised into four triangular shaped flaps having their apices at the centre of the nail flap and their bases at the circumference of the stump These were then dissected up so that when the finger was held upright they formed a crown around the stump except at the back, which was occupied by the matrix flap Into this crown, in close contact with the denuded end of the finger, was placed the sponge graft into which the granulations were to grow The sponge was held in place by adhesive plaster, bandaged with gauze , it was kept constantly wet with warm normal salt solution. The sponge in place) was syringed every day with a solution consisting of one part pyrozone (a solution of peroxide of hydrogen), one part saturated solution of boric acid, and two parts of sterilised warm water Every three days the adhesive strips and the old sponge were removed and replaced by new Sponge grafts for surface work and eduction sponges (mastoid shaped portions used to stimulate granulations for filling up cavities) must be made of fine grained, stiff sponge, not of coarse, soft, open sponge , it is essential that the sponge should be cut transversely to its pores or tubes

"OPENINGS FOR BEGINNERS"

It has been represented to us by an energetic medical society in the suburbs of London that advertisements, very generally headed "Opening for medical practitioner" or "Suitable to a medical man beginning practice," are extremely misleading in character It is seldom that an advertisement of this sort gets into the columns of The Lancet In most cases these advertisements are simply part of an agent s or auctioneer's scheme to get rid of a house and the opening exists only in the tradesman's imagination. The medical man, who is always asked a higher rent than other people because of the alleged advantages of the house, generally finds that he cannot support himself in the neighbourhood and leaves within a few weeks, forfeiting perhaps a year's rent. We therefore give this word of warning to our readers

THE PREVALENCE OF SMALL-POX

The following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned. On Sunday, August 10th, there was 1 fresh case , on Monday, the 11th, there were 3 fresh cases , on Tuesday, the 12th, there were 5 fresh cases , and on Wednesday, the 13th, there was 1 fresh case

The authorities of the Cancer Hospital, Brompton, have entirely re organised their pathological department and a new laboratory is being fitted up with all requisite appliances for research A pathologist is to be appointed to work in conjunction with, and under the direction of, Mr H. G Plimmer who has been pathologist for many years to the institution and who will now become director

His Majesty the King on August 12th visited the Museum of the Royal College of Surgeons of England accompanied by Sir Frederick Treves The visit was quite private.

Looking Back.

FROM

THE LANCET, *SATURDAY, AUGUST 14*, 1824.

PHARMACEUTICAL CHEMISTRY

Digitaline

M. Augustus Le Royer lately read to the Society of Physics and Natural History of Geneva the following paper,[1] on the active principle contained in the digitalis purpurea (foxglove)

In separating, by skilful analysis, the active principles of different medicinal substances, M. Pelletier has conferred on science the most important service. The use of these new substances becomes every day more familiar to practitioners. They find in them the double advantage of being able to administer in very small doses a powerful medicine, with the quality of which they are accurately acquainted. Those who direct their attention more particularly to the subject of materia medica, could however occupy their time better than in following the steps of this eminent chemist, viz. by analysing those plants which have hitherto escaped M Pelletier's notice Under this impression, I undertook the analysis of the digitalis purpurea, or foxglove, of which I subjoin the principal results

Preparation—I took a pound of the digitalis purpurea, such as you buy in the shops, and treated it in the following manner first, with cold ether, then by this same agent warm, in a retort, so as to be able to elevate the temperature , the liquids thus obtained, after they had been filtered, were of a yellowish green colour, and a bitter taste , the residue, from their evaporation, had a resinous appearance, and an intolerably bitter taste, and which gave to the tongue the same sensation of numbness as is excited in biting the wolf's bane This residue, exposed to the air, rapidly attracted the moisture It became divided into two parts when mixed with distilled water One of these was kept in solution , the other was precipitated, and presented all the appearances of *chlorophyle* , it was not however pure, but still retained some traces of the bitter matter, which could not be removed entirely, even by repeated ablutions with warm water The watery solution of the etherized residue turned yellow litmus paper red I added to it some hydrate of the protoxide of lead, to neutralise the disengaged acid contained in it. The salt of lead which was produced was soluble and could not therefore be separated from the bitter principle , those which the addition of some earths formed could not be separated either, and I was obliged to have recourse to some other means. I evaporated then to dryness the portion combined with the lead, and mixed it with pure rectified ether The result of this operation was, that I obtained in solution in the ether, the active principle of the digitalis, disengaged from the substances with which it was in combination , and subsequent evaporation furnished me with a brown ponderous substance, gradually changing to a blue colour the yellow paper previously reddened by an acid. This last character, together with its bitter qualities, approximated it to the vegetable alkalis , from which, however, its extreme liquefaction separated it This last property prevented it from crystallizing in a distinct and permanent manner , it can nevertheless be ascertained, by the aid of a microscope, that it crystallizes in direct prisms, with rhomboidal bases

PURULENT OPHTHALMIA.

This disease, which is an inflammation of the eyes, attended with a profuse discharge of purulent matter, is at the present time very prevalent in London It is of an exceedingly contagious nature, and those individuals who have the care of schools, or of large establishments, should be particularly cautious to prevent the propagation of the complaint, by not allowing the diseased persons to be placed in immediate contact with the healthy, whether by sleeping in the same beds, or by using the same towels.

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[1] The excerpt comprises an extract from the paper

THE KING'S CORONATION GIFT

ON August 11th His Majesty the King received in audience the Right Hon. Sir Joseph Dimsdale Bart. M P Lord Mayor of London the Viscount Duncannon, C.V O C B and Sir Savile Crossley Bart M P M V O who presented the Coronation Gift of £115,000 subscribed by all classes of His Majesty's subjects including nearly 20 000 donations in pence given by working people, and who informed His Majesty that there would be a substantial balance on the closing of the accounts, and that increased support had also been secured by King Edward's Hospital Fund for London, the Hospital Sunday Fund and the Hospital Saturday Fund in his coronation year

His Majesty the King in graciously receiving the gift expressed in most feeling and sympathetic terms the pleasure which he experienced in the fact that this tribute embraced the offerings of the poorer classes of his subjects equally with those of the richer His Majesty further conveyed the great gratification he felt that in this year such considerable progress had been made towards the attainment of the object which he had in view when in celebration of the Diamond Jubilee of his beloved mother Queen Victoria, he originated the Fund, in which Her late Majesty took so keen and so sincere an interest The aim of that Fund was to free the London hospitals from debt an end which until it was finally accomplished he should not cease to strive after while God spared his life The King then handed the Coronation Gift to His Royal Highness the Prince of Wales President of King Edward's Hospital Fund for London to the augmentation of which he desired it to be applied

A PATIENT'S SUGGESTIONS

BY W

IT has occurred to me that papers written by patients themselves upon points which occur to them as the most practical and important for their comfort and treatment would be a very valuable addition to the literature of treatment. Moreover I think that there are very few patients who would not be glad of the opportunity of doing some good to those who may be suffering like themselves.

The following notes have been put together as they have occurred to me and without any strict attention to the natural sequence of the principles of treatment and with the idea of arranging them in some more definite order when they are completed but when will that be? Medical men nurses and attendants will probably find some such notes of value and patients themselves may be the gainers by them Moreover it may suggest to other patients some new ideas and very likely improvements upon those that are put down in these papers I have been inclined to work back from the present condition of my illness as it is more easy to set down any notes or suggestions for the treatment of the present than to carry one's mind back to any time in the past

My present condition on which these notes have been based.—There is almost complete loss of power in the voluntary muscles but without pain. There is inability to walk but I am able to stand when the knees are prevented from bending and when I am balanced by some helper for a few seconds I am unable to use my hands for writing but the arms can be raised slightly by means of the deltoid, especially when gaping The appetite is satisfactory My hearing is excellent. My sight has decidedly improved since 1878. There is loss of power in the external rectus muscle of the right eye. This was the first symptom of my illness in 1878.

Clothing.—It is of the greatest importance to keep warm The clothes should be very loose and comfortable. The best overcoat is an ulster so made as to be thrown over the back. The sleeves should be separate and buttoned on to the overcoat after it has been put on An elastic band to keep the cape from flying about is useful My overcoat was made by a local tailor One waistcoat I had made to button at the side but this was not found to be of any advantage. The hat in winter time should have ear flaps. The indoor cap should be very light, but especially it should have protection for the back of the neck. The boots should be very easy, gaiters are a great advantage in summer and in winter Fur lined boots are especially good for winter and patent leather slippers for summer I have found that gloves in winter are best when made without fingers like a fisherman's gloves. A separate cape is very useful in the bath-chair Mits are very useful Silk mits next to the skin are most comfortable

Food.—The greatest advantage is found when the food is administered in small quantities at a time but frequently Food should be cut very fine and minced especially when the teeth have become defective. Soup bovril and meat lozenges I have found very useful particularly when wanting a pick me up but soups are inclined to upset the digestion especially when taken without solid Milk in the form of boiled milk and water (equal parts) can be taken without the patient getting tired of it. A little whisky with it seems to make it more digestible Of stimulants I have taken whisky half an ounce twice a day with milk and two teaspoonfuls with tea. Wine has never seemed to sustain me, but produces a reaction soon after it is taken Tea at breakfast has been most pleasant and cocoa in the simplest forms is useful in cold weather coffee seems irritating Occasionally during the day a small piece of stick chocolate has been pleasant.

Occupation.—Frequent change of occupation has been found best. Generally from a quarter to half an hour has proved enough for any one subject. The morning is given to the more solid work. It is important to find some steady occupation such as reviewing taking the weather, reading solid literature, or writing letters by deputy The afternoon is given to seeing friends and generally about from a quarter to half an hour is enough for each one Later in the afternoon I have solid reading The evening I devote to light literature game or music. It is important to get out into the fresh air every day and the best time is between 12 noon and 1.30 P M The bath chair is very useful for visiting places and people but it is often found tiring I have found sitting out in a house chair in the sun always most restful especially when some one reads to me

Movement.—Frequent change of position is most important. When sitting in a chair I have my position changed often. When I am lying in bed I am rolled over now and then so as to get pressure on different points, no part should be pressed on too long For this purpose the draw sheet is of great importance. By means of this it is easy for anyone nursing to turn the heaviest patient When sitting in a chair a horseshoe water cushion is much the most comfortable The best chair for allowing movement is one which I have had made from a French pattern with many of my own improvements. This chair allows of the back being moved up and down and the foot-board also.

Change.—One of the most important things as I have just said in securing a patient's comfort when he is unable to move is to change his position frequently, whether sitting or lying and also to give him a change of mental occupation and observation. Reading should not be continued too long on any one subject generally from a quarter to half an hour is enough and then a change should be made Similarly a short visit from friends is better than a long one but this of course varies with the character of the visitor When the conversation is "all ends" it is very tiring Too much questioning also is bad for it tires a patient when he has to do all the talking Deaf visitors should be avoided Change of scene is advisable The windows should be low so that the patient may look out There should be either a good distant view or the possibility of seeing many passers-by There is also nothing better than the chance of making observations on the weather To show that frequent change is advisable I here give an outline of one day's doings A M —7 30 A cup of tea is brought to my room. 8 15 I am washed by a man servant I am moved off the bed and put into a chair for breakfast in my bedroom 9 30 I am moved to the commode 10 0 I am put on the bed lying on the right side. 10 30 I am moved off the bed again and dressed using a "castor" chair—i e a chair with very good castors for moving about 11 0 I am put into a (wheeled) house chair taken into the dining room where I look over letters and have answers written till noon. 12 0 I am moved into the bath chair and taken out for an hour P M —1 15 I am placed in an arm chair for lunch. 2 10 I am put into a house chair and taken into the bedroom I rest on the left side with a light behind me so as to enable me to read, I generally sleep for the first half-hour but remain on the bed resting for two hours in all. 4 30 I get up and am placed in a house chair and moved into another room for tea and company 6 to 6 45 I am read to or I look over papers 6 45 I am moved to the bedroom, prepared for dinner, and brought back to the dining-room and placed in an arm chair for dinner 7 30 I am moved on to the sofa, resting on my left side, and I listen to reading or join in games or talk or listen to music 9 0 I am moved into the wheeled chair and taken to the bed room and I undress. I am placed on the left side with my head and shoulders well supported and am careful to avoid any pressure against any bony points It is necessary to be adjusted carefully until I am quite comfortable

Medicine —First night, nothing Second night, "A.B N" pill (one and a half grains of extract of socotrine aloes, one-eighth of a grain of extract of belladonna, and half a grain of extract of nux vomica) This had to be changed because the nux vomica produced a good deal of vesical irritation. Third night, pill of colocynth and hyoscyamus (two and a half grains) I use hot water every morning as an enema. Occasionally tablets of bismuth are taken at night. I take peppermint lozenges during the day when a stimulant is wanted or very occasionally I have half an ounce of brandy Fruit takes the place of aperient medicine, especially if eaten at breakfast Stewed fruit at night is useful but this has a tendency to nauseate after a time. On the evening before taking the aperient I have found it advisable to finish my supper with a pinch of salt.

Sleep —I never take medicines for the purpose of procuring sleep The healthiest method of procuring sleep is mental occupation in the evening and an absence of worry If I lie awake at night I have found a panacea in repeating three or four Latin verses, and before this has been done three times I am asleep In the afternoon almost always sleep comes for half an hour when I am resting after dinner

Rest —See daily *rota* I rest in the afternoon from 2 30 to 4 30 o'clock. I go to bed at 9 P M and rest till 8 30 A.M Frequent change gives most rest. Often when feeling tired in the morning getting up and dressing seem to give me a feeling of restfulness

Micturition —I am thankful to say that I have never had any real difficulty with this The amount of urine varies with the amount of fluid taken and the heat of the weather Milk is much less irritating than anything else. If the milk is taken hot with boiling water (equal parts) it acts as a useful stimulant. In cold weather I find it more digestible and comforting if the milk and water are taken with half an ounce of whisky at meals In the earlier period of my illness the urine was inclined to be rather more irritating, probably from less care being taken as to diet. Sherry is certainly irritating, but this I have not taken for some years It is most important to empty the bladder thoroughly This is effected by careful position, a horseshoe shaped water cushion and an absence of impatience. Concentration of one's attention is advisable Biting a biscuit is often more efficacious in starting water than is drinking fluid A circular cushion was found to interfere with the flow My impatience once led me to percuss frequently over the region of the bladder The result was cystitis and considerable difficulty which lasted for about three or four weeks, and for a long time the cause of this was not recognised. A soft rubber catheter and plenty of oil relieved the difficulty and after this more care was taken as to liquids Barley water at night has been found very beneficial In the arrangements for the day care must be taken to ensure regularity in emptying the bladder At night a bed urinal is left in position Always lying upon one side is preferable to lying on the back and the bed urinal is easily arranged. Sometimes when there is danger of involuntary micturition the flow is prevented by my being made to lean forward by cushion at the back.

Action of the bowels —As every morning I am obliged to use hot water and an enema I may recommend what I have found most useful I now use an alpha enema, which is worked by a nurse or attendant and sends in the water steadily At first I used a folding cistern enema which I could work myself while sitting on the commode A very excellent bedroom commode is one with a cistern of water attached to it, which is worked by the plug handle It all closes conveniently for travelling and the arms of it form a great feature. Now I use it without the cistern.

Some curious points —I find that when I lie upon my left shoulder and let anything press against a point somewhere about the middle of the spine of the scapula I get a curious screwing feeling in that arm, apparently from the contraction of the deltoid and other muscles This is followed by troublesome palpitation and great uneasiness When I am lying down on the sofa and press with my shoulder against anything hard a numbness occurs in my hand and I feel considerable restlessness When I take too much fluid at night and apparently the stomach is distended palpitation follows until either the water passes into the bowel or flatus passes I always lie on my left side with a tendency to be on my back. When the left leg "jumps" I know that it is the stomach that is at fault, when the right leg "jumps" I know that the rectum is the cause of the trouble and that relief will come when the flatus passes. Occasionally I have lost sight of half an object and this is relieved by not using my eyes for from a quarter to half an hour, this is generally connected with some stomach disturbance

METROPOLITAN HOSPITAL SUNDAY FUND

THE following is a list of the awards recommended by the Distribution Committee of the Metropolitan Hospital Sunday Fund for the year 1902 —

GENERAL HOSPITALS

Charing Cross Hospital £1207 10*s* French Hospital, £306 13*s* 4*d* German Hospital, £594 3*s* 4*d*, Great Northern Central Hospital, £1054 3*s* 4*d* Guy's Hospital, £2875 Hampstead Hospital £239 11*s* 8*d*, Italian Hospital, £115 King's College Hospital, £1437 10*s* London Hospital £6181 5*s*, London Homœopathic Hospital, £527 1*s* 8*d*, Phillips Memorial Homœopathic Hospital, £34 10*s* London Temperance Hospital, £776 5*s* Metropolitan Hospital £862 10*s* Mildmay Hospital £287 10*s*, Miller Hospital and Royal Kent Dispensary, £287 10*s* North West London Hospital, £431 5*s* Poplar Hospital £622 18*s* 4*d*, Queen's Jubilee Hospital £95 16*s* 8d Royal Free Hospital £1245 16*s* 8*d* St George's Hospital, £1916 13*s* 4*d* S S John and Elizabeth Hospital £143 15*s* St Mary's Hospital £2491 13*s* 4*d* St. Thomas's Hospital, £1341 13*s* 4*d* Seamen's Hospital Society £1293 15*s* The Middlesex Hospital £2309 11*s* 8*d*. Tottenham Hospital, £383 6*s* 8*d* University College Hospital £1303 6*s* 8*d* Walthamstow, £105 8*s* 4*d* West Ham Hospital, £527 1*s* 8*d*, West London Hospital £814 11*s* 8*d* Westminster Hospital, £1389 11*s* 8*d*.

CHEST HOSPITALS

City of London Hospital for Diseases of the Chest, Victoria park £958 6*s* 8*d*, Hospital for Consumption Brompton, £1820 16*s* 8*d* Mount Vernon Consumption Hospital Hampstead, £670 16*s* 8*d*, Royal Hospital for Diseases of the Chest City road £383 6*s* 6*d* Royal National Hospital for Consumption (Ventnor) £383 6*s* 8*d*

CHILDREN'S HOSPITALS

Alexandra Hospital for Hip Disease W C £239 11*s* 8*d* Banstead Surgical Home £23 19*s* 2*d*. Barnet Home Hospital £43 2*s* 6*d* Belgrave Hospital for Children S W £124 11*s* 8*d* Cheyne Hospital for Incurable Children S W £124 11*s* 8*d* East London Hospital for Children Shadwell, E £766 13*s* 4*d* Evelina Hospital for Sick Children Southwark S.E £287 10*s* Home for Incurable Children Maida Vale W £76 13*s* 4*d* Home for Sick Children Sydenham S E £134 3*s* 4*d*, Hospital for Sick Children Great Ormond street W C £1054 2*s* 4*d*, North Eastern Hospital for Children, Hackney road N E £287 10*s* Paddington-green Hospital for Children W, £297 1*s* 8*d* St Mary's Plaistow E £249 8*s* 4*d* St. Monica's Brondesbury N W, £95 16*s* 8*d* Victoria Hospital for Children King's road, Chelsea, S W £460 Victoria Home, Margate £47 18*s* 4*d* The Vine Sevenoaks, £43 2*s* 8*d*

LYING IN HOSPITALS

British Lying in Hospital Endell street W C, £28 15*s* Clapham Maternity Hospital £38 6*s* 8*d* East-End Mothers Home £76 13*s* 4*d* General Lying in Hospital Lambeth, S E £57 10*s*; Queen Charlotte's Lying in Hospital, Marylebone-road W, £479 3*s* 4*d*

HOSPITALS FOR WOMEN

Chelsea Hospital for Women S W £421 13*s* 4*d* Hospital for Women Soho-square W, £143 15*s* Grosvenor Hospital for Women and Children Vincent-square S W £172 10*s* New Hospital for Women Euston road W C £306 13*s* 4*d* Royal Hospital for Children and Women Lambeth S E, £268 6*s* 8*d* Samaritan Free Hospital, Marylebone-road, W, £492 6*s* 8*d*

OTHER SPECIAL HOSPITALS

Cancer Hospital Brompton, S W, £527 1*s* 8*d* London Fever Hospital Islington N £718 15*s* Gordon Hospital for Fistula Vauxhall bridge-road, S W £23 19*s* 2*d* St Mark's Hospital for Fistula City road E C £143 15*s* National Hospital for the Diseases of the Heart Soho-square W, £76 13*s* 4*d* Female Lock Hospital Harrow road W £306 13*s* 4*d* Hospital for Epilepsy Paralysis and other Diseases of the Nervous System Regent's park N W, £47 18*s* 4*d*. National Hospital for the Paralysed and Epileptic, W C, £958 6*s* 8*d* West-end Hospital for Diseases of the Nervous System £239 11*s* 8*d* Central London Ophthalmic Hospital, Gray's Inn road W C £115, Royal Eye Hospital, St. George's-circus S E, £239 11*s* 8*d* Royal

London Ophthalmic Hospital, City-road E.C., £262 10s; Royal Westminster Ophthalmic Hospital, Charing Cross W C £134 3s 4d.; Western Ophthalmic Hospital, Marylebone-road W., £47 18s 4d; City Orthopædic Hospital, Hatton-garden, E.C, £249 3s 4d.; National Orthopædic Hospital, Great Portland-street, W., £124 11s 8d; Royal Orthopædic Hospital, Oxford-street, W £134 3s 4d Royal Sea Bathing Hospital, Margate, £287 10s; St. John's Hospital for Diseases of the Skin £57 10s; St Peter's Hospital for Stone Covent-garden, £95 16s 8d.; Central London Throat and Ear Hospital Gray's Inn road W C £47 18s 4d; Hospital for Diseases of the Throat Golden square W £249 3s 4d.; London Throat Hospital, Great Portland street, W £28 15s; Metropolitan Ear Nose and Throat Hospital Grafton-street, W £28 15s; Royal Ear Hospital Frith-street, W £19 3s 4d.; Dental Hospital of London, Leicester-square, W C., £143 15s; National Dental Hospital 149 Great Portland-street, W £38 6s 8d.

Convalescent Hospitals.

Metropolitan Convalescent Institution, Sackville-street, W., £670 16s 8d; Bexhill Convalescent Home, Sackville-street W £383 6s. 8d; All Saints Convalescent Hospital, Eastbourne £333 6s 8d.; Ascot Priory Convalescent Home £67 1s 8d.; Charing Cross Hospital Convalescent Home Limpsfield, £86 5s; Chelsea Hospital for Women Convalescent Home St Leonards £47 18s 4d Deptford Medical Mission Convalescent Home, Bexhill £28 15s; Mrs Gladstone Convalescent Home Mitcham, £47 18s 4d.; Friendly Societies Convalescent Home, Dover £38 6s 8d; Hahnemann Convalescent Home, Bournemouth £38 6s 8d Hanwell Convalescent Home, £19 s 4d.; Herbert Convalescent Home, Bournemouth £19 3s 4d.; Herne Bay Baldwin Brown Convalescent Home, £23 15s; Homœopathic Convalescent Home, Eastbourne, £19 3s 4d.; King's College Hospital Convalescent Home Hemel Hempstead £172 10s.; Mrs Kitto's Convalescent Home Reigate, £67 1s 8d; Mary Wardell Convalescent Home for Scarlet Fever £105 8s 4d; Morley House Convalescent Home for Working Men £210 16s 8d; Police Seaside Home, Brighton £57 10s; St. Andrew's Convalescent Home, Clewer £134 3s 4d.; St Andrew's Convalescent Home, Folkestone, £239 11s 8d.; St John's Home for Convalescent and Crippled Children, Brighton, £67 1s 8d; St. Joseph's Convalescent Home Bournemouth £82 5s. 10d.; St. Leonards-on-Sea Convalescent Home for Poor Children £115; St Mary's Convalescent Home, Shortlands, £17 5s St Michael's Convalescent Home, Westgate-on Sea, £47 18s. 4d.; Seaside Convalescent Hospital Seaford £95 16s. 8d.; Warley Convalescent Cottage Hospital Essex, £9 11s 8d

Cottage Hospitals.

Beckenham Cottage Hospital, £67 1s 8d.; Blackheath and Charlton Cottage Hospital, £76 13s 4d Bromley (Kent) Cottage Hospital £105 8s 4d Bushey Heath Cottage Hospital, £47 18s 4d. Canning Town Cottage Hospital £47 18s 4d; Chislehurst Sidcup and Cray Valley Cottage Hospital £57 10s; Eltham Cottage Hospital, £47 18s 4d.; Enfield Cottage Hospital £57 10s; Epsom and Ewell Cottage Hospital £62 5s 10d.; Hounslow Cottage Hospital £28 15s; Livingstone Cottage Hospital £38 5s; Mildmay Cottage Hospital £38 6s 8d. Reigate and Redhill Cottage Hospital, £86 5s; Sidcup Cottage Hospital, £38 6s 8d. Tilbury (Passmore Edward) Cottage Hospital £38 6s 8d.; Willesden Cottage Hospital, £86 5s Wimbledon Cottage Hospital, £52 14s 2d Woolwich and Plumstead Cottage Hospital, £43 2s 6d.

Institutions

Establishment for Gentlewomen, Harley-street, £105 8s 4d; St. Saviour's Hospital and Nursing Home £115; National Sanatorium for Consumption Bournemouth £38 5s; Invalid Asylum Stoke Newington, £47 18s 4d; Firs Home, Bournemouth £19 3s 4d. St Catherine's Home, Ventnor, £28 15s; Friedenheim Hospital, Home of Peace £287 10s; Oxygen Home, Fitzroy square £38 6s 8d; Santa Claus Home, Highgate £43 15s 4d St. John's Hospital, Lewisham £95 16s 8d

Dispensaries.

Battersea Provident Dispensary £101 11s 8d; Blackfriars Provident Dispensary £18 4s 2d.; Bloomsbury Provident Dispensary £14 7s 6d; Brixton &c., Dispensary £57 10s Brompton Provident Dispensary £21 1s 8d; Camberwell Provident Dispensary £83 7s 6d. Camden Town Provident Dispensary £18 4s 2d.; Chelsea, Brompton and Belgrave Dispensary £49 16s 8d.; Chelsea Provident Dispensary £14 7s 6d.; Child's Hill Provident Dispensary £11 18s 7d.; City Dispensary £100 12s 6d City of London and East London Dispensary £28 16s 8d.; Clapham General and Provident Dispensary £28 15s; Deptford Medical Mission £23 19s 2d.; Eastern Dispensary £47 18s 4d.; East Dulwich Provident Dispensary £38 6s 8d.; Farringdon General Dispensary £52 14s 2d; Finsbury Dispensary £52 14s 2d.; Forest hill Dispensary £45 0s 10d Greenwich Provident Dispensary £27 15s 10d; Hackney Provident Dispensary £14 7s 6d; Hampstead Provident Dispensary, £47 18s 4d.; Holloway and North Islington Dispensary £86 5s Islington Dispensary £30 17s 11d.; Kensal Town Provident Dispensary £12 9s 2d.; Kensington Dispensary £71 17s 6d; Kilburn, Maida vale and St John's Wood Dispensary £45 0s 10d; Kilburn Provident Medical Institution £35 9s 2d.; London Dispensary Spitalfields £18 4s. 2d.; London Medical Mission Lodell street, £119 15s 10d.; Metropolitan Dispensary £54 12s 6d; Notting hill Provident Dispensary £10 10s 10d; Paddington Provident Dispensary £35 9 2d; Portland Town Dispensary £29 14s 2d.; Public Dispensary Clare market W C., £49 16s 8d; Queen Adelaide's Dispensary £23 17s 6d; Royal General Dispensary £29 14s 2d Royal Pimlico Provident Dispensary £20 8s. 4d.; Royal South London Dispensary, £47 18s 4d; St George's and St James's Dispensary £57 10s; St. George's Hanover square, Provident Dispensary £[illegible] 10s; St. John's Wood Provident Dispensary £[illegible] 3s 4d. St Marylebone General Dispensary £38 6s 8d.; St Pancras and Northern Dispensary £35 9s 2d; South Lambeth, Stockwell, and North Brixton Dispensary £51 15s; Stamford hill, Stoke Newington, Dispensary £[illegible]; Tower Hamlets Dispensary £47 18s 4d.; Walworth Provident Dispensary £15 6 8d; Wandsworth Common Provident Dispensary £9 11s 8d.; Westbourne Provident Dispensary £16 5s 10d; Western Dispensary, £77 1s 8d; Western General Dispensary £143 15s.; Westminster General Dispensary £42 3s. 4d.; Whitechapel Provident Dispensary £29 14s. 2d.; Woolwich Provident Dispensary £14 7s 6d.

THE BRITISH MEDICAL ASSOCIATION

MEETING AT MANCHESTER.

THE SECTIONS

SURGERY

Friday August 1st

Mr. P J Freyer (London) opened a discussion on

Total Extirpation of the Prostate

One year ago he had published four cases of total extirpation of the prostate with its capsule by a new suprapubic method. A further series of 10 cases, making 14 in all, had been published only the week before The whole of the cases had been absolutely satisfactory save one in which death had occurred on the twenty fourth day from acute mania. He had now seven more cases to report, with a death in one on the ninth day from sudden syncope after having progressed perfectly favourably up to that date He referred in detail to each of the cases, and the parts removed from the whole series of 21 cases were presented to the section For purposes of description he divided the specimens of excised enlarged prostate into three classes (1) those in which the lateral lobes had separated along the superior commissure only the prostate coming away entire and leaving the urethra, and probably in most cases the ejaculatory ducts intact, (2) those in which the lateral lobes had separated along both their superior and inferior commissures and had been removed separately leaving the urethra and the ejaculatory ducts uninjured and (3) *those in which the lobes had not separated along either* commissure the prostate being removed as a whole after the urethra and the ejaculatory ducts had been torn across, and in some instances the prostatic urethra within either partially or entirely removed It would be found in most cases of this type that the prostate was encircled by a thin girdle of fibrous and muscular tissue part of the prostatic sheath so that in these not only had the prostate in its capsule been removed but in addition an actual layer of the sheath had come away

Professor S. Alexander (New York) wished to draw attention to three points. First as to what was the true capsule of the prostate secondly as to what parts of the prostate caused obstruction and thirdly as to the important and marked distinction there was between the lateral lobes of the prostate and that part which was to be found below and behind the seminal ducts. The true capsule of the prostate was that which embraced the whole of the prostatic tissue and was derived from the fibrous pelvic fascia. By a series of beautiful photographs of transverse and sagittal sections of the enlarged prostate he demonstrated very clearly the extent of its sheath showing that it was wanting on the bladder side. Within this true capsule could be seen the lateral lobes, surrounded by a special envelope of their own. As to what parts of the prostate caused obstruction it was essential to recognise that the enlargement was entirely in that part above the urethra, and never in the portion in front of the seminal ducts. The urethra was thus always depressed and the larger the prostate the greater the depression. The anatomical distinction of that portion of the enlarged prostate lying below and behind the seminal ducts from that lying above the urethra was important for this former part never caused obstruction the so-called middle lobe being in reality always an outgrowth of a lateral lobe but it was that part of the prostate liable to carcinoma. He was a strong advocate of the perineal route for removal of the prostate.

Professor Parker Syms (New York) said that he had in his earlier operations approached the prostate by the suprapubic route, but he had come to the conclusion from anatomical considerations that the prostate was rather a perineal organ than one connected with the urinary bladder and that the only proper route by which to reach it was through the perineum. This was the direct rational and anatomical course and left the bladder entirely uninjured. He was sure that the surgeon should be guided by clinical aspects rather than by mere rectal examination. Residual urine and cystitis were certain to place the patient in jeopardy Whatever might be the amount and form of the enlargement of the prostate, he believed that every enlarged prostate could be removed through the perineum He demonstrated a special instrument which he had devised to render easy traction upon the prostate during its removal It consisted of a rubber tube to the further end of which was attached a collapsible rubber bulb, rather of an umbrella shape The apparatus was introduced into the bladder through the urethra and the terminal bulb was then inflated, thus producing a soft but very efficient retractor It further tended to arrest hæmorrhage during the progress of the enucleation He had operated on 21 cases All the patients except one had cystitis previously to operation, two had calculi, and in one case there were 54 ounces of residual urine and the patient was delirious with a temperature of 104° F He had lost no patient and all were completely relieved with no permanent incontinence of urine.

Mr **REGINALD HARRISON** (London) based his remarks on seven specimens of enlarged prostate which had been removed by the suprapubic route In five the results were entirely satisfactory, the patients recovering voluntary power over micturition. In the other two instances the results were not so good In one a cicatricial contraction occurred in the neighbourhood of the deep urethra and in the other carcinoma of the prostate supervened He had been much struck years ago by the amount of relief that many persons who were cut for stone obtained by the so-called accidental removal of portions of an enlarged prostate.

Sir **WILLIAM MACEWEN** (Glasgow) stated that after he had seen the large portions of the prostate which had been removed and exhibited by McGill of Leeds he had practised the suprapubic method, but in one instance because he had made a perineal incision for drainage, and had also noticed the benefit of the partial removal of the prostate in lithotomy, he began to make use of the perineal route. He not infrequently first performed perineal section, draining the bladder, and subsequently shelled out the lateral lobes by the same route, these not uncommonly shrinking after the section and before the enucleation

Mr **JORDAN LLOYD** (Birmingham) thought that the discussion had cleared up several doubtful points Prostates could be removed and the series of specimens shown by Mr Freyer demonstrated this absolutely The aim of the surgeon should be to arrive at an operation with the lowest mortality, shortest convalescence, and best after results.

Dr W E **HADDEN** (Portadown) and Dr G B **FERGUSON** (Cheltenham) having made a few remarks, Mr **FREYER** replied, congratulating the section on the eminently practical tone of the discussion and particularly on the excellent discourses of Professor Alexander and Professor Symes He would like again to emphasise his belief in the existence of two separate capsules to the prostate, so graphically described by Sir Henry Thompson many years ago as the result of 70 dissections He had no monopoly in prostatectomy, but he considered that partial removal had had its day and that his method was the best of the complete operation, as evidenced by what was removed and the entirely satisfactory after results

Mr T K **DALZIEL** (Glasgow) read a paper on

Gastro enterostomy for Simple Pyloric Obstruction.

He based his paper upon a series of 30 operations of gastro-enterostomy performed for simple pyloric obstruction causing incurable dyspepsia In 18 cases there was well marked inherent obstruction, while in eight others the stenosis was caused by external adhesions He considered it more satisfactory to resort to gastro enterostomy rather than to dilate or to divide the pylorus He gave details of the method of operating which he pursued

Dr G M **EDEBOHLS** (New York) read a paper on

Renal Decapsulation versus Nephrotomy

He advocated renal decapsulation, without incision into the renal substance, as a surgical method for the treatment of chronic Bright's disease The kidney having been exposed its capsule was to be incised on a grooved director, and the edges of the incision being caught up by forceps the capsule was to be widely stripped from the kidney surface by a rubber covered finger

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OBSTETRICS AND GYNÆCOLOGY

THURSDAY, JULY 31ST

Professor **CURATULO** (Rome) read a paper on

Photo therapeutics as a New Therapeutical Agent in Obstetrics and Diseases of Women

Being led by the good results obtained in general medicine with the use of photo-therapeutics Professor Curatulo had invented a speculum to facilitate their application to the uterus and vagina Incandescent light was composed of three different kinds of rays—viz, calorific, light, and chemical or actinic rays, and each kind had its own special physiological action. The chemical rays had been proved to be very beneficial in the treatment of lupus, anæmia, and chlorosis The speculum invented by Professor Curatulo enabled the three rays to be isolated and applied separately or all together The speculum was of the same shape as Ferguson's and was composed of a double tube of isometrope glass Two tubes communicated with the space left between the two walls constituting the speculum The vulvar extremity of the speculum was closed by an indiarubber cork, pierced to allow the passage of the wires to supply the electric incandescent lamp inside the speculum. The cork was also pierced by a thermometer so that the temperature of the interior of the speculum might be easily read. As blood prevented the passage of actinic rays the cervix was made anæmic by pressing the uterine extremity of the instrument against the cervix. If it was desired to apply all three kinds of rays simultaneously water was kept running between the two tubes of the speculum by means of a douche and an electric lamp of great intensity could then be used If the space was filled with ammonio-cupric solution the actinic rays alone would pass If it was filled with a red solution, such as cochineal, the actinic rays were absorbed and the luminous and calorific rays acted. The speculum could be used as a hot-air douche By moderate application of actinic rays important modifications of nutrition in cases of metritis and hypertrophy of the cervix might be obtained and they might be useful in cases of sterility due to ill development of the uterus and cervix. It also tended to facilitate absorption in parametritis and perimetritis The germicidal action might be of value in specific ulceration of the cervix and cancer

Dr G T **HARRISON** (New York) read a paper on

The Etiology, Diagnosis, and Treatment of Ectopic Gestation.

His remarks were mainly restricted to the diagnosis and treatment in the earlier months of pregnancy Treatment was guided by the following principles When the diagnosis was made before the death of the fœtus he advised removal of the genital sac by laparotomy as early as possible If rupture occurred operative interference or expectant treatment would depend on the character of the phenomena. In hæmatocele the medical man should await complications In total abortion with or without hæmatocele and retention of the dead ovum or tube treatment depended on the symptoms. If the tumour became hard and smaller per vaginam no surgical interference was indicated If the tumour grew larger and the patient became worse an operation was indicated Fever and suppuration demanded posterior colpotomy As regarded diagnosis, before death of the embryo he had noticed a peculiar soft elastic feel of the embryo If the fœtus was dead the tumour would be found to be hard and there would be discharge of dark blood per vaginam The commonest termination of tubal pregnancy was tubal abortion—complete or incomplete—rupture being a comparatively rare event

Professor **MURDOCH CAMERON** (Glasgow) thought that directly tubal gestation was diagnosed it should be operated on. He would not wait for complications In his experience the uterine membrane was more often expelled after the operation than before The text-book descriptions of tubal affections as being sausage shaped were all wrong In the large majority of hæmatoceles the embryo was dead. If it was alive the patient was very likely to die from hæmorrhage

Dr H. R **SPENCER** (London) thought that it was very important to point out what most gynæcologists knew, but many men in general practice did not, that the majority of tubal pregnancies were unruptured When they did rupture an immediate operation was required, when they did not no operation, as a rule, was necessary, although perhaps one might be better and convalescence more rapid Diagnosis was often most difficult He had lately had a case of tubal rupture seven days after the patient became pregnant. The cavity was not larger than a pea and the patient nearly bled to death He considered that tubal colic was a very important sign As regarded operation in the later months of pregnancy with living children, if all results were collected they would be found to be very bad One should never wait in hopes of getting a viable child. The only case in which he did this—the child being a little over six months—secondary rupture of the sac took place and the patient bled to death.

Professor J W BYERS (Belfast) thought with regard to the causation of this condition the attitude must be one of scientific scepticism In most cases there was no previous history of tubal disease. Ovarian pregnancy was fully established, perhaps some of those cases of missed periods with a very little collapse of which he had seen a good many belonged to this condition He favoured large injections of strychnine and saline solution together with local anæsthesia for the operation where there was much collapse

Dr A. DONALD (Manchester) said that it was very important not to expect a clear history of a missed period. If a pregnant tube was diagnosed operation was imperative. In hæmatoceles before operating it was advisable to wait for three weeks, as at the end of this time absorption often proceeded very rapidly In hæmatocele he would operate from the vagina and in all other cases by the abdominal route In one case he used both routes having cut down into a placenta from the abdomen he thought it better to leave it *in situ* and then by a vaginal operation to empty the sac and to pack it. From the abdomen he saw the sac contract down on his packing and the woman made an uninterrupted recovery

Dr W WALTER (Manchester) favoured the vaginal route for operation unless the patient was *in extremis*

Mr J H TARGETT (London) drew attention to the fact that in some cases there was antecedent disease of the tubes. One case he remembered in particular where the patient had had acute tuberculous peritonitis and this, together with the ascites made the diagnosis of tubal gestation very difficult. He had also noted cases where tubal swelling was quite anterior to the uterus and consequently the diagnosis was very difficult.

Dr C E PURSLOW (Birmingham) was of opinion that in diagnosis the most frequent error was to confound ordinary abortion with tubal gestation. He did not place much reliance on the discharge having seen numbers of cases where there had been amenorrhœa for three months

Dr J B HELLIER (Leeds) gave large doses of strychnine (35 minims) in collapse and intravenous injections of saline solution which, he thought, was a better method than the subcutaneous one. It would seem from Dr Harrison s paper that diagnosis of tubal gestation before rupture was much more exact in America than over here, as in his experience most cases of tubal pregnancy were not diagnosed before rupture or abortion.

Dr HARRISON replied

Dr R. JARDINE (Glasgow) read a paper on

The Use of Potassium Chlorate in Habitual Death of the Fœtus in the Later Months of Pregnancy

He considered that potassium chlorate had a beneficial action on the endometrium In these cases the placenta was always degenerated. Sir James Simpson was the first to point out the good results to be obtained from administering this drug in these cases and Dr Jardine having had a large experience fully agreed with him. It had been said that potassium chlorate would have an injurious effect on the blood but he had found no such drawback in these cases and he was in the habit of giving 10 grains three times daily after meals for six months with no ill-effects. He gave details of three cases. In one case that of a multipara with two former miscarriages at the fifth month and with no signs of syphilis, the patient came under his notice at the fifth month. He could hear the fœtal heart but noticed a large amount of liquor amnii. Potassium chlorate was given and a healthy child was born at full term with a macerated fœtus about five months old. In this case one fœtus having died he was just in time to stop the death of the other by administering potassium chlorate. In another case a multipara who had had several miscarriages came under his care and afterwards as long as she took potassium chlorate the children were born at full term if she neglected to do this then a miscarriage took place. At one of her labours the breathing after delivery with forceps and flooding became very bad and she appeared to be dying The pain in the left side was so bad that she asked to be turned on to her right. When he did this she at once recovered and he had no doubt that in moving her he had dislodged an air embolism. Lately she had refused to the take the drug because having had such bad times with full term children, she preferred miscarriages

The PRESIDENT (Dr D L ROBERTS) said that on Sir James Simpson s recommendation—he was always such a trustworthy observer—large numbers of practitioners had tried this treatment. Personally his results had always been unfortunate.

Mr J STUART NAIRNE (Glasgow) had had a large experience of this treatment and was sure that it was sound

Dr T A. HELME (Manchester) had been most disappointed with his results.

Dr SPENCER thought that in the first case mentioned the fact that one fœtus was dead was a proof that potassium chlorate in these cases was useless.

Dr. JARDINE replied.

Dr H. O NICHOLSON (Edinburgh) read a paper on

Puerperal Eclampsia in the Light of Thyroid Inadequacy and its Treatment by Thyroid Extract

After referring to the function of the active thyroid in supplying a secretion which was essential to the maintenance of the metabolic cycle, the constant enlargement of this gland to meet the needs of the increased metabolism incident to pregnancy was noted In some pregnant women the supply of iodothyrin in the tissues became gradually or suddenly insufficient for the purposes of metabolism. Then certain toxic substances entered the blood The toxic substances produced contraction of the blood vessels especially of the kidney and ultimately the flow of blood through the kidney being prevented suppression of urine and convulsions occurred. The toxins of eclampsia thus acted like toxic doses of digitalis and stopped their over excretion by producing intense contraction of the renal vessels Two main principles of treatment were clearly indicated (1) re adjustment of the process of metabolism to favour the complete metabolism of the nitrogenous substances and (2) re-establishment of the secretion of urine Thyroid extract by its well known influence on proteid metabolism fulfilled the first indication admirably The second indication was also best fulfilled by this remedy because in order to make the kidney secrete again it was necessary to relax the spasm of the renal arteries. Thyroid extract had been shown to possess a specific action in enlarging the calibre of the arteries and Dr Nicholson had shown that when this drug was given to eclamptic patients in sufficient doses to produce symptoms of thyroidism " the re-establishment of the secretion of urine was secured. Observations on the circulatory phenomena of normal and eclamptic pregnant women had shown that in the latter the radial arteries became contracted and the blood pressure was raised in the pre-eclamptic state The peripheral resistance increased steadily as convulsions became imminent. When the blood pressure was at its highest and the arteries were contracted the secretion of urine was at its lowest point. This among other things, supported the view that the toxins acted as powerful vaso-constrictors and more especially on the renal vessels

The PRESIDENT thanked Dr Nicholson for his valuable and interesting paper and he trusted that it would lead others to try the treatment recommended.

Mr R. H A. WHITELOCKE (Oxford) read a paper on

A Case of Intermenstrual Pain (Mittelschmerz) Cured by Two Successive Operations

The patient came under his observation after she had been treated a long while medicinally and also by dilating the cervix and curetting The pain was so bad that she was unable to do her work for 10 days before the period, the pain stopping 24 hours before the onset of the flow On examination Mr Whitelocke found an enlarged and cystic ovary and subsequently removed it. She got no better and coming under the care of Dr Spencer he detected a small fibroid in the fundus of the uterus which was not noticed at the first operation and an enlarged ovary This ovary Mr Whitelocke removed—it was cystic—and the patient made a perfect recovery

Professor BYERS thanked Mr Whitelocke for the able and scientific way in which he had discussed this subject.

Dr F McCANN (London) said that he was the practitioner mentioned in the paper He did not regard the case as one of mittelschmerz at all since the pain lasted up till the period, whereas in this disease there was a distinct interval. He regarded the patient as somewhat neurotic He had diagnosed fibroid and dysmenorrhœa and had dilated her If any radical operation was necessary he thought the uterus should have been removed and the ovaries left.

Dr SPENCER thought that the case was certainly one of mittelschmerz and that Mr Whitelocke had performed the best operation the second time, one ovary having already been removed and the other cystic.

Mr TARGETT thought that removal of the ovaries was quite the best treatment for these cases, especially when, too, the artificial menopause could be so well controlled by thyroid extract

Mr WHITELOCKE, in reply, stated that the pain did cease 24 hours before the period and therefore was a true case of mittelschmerz.

Mr NAIRNE read a paper on

So called Neurasthenia, Hysteria, and Abdominal Section,

and the meeting then adjourned to hear Professor W JAPP SINCLAIR'S Address in Obstetrics, which was published in THE LANCET of August 9th, p 341.

FRIDAY, AUGUST 1ST

Dr BERRY HART (Edinburgh) opened the discussion on

The Operative Treatment of Prolapsus Uteri

He first considered the anatomy of prolapsus, showing a sagittal mesial section of an advanced case. He contrasted this with the normal relations and then went on to show that prolapsus was really a hernia of a definite part of the pelvic floor—viz., that part in front of the anterior rectal wall where the posterior vaginal wall became separated from the anterior rectal wall—and that the peritoneum was driven in The side relations in an advanced case were not well known but there was no actual separation or tearing away from the fascia inside the obturator and levator muscles, but elongation of the broad ligaments, so that they lay almost vertically He pointed out that in the main one had to operate in the prolapsed position and had greater difficulty in doing anything to the supporting part He then described the operations necessary in a medium case—viz , amputation of part of the cervix, with anterior and posterior elytrorrhaphy Ventrofixations were also considered as well as Freund s vaginal implantation of the uterus and the radical operation of vaginal and uterine extirpation of Martin of Berlin and Martin of Birmingham. A number of casts of frozen sections and drawings were shown.

Dr G M EDEBOHLS (New York) noticed that all operators had now arrived at Dr Berry Hart's conclusions His own operation for prolapse of the second degree was curetting, amputation of the cervix, lateral colporrhaphies, and ventrofixation all at one sitting For complete procidentia he advocated total extirpation of the vagina and uterus, having now had considerable experience in the operation—eight cases all successful This operation was applicable to widows and to women past the menopause with the husbands' consent. It was an advantage to leave the tubes and ovaries if healthy as it left the peritoneum higher up By this operation a solid block of tissue five inches long was made between the bladder and the rectum He thought English operators let their patients lie a bed too long afterwards. He allowed his patients to get up at the end of a week and do what they pleased. He drew attention to the great advantages of lateral colporrhaphies over anterior and posterior

Dr MACNAUGHTON JONES (London) said that he did not like vaginal fixation. He showed two specimens of uteri from patients, aged 56 years and 74 years, upon whom he had performed hysterectomy for very severe procidentia, the last of 25 years' standing

Mr BOWREMAN JESSETT (London) advocated ventro fixation and repair of the pelvic floor both to be done at the same sitting, for cases of moderate prolapse In old women with prolapse he preferred hysterectomy

Dr W J SMYLY (Dublin) agreed with all that had been said but thought that more importance should be given to the difference between anteversion and retroversion. The latter was usually associated with prolapse and should be cured as soon as possible.

Dr McCANN recommended for cystocele extensive perineorrhaphy so as to extend the perineum forwards and this was best done by removing in addition to the mucous membrane the connective tissue as deep as possible

Dr J INGLIS PARSONS (London) advocated injection of the broad ligaments by quinine if repair of the pelvic floor failed He gave details of his operation and quoted the results of over 60 cases in many of which the patients had been operated on over two years, and some had since borne children. All the patients were cured, and most of them had been in a very bad state and had been operated on with no good result He found ventrofixation failed in old women with weak abdominal walls and interfered with pregnancy in young women, whereas his operation was free from both of these defects

Mr E S BISHOP (Manchester) pointed out that whereas the first step in prolapsus was always said to be retroversion it was really relaxation of the utero-sacral ligaments, and he described the operation which he was in the habit of doing to remedy this

Dr J TENNANT (Belfast) considered that a most important factor was the descent of the peritoneum forming the pouch of Douglas

Dr F EDGE (Wolverhampton) insisted on the importance of the fascia. This had not been sufficiently emphasised. Ventrofixation and Alexander's operation were quite sufficient in virgins and this showed what a little part the uterus took in prolapse. In primary uterine prolapse such as occurred in virgins the fascia was not involved After hysterectomy the proper method was to unite the various constituents of the pelvic floor in the same manner as hernia was treated He preferred Martin of Birmingham's operation to all others , it was much easier to remove the vaginal mucous membrane from above downwards

Dr COMYNS BERKELEY (London), being a colleague of Dr Inglis Parsons, had had an opportunity of seeing most of the cases mentioned in the latter's paper, both before the injection of quinine and a long while after, and he was able to state that the results of the operation had been all that Dr Parsons claimed for it

Dr A. L. GALABIN (London) advocated the use of the Hodge pessary for several years after most operations for prolapsus, since this condition occurred most frequently in the working classes and was due to their occupation, which they did not change after the operation, and he thought that this accounted for most of the bad results Where it could be obtained he thought enforced rest for many months after the operation would do instead of the Hodge pessary The operation which he had devised for this condition and with which he got the best results was to remove all the muscular wall of the vagina and central part of the levator ani and then to suture the lateral portions of the levator ani.

Dr BERRY HART replied.

Professor CAMERON read a paper on

The Treatment of Fibroids

He insisted on the importance of diagnosis and stated that only a third of his fibroid cases needed operative treatment In suitable cases he had never met with a bad result from double oöphorectomy and thought that it was an operation which was neglected and was sure it would again come into favour

Dr WALTER disagreed with oophorectomy for fibroids

Dr GALABIN favoured hysterectomy

Professor CAMERON replied

Professor CURÀTULO read a paper on

The General Therapeutic Indications of the Iodo-bromo saline Waters of Salsomaggiore (Italy)

He stated that the waters contained more iodine and bromine than any other water, five times more chloride of sodium than sea water, more lithium than the hot springs of Wheel Clifford in Cornwall, more strontium than the Dürkheim and Contrexéville springs, and what really gave the Salsomaggiore springs their supremacy over other similar waters was the large amount of bituminous substances they contained The treatment consists of baths of natural mineral water and acqua madre, local applications of mud, irrigations, and the vaginal steam spray Professor Porro was the first to point out the beneficial action of these waters in diseases of women and good results were generally obtained in pelvic inflammation, sub involution, endometritis, salpingitis, retroversion with adhesions, and fibroids, the hæmorrhage in the latter often being controlled Professor Curàtulo also described his new treatment of spraying the vagina and cervix for 20 minutes with the mineral waters by means of his steam spray apparatus and attributed his good results to the direct stimulation of the cells and the reflex excitement of the vaso-motor nerves caused by the mineral principles of the water, to the contraction of the blood-vessels and consequent relief of congestion, and to the absorption of iodine through the vaginal mucous membrane.

Dr McCANN read a paper on

Vaginal Fixation.

He fully described his method of operating and the cases suitable for it. He showed how it did not interfere with subsequent pregnancy and discussed its advantages. Illustrative cases were described. He had operated on 20 cases with complete success. In no case was any elevation of the temperature noted after the operation.

Professor C R. MARSHALL (Dundee) read a paper on the Abuse of Mercuric Chloride Solutions in Obstetric Practice.

STATE MEDICINE.

THURSDAY JULY 31ST

Tuberculosis and Notification

In opening the morning's session the PRESIDENT (Dr JAMES NIVEN Manchester) remarked that with the information concerning tuberculosis now in their possession he could confidently say that there was no infectious disease about which they knew so much for in no other infectious disease did they either know so exactly the mode of infection or the precise measures necessary for its prevention And this was fortunate, insomuch as the prevention of tuberculosis was infinitely more important than the prevention of any other of the infectious diseases the truth of this statement being obvious when he reminded the members of the section that something like one-seventh of the human race died as the result of tuberculous and therefore, preventable infection. Tuberculosis was in truth a preventable disease and the administrative measures required for its prevention although sufficiently simple in their general features were more complicated in detail than those employed in dealing with ordinary fevers the section therefore was fortunate in being able to listen first hand to the views of those two gentlemen who were the chief apostles of the movement for the prevention of the disease.

By what General Scheme of Action including Administrative Measures can the Prevention of Tuberculosis be most Efficiently Advanced?

Dr J ROBERTSON (Sheffield) before discussing the direct and indirect measures of administration which the question involved drew attention to the fact that no city in the empire had devoted so much attention to the subject of the prevention of the spread of tuberculosis as the city of Manchester, which city might also claim the honour of having been the first to take the field in the active campaign against this disease. Among the direct measures employed in the prevention of tuberculosis he drew attention to the necessity for the sanitary authority to know who were infectious and therefore likely to spread the disease. In Sheffield they had had voluntary notification since 1899 and in many other towns similar measures had been adopted. Personally he considered compulsory notification was both desirable and necessary not by including tuberculosis in the list of diseases which might be notified under the *Infectious Diseases Notification Act*, 1889 but by special clauses dealing with this disease alone for it would be a monstrous injustice if for example, a patient suffering from tuberculosis should be liable for a prosecution for exposing himself in a public place" as would a small pox patient in similar circumstances. In the course of his address Dr Robertson observed that if compulsory notification was wanted powers must at the same time be obtained authorising them to require that infectious matter from a consumptive person should be properly disinfected before being disposed of, in other words, the disinfection of sputum should be made obligatory on the person suffering or the person in attendance on the patient. He strongly urged that sanitary authorities should have power to establish places for the open air treatment of phthisis and other tuberculous diseases. As another administrative procedure he drew attention to the provision of isolation homes for cases that were a source of danger to their friends and to the general public, remarking that these homes would be useful in addition to the consumptive wards of workhouse infirmaries. With regard to indirect measures he put forward the better lighting and ventilation of houses factories, and workshops, better conditions as to air space and cleanliness round dwellings better food supplies and better conditions of labour

Dr ARTHUR NEWSHOLME (Brighton) continued the discussion and described in some detail the preventive measures which had been adopted at Brighton under the following headings Diagnosis Notification Disinfection Prevention of Infection Investigation of Sources of Infection, Removal of Insanitary Home or Work Conditions Removal of Patients to Sanatoriums &c. After treatment of Convalescents and Removal of Food Infection. He said that the health authorities examined suspected sputa gratuitously for the medical practitioners with the result that in 1901 125 such specimens were examined. With regard to notification, a fee of 2*s* 6*d* or 1*s* was paid for each case notified in private or public practice, the total number of cases notified in 1899 amounting to 113, whilst a fee of 6*d*. became due to the relieving officers for each intimation of the removal of a parochial phthisical patient to the workhouse infirmary Since 1893 it had been the routine practice in Brighton to disinfect the bedding and bedrooms of patients who had died from phthisis spitting was forbidden in or on the corporation tram cars cards, five inches by seven inches, containing a notice forbidding spitting except into proper receptacles, and stating that indoor expectoration on floors was the main source of spread of consumption were distributed to workshops, public-houses theatres, &c. to be affixed to the wall in some conspicuous position Enamelled metal plates with the same notice were now being prepared to replace these cards. Every notified patient received a card embodying simple precautions of a non-alarmist character the poorer patients were supplied with sputum bottles and Japanese handkerchiefs free of charge. In Brighton the local branch of the Charity Organisation Society now paid for two beds in an institution for the open air treatment of phthisis the town council of Brighton in addition paying for three patients. This Dr Newsholme considered would enable Brighton to keep 12 patients per annum at a cost of about £470 They had also commenced the treatment of patients in small isolation pavilions attached to the local fever hospital and he expressed it as his conviction that the treatment of such cases in fever hospitals during the inter epidemic periods would in the near future, form an important branch of public health work.

Dr JAMES BEATTY (Manchester) next described the measures that had been adopted in Manchester for the investigation and control of tuberculous cases. He explained the method of notification which was in vogue, emphasising the fact that although the notification of this disease was practically a voluntary one the health authorities of Manchester had been enabled during the past year to obtain information about a large number of cases. As soon as a case was notified it was visited by the assistant medical officers of health and every endeavour was made to obtain full data as to the causation and course of the disease especially with regard to the source of contagion and possible relationship to the conditions of work. Instructions were given to the patients as to the means to be adopted to render themselves less liable to serve as centres of infection and therefore a source of danger to their fellows In certain cases the patients were transferred to healthier surroundings than obtained in their own homes the otherwise empty small pox hospital had been utilised for the reception of some of these patients with excellent result in spite of its bad situation but the space at the disposal of the sanitary authorities of Manchester was quite inadequate to accommodate the entire number A thorough system of disinfection was also in vogue in some cases complete disinfection of the rooms occupied by tuberculous patients was carried out by the sanitary authorities whilst in suitable cases the tenants were encouraged to employ a modified disinfection which consisted of lime-washing the ceilings &c. cleaning the walls and scrubbing the floors with soap and water

Dr C R. DRYSDALE (London) inquired as to the number of deaths per annum in Manchester from phthisis.

In reply the PRESIDENT stated that about 1200 deaths from tuberculosis were returned for the past year but the death rate for tuberculosis had steadily diminished for the past 30 years. The diminution was perhaps not rapid, but at the same time the improvement in this respect was really greater then might at first be apparent a an entirely new generation was now being dealt with and the population itself might justly be regarded as offering greater facilities at the present time for the spread of tuberculosis than it did a generation ago.

Mr W HODGSON (Crewe) referred to the recent conference of the representatives of all the sanitary authorities for the county of Cheshire who were endeavouring to obtain the permission of the Local Government Board for the erection of large sanatorium in spite of the fact that tuberculosis with them was not a compulsorily notifiable disease He spoke of the difficulties which surrounded the attempts of those responsible for the public health to secure the sympathy and coöperation of public bodies in such measures

Dr RANSOME (Bournemouth) pointed out the fact, which he feared was too much overlooked, that tuberculous infection was much more largely conditional on individual resistance than the infection of many other diseases and it no doubt frequently happened that an individual might harbour virulent tubercle bacilli and yet, provided he himself was strong and healthy and lived in healthy surroundings, the chances were largely in favour of that individual not contracting the disease. In support of his contention that the tuberculous infection was conditional upon the receptivity of the body and to an almost equal extent on the environment of that body Dr Ransome mentioned some experiments in which a sample of tuberculous sputum exposed to sunshine and air in his own house had entirely lost its virulence in the course of a few days, whilst a similar sample of the same sputum exposed in the room of one of the lower class houses in Manchester contained living virulent bacilli at the end of three weeks He would like to urge upon the medical officers of health that their great duty with respect to the prevention of tuberculosis was to improve the conditions of life—and especially the conditions of the dwellings—of the poor This was the true English method of fighting the disease, in contra distinction to which notification, whether partially or absolutely compulsory, and hospital treatment, might be termed the continental method Whilst he looked for the best results from a happy combination of the two, he once more urged the extreme importance of the improvement of the home surroundings of the indigent tuberculous population.

Dr A. D WEBSTER (Edinburgh) expressed his opinion that they were going too far in attempting to place tuberculosis in the same category as scarlet fever and small pox, for that was undoubtedly the tendency of this plea for notification, and he thought that more good would be done by not attempting to make notification compulsory The numerous cases of local tuberculosis which came under the observation of the general practitioner and the good results which usually followed upon treatment, pointed to the curability of the disease, and he would urge the injustice done them by labeling such patients as contagious

Dr DRYSDALE feared that improvement would not follow any measures, such as notification or treatment in sanatoriums, until the condition of the people, and especially the poor people, was improved. Phthisis and poverty went hand in hand, and until overcrowding had become a thing of the past phthisis could never be banished At the same time he believed that if such measures as were in vogue in Manchester and Brighton were more generally adopted, the amount of consumption existent in England would be materially diminished

Mr J F HALL-EDWARDS (Birmingham) believed that the establishment of sanatoriums was the best means of stamping out phthisis, at present, however, they appeared to be fostering consumption as a hothouse plant rather than treating it as a scourge. He was strongly opposed to methods which entailed the treatment of tuberculous patients for a limited time in sanatoriums and which then simply returned them to that identical home environment which was in so large a measure responsible for the disease. From his knowledge and experience of South Africa he was convinced that there was the ideal place for the erection of sanatoriums, which should take the form of working colonies for consumptive people rather than sanatoriums such as they erected in England, there such patients might live practically entirely in the open air and at the same time contribute their quota to the resources of the colony He would further suggest that the Government might reasonably be requested to allow the use of some one or two transports for the purpose of conveying these patients to South Africa.

Dr J LLOYD ROBERTS (Colwyn Bay) considered that treatment in sanatoriums was the best way of dealing with the tuberculosis question, although he realised the force of Dr Ransome's arguments for general improvement of the home surroundings of the people. Consumption might truly be said to originate in the dwellings of the poor, and therefore the better housing of the working classes was a most important preventive measure.

Dr J M RHODES (Manchester) also remarked on the intimate connexion existing between the housing problem and the prevention of tuberculosis

Dr ROBERTSON then proposed the following motion —

> That this section of the British Medical Association considers that the time has now come for the Local Government Board to grant more extended powers for dealing with cases of tuberculosis to such local authorities as are able to show that they are in a position to undertake the necessary work

This motion was seconded by Dr NEWSHOLME and unanimously adopted

The Relation of Poverty to Disease

Mr Alderman M'DOUGALL, deputy chairman of the sanitary committee of the Manchester corporation and a member of the Manchester board of guardians, read a paper embodying the results of his observations on this subject, with especial reference to the township of Manchester For the purpose of comparison he divided Manchester into three districts—viz, Manchester township, North Manchester, and South Manchester The inter relationship of these three districts with respect to poverty had been arrived at by comparing the death rates of persons from each district as obtained from the workhouses and hospitals and other charitable institutions These figures showed that the township contained a much larger proportion of persons in conditions of poverty than either of the other two districts, whilst South Manchester had a much greater proportion than North Manchester By means of an excellent series of diagrams he showed that the higher death rate always present in the more impoverished districts indicated that poverty tended to the increase of disease, and accelerated death Other influences affected the death rate in each district, but when these were taken into account there remained a very large amount of injury to life that could only be the result of the active effects of poverty After an extended examination of the statistics, Mr M'Dougall said that it was much more easy to point out dangers and injuries to health than to suggest measures of protection and remedy, the causes of poverty were so various and much of the suffering and disablement came to many who were not themselves transgressors, and, further, such an examination as he had undertaken quite failed to distinguish between poverty due to inadequate means and poverty arising from wastefulness Intemperance, idleness, carelessness, and ignorance brought poverty and distress to children and dependents Accident and physical incapacity also impoverished some who otherwise would be self-supporting Changes in trade, national calamities, and unfavourable seasons removed opportunities of earning from willing workers The economic problems of wealth and poverty were always present Something, however, might be done in mitigation of the more visible effects of ill health. Young children formed the class of those who endured poverty whose condition was most susceptible of mitigation Improvement of condition would be certain to result to a large number of children if mothers became more capable of making the best of what food could be obtained He believed that it would be of immense service to public health if every girl attending elementary schools had as part of her education during the last year of her school life to learn practical lessons in cooking simple foods and the details of cleanly and economical use of the fireplace and household utensils. At the same time the methods of cleansing the house could easily be taught It would be a profitable expenditure of educational finance in State aided schools that food materials should be purchased of sufficient quantity to give one good meal in the day to the most needy of the scholars, this to be cooked by the elder girls under efficient supervision Such training of girls before leaving school would also have a good effect in their homes whilst they were still scholars The periodical taking of the weight and height of scholars would be useful as pointing out deficiency of food or of other necessaries To prevent much of the worst kind of poverty among men and women during working age, earnest efforts were required to prevent intemperance by the removal of temptations and inducements to drink, and also to foster a strong public opinion against gambling There should be appreciative support of the authorities in their attempt to improve the sanitary condition of dwelling-houses and to remove the causes of overcrowding, as from the figures which he had given and from statutory enactments it was clearly their duty to make special efforts in connexion with such conditions in the poorest parts of our large towns The encouragement of cheap transit to the suburbs and the provision of open spaces were in this connexion of much importance He believed the day would come when, in addition to savings banks they would have banks granting small loans to workers on a rate of interest not much beyond that payable on deposits, the loans to be granted on approved personal security of friends and repayable in weekly instalments, a system already in practice in Manchester and yielding most excellent results. For aged persons of 65 years and upwards in necessitous circumstances he was convinced that much could be done by existing boards of guardians undertaking to deal with applications for aid from persons who have attained 65 years of age, quite apart from the applications of persons under that age and he would recommend that boards of guardians should appoint special committees to consider all requests for aid from aged persons, such committee could discriminate and make grants suitable to the condition of the applicants. Some would be selected as fit for grants of weekly sums say of 5s in orders extending over six months and renewable if satisfactory, others not in a condition to expend money or to attend to their own personal needs might be selected for maintenance in homes apart from the workhouses others suffering from ailments needing hospital treatment could be received into the workhouse hospitals, and when able to be out of bed should have the use of special day rooms. The remainder should be dealt with as at present in the workhouses. The first three classes would undoubtedly involve a higher expenditure by the ratepayers than the present system for many persons who did not now apply to the guardians would most gladly accept aid in one of the three forms he had mentioned That being so he considered that it would be only right for the State to bear part of the cost The select committee of which Mr Chaplin, then President of the Local Government Board was chairman reported in 1899 in favour of contributions to Poor law unions which might appoint special committees empowered to make weekly grants to aged persons, such contributions not to exceed one-half of the cost of the grants. It was obvious that this recommendation for a modified form of provision for necessitous old age only applied directly to a limited number of persons, but he was of opinion that if it were adopted it would have a beneficial effect on poor persons at ages less advanced.

Mr B SEEBOHM ROWNTREE (York) followed Alderman M Dougall with a paper on the same subject, in which he detailed his investigations in the city of York which was taken as a fairly typical provincial town. The immediate purpose of this inquiry was to throw some light on the questions What proportion of our town populations are living in poverty? What are the chief immediate causes of that poverty? What are the effects of poverty on health? In order to obtain accurate information the investigation included a house-to-house visitation of every working-class house in York. By this means much detail was obtained in each case regarding the number and ages of the occupants the number and occupation of the wage-earners and the accommodation and rent of the house, together with certain data as to food &c. Furnished with this information and with knowledge obtained through other channels Mr Rowntree was able to make a fairly accurate estimate of the earnings of every working-class family in York. In the first place it was necessary to determine what constituted poverty and for the purposes of this investigation he had taken as his working basis the lack of essentials for merely physical efficiency that is such quantity of food as would be just sufficient to enable an adult to do moderate work, together with appropriate allowance for rent and clothing It would be noted that in this estimate he allowed for no beer no tobacco no relaxation, but had in fact, only taken into account just so much nourishment as was absolutely necessary to provide the requisite number of calories. In analysing the data he had obtained he came to the conclusion that a family of ordinary size consisting of wage-earner wife, and two or three children, necessitated the expenditure of at least 21s. per week to maintain simply and barely physical efficiency The results obtained were very analogous to those recorded by Mr Charles Booth who had stated that fully 30 per cent of the people in London were living in poverty and this figure might be accepted as an under-estimate rather than an over-estimate of the poverty in York. If it was recollected that at the last census 77 per cent. of the total population of England and Wales was returned as urban and only 23 per cent. as rural the seriousness of the fact that more than a quarter of the town population was living below the poverty line would be at once realised. The answer to the second question that he had set himself What are the chief immediate causes of poverty? might be briefly summarised by saying that no less than 51 96 per cent. of the cases of poverty were due to low wages a startling commentary on the prevalence of unskilled labour the next chief cause which was responsible for 22 16 per cent was excessive size of family The death of the chief wage earner was responsible for the poverty of 15 63 per cent. of the cases, in 5 11 per cent poverty was directly due to the illness or old age of the bread winner whilst in only 2 83 per cent was it due to irregularity of work and in 2·31 per cent. to total loss of work. Mr Rowntree developed the third part of his thesis concerning the effects of poverty on health by analysing the result of the physical examination of a large number of school children (nearly 2000) and by discussing the figures obtained from the local recruiting stations The children living in poverty showed a marked contrast to those placed in happier circumstances with regard to height and weight at the age of 14 years the boys showed a deficiency of some three inches as compared with the average normal standard and some nine or 10 pounds in weight results undoubtedly due to underfeeding

On the motion of the PRESIDENT a hearty vote of thanks was accorded to Mr Alderman M Dougall and Mr Rowntree for their papers.

In the discussion which followed Dr DRYSDALE argued that where there was a low birth rate there would be prosperity amongst the people, for he contended the birth rate regulated the death rate where there was a high birth rate there was always a high death rate and this could easily be proved on figures obtained from any town one liked to mention Dr Drysdale concluded from this that it was impossible to ameliorate the condition of the working classes so long as the birth rate was so high

Dr RHODES *controverted Dr Drysdale's argument, stating* that it was unsound or if true Ireland with its low death rate, ought to be an extremely prosperous country The connexion between pauperism and disease was extremely important, and he was glad to know that it was being made the subject of exact scientific inquiry that it was no longer considered sufficient to take these two conditions as the act of God but that workers were endeavouring to find the causes to know what they were and how they arose *As an American writer had said,* To cure was the voice of the past—to prevent, the Divine wisdom of to-day " Some did not realise the enormous part which hospitals played in the amelioration of poverty and disease. There were to-day in the London workhouse hospitals about as many deaths as in all the voluntary hospitals of England and Wales put together This showed the awful mass of misery and poverty in this country At the same time he did not agree that there was need to be despondent. There was an idea that our age had been productive of new evils he thought rather that what were really new were the intellect that discerned and the humanity that remedied the evils. With regard to the conditions of the people, he thought that overcrowding and bad atmosphere produced depression and this produced a craving for drink and thus they got disease. He believed that a vast amount of misery was due to the vagrant class They played a prominent part in spreading disease and he would like to see a Royal Commission appointed to inquire into this class of poverty He commended the suggestion of Mr Alderman M Dougall in regard to loans, which he thought a good one. He believed that underfeeding played an important part in the production of disease. Dr Rhodes also believed that ladies by buying goods produced by sweated labour helped to produce poverty Thousands and thousands of shirts were made to-day at 9d a dozen. He thought that they should have to go in for women's trade-unions *The number of unskilled labourers and workmen, he added* was enormous The unskilled man was continually put out of work by machinery he instanced the navvy and the road sweeper Dr Rhodes in concluding advocated more education and the teaching of sanitation producing more skilled workmen and hygienic condition. By this means he believed, they would see in a few years an enormous reduction in the amount of disease and lot poverty

PSYCHOLOGICAL MEDICINE.

WEDNESDAY JULY 31ST (*continued*)

Dr C HUBERT BOND (London County Asylum Bexley) read part of a paper dealing with the *Hospital Treatment of Patients at the Bexley Heath Asylum* including plans and descriptions of villas used fo convalescing and quiet chronic cases The system of nursing was like that in the medical wards of hospitals Plans of the villas for the housing of chronic quiet patients and of the gardens were shown as well as the charts used for the daily records of the condition of recently admitted patients while under observation in the special hospital wards of the asylum. In the discussion which followed,

Dr J **RUTHERFORD** (Dumfries) remarked that the villa system of housing convalescent and quiet chronic cases of insanity was good and that accidents were few

Dr **ROBERT JONES** (London County Asylum, Claybury) spoke of the usefulness of charts showing the nightly hours of sleep for each patient during six weeks after admission and stated that improvement often occurred as insomnia grew less

Mr G W **MOULD**, the President (Cheadle), said that the system of housing patients in detached blocks or villas had been employed by him at the Cheadle Royal Asylum during the previous 25 years and that nearly two thirds of all the patients were so housed with beneficial results

THURSDAY, AUGUST 1ST

Professor **CLIFFORD ALLBUTT** (Cambridge University) opened a discussion on the

Relation of Functional Neuroses (Hysteria, Neurasthenia, Hypochondriasis, &c) to Insanity

Diagrammatically they might conceive of the nervous system as a vertical pile of centres, the lowermost of which presided over the earliest of the functions, each higher centre in its turn being occupied with functions later and later in the order of development Not only so, but each later centre was not only attached directly to its predecessor but was coordinated also with all its predecessors so that the pile became a system of mutual interdependence. Thus every later centre modified, or in other words controlled or inhibited, not only the one immediately below it but also each and all the earlier centres, certain cardinal inhibitions being provided for by special short circuits Thus, for example, sphincters became inhibited by higher motor centres and these in their turn by centres of still higher levels But a nervous centre was not a mere change house, it was also an accumulator of energy, whereby it was prepared not only for mean demand but also for extremes of effort or rest It was not only a fly wheel, which did not enlarge as the output of its engine increased, but rather like a bank which, as the output of the body increased, became itself enriched for direct expenditure, mutual reinforcement, and inhibition. In capacity of enrichment by way of expenditure individuals differed widely, in some an excessive run might strain the central resources so far that even the needs of ordinary functions were met with difficulty In one man a certain measure of work not only achieved the immediate end but also enriched his reserve of energy, in another, if it achieved the immediate end, it fell short of addition to the reserve, in a third the end was achieved at the cost of depleting the reserve, in the fourth even the immediate end was not attained and the reserve was not only exhausted but its elasticity was so impaired that for some time to come it was unable to keep up with current work. The neurasthenic had never much reserve for time of stress, he needed inordinate time for repair and was apt to be exhausted beyond the possibility of full repair In this lowering of nervous potential not only did output soon run down but inhibition was slackened so that energy was prematurely set free in what they called "irritable weakness" All the functions seemed to be upon the hair trigger This, however, was insanity, it was not perversion but poverty In an insane person sleep restored the manifestations of a distorted mind, by sleep and food neurasthenia was remediable. Hysteria, on the other hand, [illegible] was not the snapping off of inhibition at half cock but the [illegible] interference of inhibition out of season. It consisted in [illegible] intrusive suggestion, the patient could not take the break [illegible] off, so it was often remediable by counteracting suggestion [illegible] of disciplinary exercises, neither of which were of [illegible] service in neurasthenia In hysteria, then, certain controls were [illegible] in relative excess—the patient was "possessed. The neurasthenic expended his talent, the hysteric wrapped it in a napkin Hypochondriasis was neither neurasthenia nor insanity, though in its fixed idea it was nearer to it than either In practice, however, the line was not crossed so often as the student might expect The neurasthenic sought each new physician with fresh prospects of relief, the hypochondriac sought him only to consume another man's time and sympathy upon the altar of himself The morbid states and processes, to which they gave names such as these, were of course somewhat arbitrary conceptions at best, no disease was separated by a definite line from another In neurotic persons and families the distinctions between the disorders they had mentioned and insanity melted at their edges, or, again, any two or all three of them might conceivably occupy the same individual system, and a thread of insanity might also be woven into the same fabric, a discriminating diagnosis of so complicated a condition might be difficult or impossible More frequently, however, the difficulty was rather one of a more intimate diagnosis, confusion generally depended not upon identity but upon a similarity between two or more of these maladies in certain phases of their periods For instance, the obsessions of neurasthenia, though usually different from those of insanity, might at times be hard to distinguish and diagnosis could only be made by analysis of all the features past and present. An insanity, again, might be regarded as the issue of a previous neurasthenia, whereas the disorder had been an insanity from the beginning Occasionally the discrimination of neurasthenia from certain stages of melancholia, of delusional insanity, of general paralysis, of the malaise of some visceral disease, or from the sequel of some infection might be difficult to establish. Confusion was often made worse by the habit of taking names in their mere etymological sense, forgetting that as their clinical conceptions became more definite these names acquired more complex derivative meanings So they were apt to apply the name "neurasthenia" to any sort of weakness in which nerves were concerned, and in what weakness were the nerves not concerned? For instance, the so-called neurasthenia of high arterial pressure was not neurasthenia at all, it might be melancholia or some intoxication, nor was the state of listlessness and misery which followed influenza neurasthenia—it was influenza still, the dizziness and fretfulness of atonic dyspepsia were attended with nervous debility, but they did not make neurasthenia The initial stages of delusional insanity in a person of a certain temperament might be very difficult to distinguish from neurasthenia, but a temporary similarity was not identity In a particular case, again, the speaker found himself unable for a couple of years to form a decided opinion between general paralysis and neurasthenia, the former diagnosis proving to be the true one. Certain curious mental and nervous disorders incident to syphilis might resemble closely, but were not, neurasthenia. For the most part it was wrong to say that neurasthenia "drifted into" this, that, or the other morbid process, neurasthenia was not a general quality common to many diseases, but a particular process having its own causes and its own events The speaker referred to two cases diagnosed as neurasthenia in which necropsy revealed a cerebral tumour and a cerebral abscess respectively, both local diseases being evidently of a great many years' standing Loss of memory in hysteria was apt to occur in gaps with clean cut edges, in neurasthenia and insanity it was rather a general loss of tenacity Depression of spirits, when primary and persistent, suggested melancholia or hypochondriasis rather than neurasthenia or hysteria. The sadness of neurasthenia was the result of disappointment, in hysteria it was a reaction from excitement. Self seclusion was the note, not of neurasthenia or hysteria, but of melancholia or insanity of suspicion In insanity alteration of character, often seen first in letter writing, might put them on the right track The insane person was unaware of this disease or had but occasional glimpses of it, which was anything but the case in neurasthenia and hysteria, the hypochondriac, however, was prone to hug a delusion such as that of a snake or earwig in his body, he could not be convinced even by the demonstration of his own senses, and from this to delusional insanity was no far cry Of late years he had formed the opinion that neurasthenia was apt to follow the operations of surgery—sometimes even the smaller operations—if done under an anæsthetic The surgeon, satisfied with the local results of his operation, was apt to lose sight of this result. He believed it to be genuine neurasthenia and allied to that which followed some railway accidents They might inquire if this event had any affinity with post-operative insanity

In the discussion which followed the above,

Dr D **YELLOWLEES** (Glasgow) said that he agreed as to the importance of distinguishing neurasthenia, hysteria, and hypochondriasis from each other and from insanity He did not think, however that imperfect inhibition explained all the phenomena of neurasthenia, but agreed that it was necessary to distinguish neurasthenia from melancholia, as the lines of treatment necessary for these two affections were quite different. Seclusion and rest benefited neurasthenia but aggravated melancholia by favouring concentration of the patient s thoughts on himself. He thought that in cases of post-operative insanity there was an original underlying predisposition to mental breakdown and that the operation was only the exciting cause.

Mr C. S. MORRISON (Hereford) said that post-operative insanity in his experience, was invariably marked by acute tendencies to suicide In a case of this kind under his care treatment with warm baths, ample feeding and occasional doses of bromide and caffein produced an improvement of the physical and mental condition, while the impulse to self-destruction grew less and self control became greater Nevertheless, a tendency to melancholia persisted and the prognosis was uncertain.

Dr. FLETCHER BEACH (London) was of opinion that hereditary predisposition to insanity was a very important factor and that when it was present the symptoms of neurasthenia or hysteria which a patient exhibited passed eventually into actual insanity Many cases of neurasthenia recently observed by him had symptoms of dyspepsia and when the latter condition improved under proper treatment the neurasthenic condition also passed away apparently because the neurasthenia was in such cases of toxic origin.

Dr SEYMOUR TUKE (London) emphasised the fact that in neurasthenia the effect of sleep and rest was marked as regards the benefit obtained but the good effect was less in cases of insanity proper He agreed that the hypochondriac was nearer to the boundaries of insanity than the neurasthenic and thought that the treatment of many cases of hypochondriasis was a most dangerous thing to be undertaken by neurologists as such patients not infrequently attempted to commit suicide when affected with delusions of bodily disease.

Dr LLOYD ANDRIEZEN (London) stated that in the commonest type of neurasthenia, the cerebral, the lesion was a chronic nutritional debility of the cortical nerve-cells in general usually of congenital origin and life long duration It was manifested by states of cerebral fatigue readily induced and of undue persistence after ordinary work. Cephalalgia and cephalic and other paræsthesiæ were common Concentrated application and attention were difficult. It was different from ephemeral states of fatigue which in normal persons passed away with ordinary rest and sleep. True neurasthenia did not present the characteristic depression of melancholia, the exaltation of mania or of early paresis, the tendency to delusions of hypochondriasis and paranoia, or the intellectual enfeeblement of dementia præcox. While the neurasthenic might have fear of going mad he seldom or never developed madness. Hypochondriasis and hysteria major on the other hand, came nearer to the bounds of insanity and in particular to a group of the insanities which he had elsewhere described as paraphrenia. He alluded to a class of cases met with in practice but never in asylums and marked by simple depression of spirits occurring periodically or at regular intervals and continuing to do so throughout life without passing into melancholia proper or other forms of insanity One such case was cited where this was noted by him for 10 years in the case of a middle-aged man who confessed that he had suffered from such attacks since youth and Lange of Copenhagen had also recognised and described such cases. He referred to the diagnostic features separating neurasthenia from early general paralysis and pointed out that the neurasthenic, as distinct from the early paralytic, did not develop signs of intellectual and moral degeneration.

Sir JOHN SIBBALD (Edinburgh) regarded the subject of the relation of neurasthenia to the other neuroses and to insanity as of importance and felt it necessary to differentiate neurasthenia, which was a disease running a characteristic course from neurasthenic conditions and from incipient insanity

Dr HARRY CORNER (London) regarded neurasthenia as a disorder of the lowest psychical level and hysteria and hypochondriasis as affections of the higher psychical levels. This was borne out by the frequency of visceral and respiratory disturbances of a nervous character in neurasthenia, the respiratory disturbance taking the form of air hunger" and almost of asthma. Cardiac and circulatory disturbances and gastric dyspepsia with atony of the stomach and loss of appetite were also frequent in neurasthenia, while the presence of renal disturbance was shown by the passage of large quantities of pale urine The disturbances of hysteria lay in the higher mental spheres as shown by the emotional disturbances and the convulsions present. In hypochondriasis delusions referring to visceral organs were developed even in the absence of visceral disease, while visual and auditory disturbances were common.

Dr BEDFORD PIERCE (York) asked whether Professor Allbutt would include under neurasthenia cases due to toxæmia. He questioned whether the distinction between neurasthenia and insanity could be so clearly drawn as Professor Allbutt had done. He remembered cases of insanity which at one stage presented many symptoms of neurasthenia.

Dr ALEXANDER BRUCE (Edinburgh) agreed with the definition of neurasthenia given by Professor Allbutt, but wished to know whether there were not cases of partial or localised neurasthenia of the different viscera due to exhaustion of their nervous mechanisms.

Dr A. T SCHOFIELD (London) proposed the following definitions—viz. that neurasthenia was a general exhaustion of the nervous system preceded by a stage of irritation that hysteria was an affection of the subconscious mind producing results entirely apart from the will and consciousness of the patient that insanity was a disease of the conscious mind and that hypochondriasis occupied a borderland between hysteria and insanity being partly a disease of the subconscious mind and partly of the conscious mind.

Professor ALLBUTT then briefly replied, dwelling mainly on the distinctness of neurasthenia from insanity and referring to the diagnosis between neurasthenia, melancholia, and early general paralysis

Dr ROBERT JONES *read a paper on*

Apprehensiveness Stupor and Katatonia

In no form of mental disease, said he had greater difficulty been experienced as to the exact meaning of a term than in regard to the word katatonia which was first used by Kahlbaum in 1874 to designate a particular variety of insanity Continental authorities generally accepted Kahlbaum s views regarding the affection he described and recognised katatonia as a definite disease with characteristic symptoms running a special course Dr Jones however thought that katatonia was not a separate variety of insanity but was a symptom which occurred in the course of the cyclic forms of insanity It was rare after 30 years of age and was most frequent at about 20 years of age. It was more often met with among private than pauper patients and occurred more often in the brain worker than in the labouring man The essential feature was a tendency to the recurrence or repetition of motor and mental impulses followed by negativism—i.e. by a condition of passive resistance to every movement. It followed acute mania, melancholia, epilepsy or formed part of a cycle in periodic insanity The earliest stages of the affection were marked by irritability anxiety headache and painful feelings. Then followed a condition of marked apprehensiveness and painful mental prostration. Finally there developed a condition of muscular tonus with disinclination or inability for voluntary movement, the attitude being rigid and statuesque and the facial expression vacant and mask like. The patient in this condition took no notice of his surroundings his saliva dribbled down his chin he refused to take food and his urine was either retained or passed involuntarily Speech was absent and memory though present was indistinct and untrustworthy Occasionally meaningless words were uttered in parrot like fashion (echolalia) or meaningless gestures were made. When the resistive stage subsided there succeeded a cataleptoid condition with automatic movements of swaying singing or unintelligible utterances (verbigeration). The radial tension as measured by the sphygmograph was low and the circulation was feeble during the early and intermediate stages Occasionally outbreaks of violence occurred which were of momentary duration after which the patient subsided into a stuporous or cataleptic condition Occasionally self mutilation of the genitals was observed probably as the result of impulses arising from delusions. Excitement, however was rare in katatonia. As regards the terminations of the disease it was found that the greater number of katatonic cases became chronic and passed into mild dementia of an inert and sluggish type. Youth did not render prognosis more favourable, as many young persons passed into incurable dementia. Masturbation aggravated the malady Over strain and anxious responsibility rather than simple overwork were the exciting causes of this form of mental breakdown in adolescents and young adults of both sexes The pathological findings in post-mortem investigations were not sufficiently advanced or complete to enable them to correlate the symptoms during life with the lesions observed.

The PRESIDENT made a few appreciative remarks on the clinical interest of the paper contributed by Dr Jones and regretted that owing to want of time further discussion on it was impossible.

OPHTHALMOLOGY

THURSDAY, JULY 31ST

Dr ARTHUR W SANDFORD (Cork) opened a discussion on

The Treatment of Sclero keratitis

He believed this affection pure and simple to be an extremely rare one and that, with few exceptions, it was a local manifestation of acute rheumatism or of some more or less modified form of tuberculous infiltration and that it did not differ essentially from similar affection of other fibrous capsules, as of joints and testes, its importance in the eye consisted in the extension to episclera, iris, uveal tract, &c., whereby vision might be seriously diminished As a rule these complications had set in before treatment was applied for, which complicated matters A large proportion of cases occurred in adolescence in association with other scrofulous evidences and in females with menstrual irregularities, in adults it was rarely disassociated from constitutional rheumatism or gout. In those acute cases which were not tuberculous in origin he had found useful hypodermic injections of pilocarpine and dosing with salicylate of soda or aspirin, the eye being kept quite at rest, warm, and dry Iritic complications needed atropine but he felt this was to be avoided as much as possible. In scrofulous cases rest and warmth to the eye, doses of iodide of potassium with iodide of iron and tri iodide of caffein with a generous dietary, or the use of bichloride of mercury in small doses were useful even apart from specific taint. His experience of subconjunctival injections was not favourable, in some cases the reaction was severe and probably hurtful On subsidence of the affection the thinned sclera and opaque cornea had to be considered, for this long use of weak myotics and weak mercurial ointments and massage appeared to promote tissue change The results he felt were not thoroughly satisfactory since the affection was tedious and had a marked tendency to recur

Dr F E MADDOX (Bournemouth) said that the condition and its treatment were difficult and obscure, cases sometimes cleared up after treatment had been dropped. He thought that peritomy was of most general service, whilst yellow ointments and iodide of sodium lotions were sometimes useful Dry heat often gave good results and in this connexion he showed a mode of its application which he thought was more convenient than by the usual "muff warmer" His appliance consisted of a thin flannel disc in which was threaded a helical of fine tinned iron wire, the two ends of this were connected with a suitable electric current, it was light, small, cheap, could be placed within the usual dressings, and the heat could be regulated to a nicety by control of the electric current.

Dr HILL GRIFFITH (Manchester) divided his cases into two groups (1) where episclera was alone affected and (2) where all scleral tissues and even the ciliary body and vitreous were involved To these latter his attention had been particularly drawn and he regretted that he had never found anything to do real good, the cases just took their own way

Mr DEVEREUX MARSHALL (London) remarked upon the risk of using pilocarpine injections. Miotics tended to increase the local pain, and though they did perhaps tend to diminish corneal extension yet this did not compensate for the risk of blocked pupils

Mr CHARLES WRAY (London) thought that in extensions to the ciliary body atropine was called for, particularly in the ointment form

Mr W W GRIFFIN (Brighton) narrated cases which he had watched and the treatment adopted, he felt they were associated with a general lack of condition.

Mr BISHOP HARMAN (London) remarked on the use of adrenalin for such cases, there was without doubt temporary blanching of the eye to the great pleasure of the patient but the permanent result appeared to be *nil* In the case of an intelligent man who had run the whole gamut of treatments he had tried this drug, the man complained that it caused deep seated pain and cloudy vision, vision was found to be diminished and the field contracted, both were recovered a week or so later He thought that the use of the drug was not without danger, since there was theoretically the possibility of its producing some contraction of the retinal vessels and the same kind of anæmia of the retina as attended the use of large doses of quinine

Mr JOHN HERN (Darlington) was struck with the rather hopeless tone of the remarks as to treatment, he thought the constitutional condition underlay the local and must be sought out and treated.

Mr DEVEREUX MARSHALL asked Mr Bishop Harman whether he had noted any increase of tension with the use of adrenalin in the case which he narrated, he had noticed sudden increase following its use even to the suggestion of a glaucoma

Mr BISHOP HARMAN replied that in his case there had been no perceptible alteration of tension which throughout was normal.

Mr RICHARD CLEGG (Clayton-le Moors) noted the exacerbation of sclero keratitis with menstruation His most useful ally in combating the complaint locally was yellow ointment, beginning with low percentage and increasing steadily

Dr O E GLASCOTT (Manchester) also liked yellow ointment with on occasion belladonna, warmth and massage He emphasised the importance of correcting even trivial errors of refraction in such cases

Dr JOHN WIDMARK (Stockholm) demonstrated

Martin Janson's Siderophone for the Detection of Iron in the Eye

The electrical plan of the instrument consisted of two circuits, the primary having a dry cell, an interrupter and a coil, this last was placed at right angles to the centre of a coil in the secondary circuit, and induced currrents therein which were perceptible by sounds in a telephone receiver within the secondary circuit when the two halves of the secondary coil were not in electrical balance Suppose this balance to be exact the approximation of the coil to a particle of iron would disturb it, a nearness shown by sounds in the telephone The apparatus was undoubtedly very ingenious, simple, and handily set up, it had, however, to be proved whether or not it was sufficient to indicate the presence of very minute particles at a depth within the eye.

Mr CHARLES WRAY read a paper on

Civilisation and Eyesight

He said that it was generally believed that civilisation tended to produce myopia. This view had obtained credence, not from statistics, but because it appeared to be in harmony with the theory of evolution, yet it was far from clear that myopo genesis was due to adaptation True evolutionary "adaptation" emphasised the subordination of the individual to ancestry, but ordinary myopo-genesis subordinated ancestry to individual, and was compared with the undoubtedly true "adaptation" as rapid in the life of the species as post-operative astigmatism was in the life of the individual The principal difference between the two forms was due to the fact that such myopo genesis as that seen in schools was avoidable, and therefore a more or less voluntary condition, to determine this they required knowledge as to the frequency of each of the hypermetropic and myopic errors, excluding all blood relations to avoid bias. By a calculation based on a comparison of averages of many cases with the law of probabilities he showed that whilst one was able to estimate with great accuracy the number with each grade of hypermetropia up to 6 D, and approximately the right number of myopes, the myopia of the myopes was much greater than it should be. − 5 seemed to be nearly as common a refraction as − 2, and it ought only to occur once in 1759 cases, whereas it occurred in from 1 per cent. to 2 per cent − 4 and + 6 should be of equal frequency, and − 8 should be as frequent as + 10—i.e., it should occur once in some hundreds of thousands of cases As a matter of fact, a refraction of − 8 *and upwards* was met with in over 4 per cent of Mr Wray's cases If these results were accurate then civilised environment had had little effect on the hypermetropes, and causes that had failed to operate on them had operated on myopes, making their myopia much higher than it should be A striking feature of the results was the small number of persons with – 1 and – 2, especially when it was remembered that such diminution was necessary or the large percentage of cases with over – 2 D as found in verification would have been impossible. He noted that high myopia was not uncommon in children of tender years—i.e. in eyes that had not been exposed to close work—and found that it was a great exception for them not to have suffered from marasmus within the first five years of life but a myopic eye would seem to be a necessary antecedent.

Dr WIDMARK also read a paper on

The Ætiology of Myopia.

It was agreed, he said that eye strain during adolescence was a decisive cause, but not as to the producing factor of the visual act. Of the three factors, accommodation convergence and retinal perception, the first two had received great attention, he felt to the neglect of the last. Opacities of the cornea and astigmatism of one eye tended to throw excessive and short-distanced work on the sound eye and within his experience this sound eye was the earlier affected with myopia. Excessive convergence he thought disproved by the fact (1) that in these cases the poor eye took little part in vision (2) that after the excision of one eye in children myopia might occur in the other and (3) of the liability to divergent strabismus in myopia, for each of these statements he gave evidence of many cases He further combated the opinion as to the causative influence of excessive convergence by a series of observations which went to show that no excess was present or possible with the majority of his myopes, also by the fact that staphyloma did not occur at the point where excessive strain on the globe should fall did the traction of the optic nerves become serious. He thought that the great use of the eyes such as reading demanded tended to cause a hyperæmia in the bottom of the eye, allowing of softening and subsequent stretching of the coats. These factors would be particularly powerful where from defect of one eye greater work was thrown on the other or sounder eye

In the discussion of the two papers which followed Dr MADDOX objected to the exclusion from count of blood relations he thereby directly diminished the influence of heredity He thought the calculation showed very clearly that high myopes arose from low myopes rather than hypermetropes

Lieutenant-Colonel DRAKE-BROOKMAN said that in 1867 on his first experience of eye work in India, he noted but few cases of myopia since then with the increase in native schools, it had become quite extensive.

Dr GRIFFITH expressed his disbelief in the prevalent idea that hypermetropes might become myopes. He had never had such a case under his notice, but he quite agreed that high myopes were produced from low myopes

Mr DOYNE was astonished at the statements of the last speaker it was to him a matter of common observation that hypermetropia did sometimes diminish even to the production of myopia.

Mr J B STORY (Dublin) also agreed in the occasional change of hypermetropia to myopia he also controverted Lieutenant-Colonel Drake Brookman's deductions from Indian experiences. He felt the cases had existed but had not applied for relief The majority of his high myopes came from the West of Ireland from among folk not of the highest intellectual ardour and amongst whom the bad influences of civilisation had little effect.

Dr MCGILLIVRAY expressed his surprise at some remarks made he certainly had noted cases of hypermetropia turning to myopia where the use of atropine effectually excluded error one case he certainly remembered where an error of +2 D became –3 D further high plus errors were common in young people but rare in adults How came the diminution? Certainly not merely by increased density of media.

Mr HOLMES SPICER also had seen such changes but the degree of change had not within his remembrance been greater than from 2 to 3 D He thought Dr Widmark's paper of great interest still he felt convinced of the truth of the convergence theory of increase of myopia, at any rate it was too good a working hypothesis to be dropped easily He felt that Dr Widmark's ideas must first be tested on a wider range of cases

Exhibition of Cases

Dr DAVID MCKEOWN (Manchester) showed two cases 1. A case of Double Congenitally Displaced Transparent Lens treated by Discission The patient was a male aged 20 years. He had always had very bad vision both far and near Glasses were of no use the lenses were displaced upwards and their edges crossed the pupillary area. Both eyes had been operated upon, in the left the lens had become opaque and in the right it had been absorbed, so in each case a single refractive series replaced the former double series. The results were excellent. The man now did better work and obtained higher wages 2. A case of Chronic Ulcer of the Cornea in a women aged 60 years. It had existed 23 months and was not healed yet, it commenced after an attack of influenza, without apparent immediate cause He thought it was a case of damage to the fifth nerve succeeding influenza.

LARYNGOLOGY

WEDNESDAY, JULY 30TH

Professor GUSTAV KILLIAN (Freiburg) opened a discussion on

The Diagnosis and Treatment of Foreign Bodies in the Upper Air-passages and Gullet.

He said that his special part of the subject was to draw attention to the direct methods of examination which were based upon the recognition of the fact that it was possible to penetrate in a straight line with instruments into the air passages and œsophagus without damaging these organs In the case of the œsophagus the œsophageal probe with olive-shaped end and skiagraphy did not always give trustworthy diagnostic results. The olive passed along the posterior wall of the gullet In case a foreign body was impacted in the anterior wall it might pass it without coming in contact with it In the Roentgen gram the shadow of a foreign body in the gullet might be hidden by the shadow of the vertebral column or the heart and many foreign substances gave no shadow at all Direct œsophagoscopy was the only absolutely trustworthy method Kussmaul attempted this in the year 1868 von Mikulicz, von Hacker Rosenheim and others succeeded in developing and completing this method. It might be employed in most patients by practised hands as a rule local anæsthesia with cocaine was sufficient, in excitable patients and in children general narcosis was necessary By means of œsophagoscopy the gullet might be systematically searched from above downwards, it was possible to recognise the exact place and form of the foreign body its shape its position and its relation to the gullet wall and to see whether the latter was inflamed or had been injured by previous vain attempts at removal or pushing forward the foreign body Thus œsophagoscopy would show everything that might be of importance for the purpose of the removal of a foreign body and it would further allow an attempt at extraction under the strict supervision of the eyes The most suitable instruments for extraction were those in the shape of slender forceps by careful traction or eventually by moving and turning the foreign body was freed and then removed slowly either through the œsophagoscope or if too large, together with the latter instrument. This method was of special value for the extraction of foreign bodies in cases of stricture of the œsophagus where particles of food had become impacted and patients had thus been spared from undergoing œsophagotomy and gastrostomy If the foreign body was large, had sharp edges points, or hooks, as for instance, dental plates all attempts at extraction were dangerous, these might easily lead to fatal injuries of the gullet In such cases œsophagotomy was indicated if the foreign body was situated no deeper than from 24 to 26 centimetres from the upper incisors, if deeper gastrotomy or posterior mediastinotomy was called for An exception might be made in the case of vulcanite plates without large metallic parts. Professor Killian succeeded in cutting such a plate (which was fixed at a depth of 35 centimetres) into pieces by means of a galvano-cautery snare, and in removing it piecemeal In cases in which one had been able to see that the wall of the œsophagus had been deeply injured extraction should not be attempted. Early œsophagotomy was here required and it was easier to locate the injured part whilst the foreign body was still fixed The same principle which lay at the foundation of œsophagoscopy had within recent times also been applied to the trachea and bronchi. One was able to make an inspection right down into the lungs by the introduction of straight tubes into the trachea and bronchi a fact most important for finding and removing foreign bodies. Professor Killian called that he did not wish to detract from the merits of ordinary or indirect laryngoscopy (by means of the laryngeal mirror) This had had triumphs in the diagnosis and removal of foreign bodies from the larynx, but just in those cases in which foreign bodies most frequently occurred—namely, in children—insurmountable difficulties often arose. In these cases direct laryngoscopy (Kirstein's autoscopy) could always be successfully employed, especially after administration of an anæsthetic, and the patient's head being in a dependent position Of course, if there was much dyspnœa a preliminary tracheotomy must be performed. He had thus been able to remove from the larynx of a child a tightly fixed collar stud which would otherwise have required a thyrotomy This method was of even greater use in the case of impaction of foreign bodies in the trachea, as ordinary laryngoscopy frequently failed Pressure on the base of the tongue or the laryngeal surface of the epiglottis with one of the different spatulas designed by Kirstein might suffice to give, even in young children, a view into the trachea. But Professor Killian preferred to employ direct upper tracheoscopy, using a straight tube of sufficient length and of a width small enough to get through the rima glottidis He was thus entirely independent of any disturbing reflex action of the pharynx or larynx In the adult local anæsthesia with a 25 per cent. alcoholic solution of cocaine was nearly always sufficient, but a preliminary injection of morphine in addition was a great help In children it was best to give chloroform, the head hanging over the edge of the table He preferred not to use a "mandrin" or the finger as a guide, but he introduced the instrument without "mandrin" under the guidance of the eye, looking continuously through the tube and finding his way gradually through the pharynx and larynx into the trachea Foreign bodies were thus easily discovered and extracted If freely moveable they were apt to be blown against the lower end of the tube and might thus produce attacks of suffocation, by pressing the foreign body back respiration was at once made free again If tracheotomy had been necessary and the foreign body had not been coughed up, a short tube might be introduced through the tracheotomy wound into the cocainised trachea—lower direct tracheotomy, a method employed by Pieniaczek. Aspirated foreign bodies were specially apt to become fixed in the bronchi If only just beyond the bifurcation, upper or lower direct tracheoscopy was all that was necessary for diagnosis and extraction. If deeper down he employed tubes of greater length which he introduced into the cocainised bronchi. The bronchi, which were highly elastic tubes imbedded in soft tissue, might without fear be pressed into the median line and the trachea, larger bronchus, and branch might thus be brought into one straight line Thus out of the upper and lower tracheoscopy his methods of upper and lower bronchoscopy were evolved Bronchoscopy allowed the whole bronchial tree to be searched. Though the left principal bronchus branched off at a sharper lateral angle it was through gentle pressure brought almost as easily into view as the right The view had to be kept clear by sponging the secretion away or by sucking it up by means of a small pump designed by Professer Killian For all these methods of examination illumination was best made by Kirstein's forehead lamp, for demonstrating purposes Kaspar's handlé was most useful. The foreign body could thus in most cases be found or its absence proved with certainty One contingency had to be kept in mind If a tube was introduced into a principal bronchus which was entirely stopped up by a foreign body respiratory difficulties would at once occur, as air would not pass in large enough quantity into the other healthy lung at the side of the tube, in such circumstances the tube introduced should have a lateral opening at some distance from its lower end. For the removal of foreign bodies from the bronchi a good view, great care, and quietness in procedure were essential Slender tubular forceps, blunt booklets (especially in the form of the well-known Lister's hook), were the instruments of most use. Their manipulation at so great a depth was not an easy matter but might be learned and practised on a phantom Hitherto bronchoscopy had been employed in 20 cases Of these 11 were under Professor Killian's care. Nearly one half of all the patients were children (six aged between two and six years and four at ages from eight to 12 years) The foreign bodies were of the most varied character, they had in one half of the cases been inhaled a few days before, in the other half they had been in the lung for months or years. In nine out of the 11 cases in which upper bronchoscopy was employed it led to certainty of diagnosis In two cases it failed—in one, because the foreign bodies, small feathers as fine as down, were too small, and situated too far towards the periphery, they there coughed up afterwards In the other case, a large pin with a glass head aspirated 10 years previously, had become imbedded peripherally into what was probably fibrous tissue In all the nine cases in which lower bronchoscopy was employed it established the diagnosis. Twice it could be proved with certainty that the suspicion of a foreign body in the lung was unfounded. Extraction was attempted in 15 cases, and succeeded eight times with upper, and five times with lower, bronchoscopy, in two cases recorded by Thost (Hamburg) and Spiess (Frankfort) it was unsuccessful—in one case owing to the want of suitable instruments and in the other because the foreign body lay in an abscess cavity with a narrow opening Both these patients died Of the patients in whom extraction was successful only one died, and that nine months later, from purulent pleurisy of the healthy side Considerable stenosis had occurred at the place where the foreign body—a collar stud—had been lying for five months in the left principal bronchus Extensive bronchiectasis had undermined the larger part of the atelectatic lung tissue, which also had undergone extensive fibrous degeneration Two cases in which the foreign body had remained in the lung for a long time were considerably improved as far as the lung trouble was concerned All the other patients were permanently cured, the severe and acute lung symptoms disappearing rapidly Professor Killian gave the facts of some of the more specially interesting cases which showed that within a comparatively short time bronchoscopy had given a rich percentage of successes (Practical demonstrations were given by Professor Killian of his methods of bronchoscopy and œsophagoscopy)

Dr JOHN MACINTYRE (Glasgow), in his opening speech, dealt with the progress made in the examination of the upper air passages and the œsophagus by means of illuminative and radiant matter He considered that the value of the x rays had not been fully appreciated, for not only could foreign bodies be detected by means of them but the tissues also could be differentiated Dr Macintyre gave a lantern demonstration of the apparatus and the methods he used for investigating by means of the x rays cases of foreign bodies in the upper air-passages and œsophagus Photographs of a powerful magnet used for extracting foreign bodies were demonstrated on the screen A series of radiograms was also shown illustrating the positions occupied by foreign bodies

Dr J WALKER DOWNIE (Glasgow) continued the discussion and gave a lantern demonstration of a large variety of foreign bodies which he had recovered from the upper air passages

Mr W THELWALL THOMAS (Liverpool) spoke of the superiority of the metal ended probang over other probangs for sounding and of the metal ended black bristle probang for the extraction of foreign bodies in the œsophagus. The œsophageal bougie he considered to be only of service in the diagnosis of foreign bodies.

Dr R O WILD (Zürich) thought that Dr Macintyre's suggestion of using a powerful magnet in the region of the thorax for the extraction of foreign bodies might be attended with danger

PHARMACOLOGY

THURSDAY JULY 31ST

Dr RALPH STOCKMAN (Glasgow) opened a discussion on

The Therapeutic Value of Arsenic and the Justification of its Continued Use in the Light of Recent Observations concerning its Toxic Action

After Dr Stockman had eulogised the acumen of the members of the medical profession in Manchester in connexion with the late epidemic of arsenical poisoning he proceeded to point out that poisonous effects very seldom followed the exhibition of arsenic in appropriate doses of the official preparations The recent epidemic to which he had referred had demonstrated that many persons were constitutionally unable to resist the influence of poison in arsenical beer The eyes of the profession had been opened to the extreme danger to the nervous system of overdoses of arsenic. Dr Stockman showed that whilst alcohol did not cause pigmentation it might produce peripheral neuritis and that arsenical alcohol was liable to produce both those symptoms

Dr M **Pope** then spoke from the point of view of arsenic in the treatment of chorea. In his opinion the recent wholesale poisoning by arsenical beer might result in neglect of such a valuable remedy as arsenic. It had to be admitted, of course, that some cases were obviously unsuited for treatment with the drug

Professor R. B. **Wild** (Manchester) drew attention to the fact that his notes of the arsenical beer epidemic of Manchester showed that women were much less tolerant of arsenic than men. What he was astonished at was not the number of people affected by the poison but the number of people who escaped any evil consequences

Dr A. P **Luff** (London) expressed the view that the epidemic should be the means of inducing medical men to take heed in regard to any of their patients showing an intolerance of arsenic.

Dr. F W **Tunnicliffe** (London) urged that until more complete investigation had been undertaken the opinion should not be positively stated that very small doses of arsenic produced the intense symptoms that had been described

Dr. E. S **Reynolds** (Manchester) next spoke and emphasised the point that the dose of arsenic in arsenical beer was greater than had been reported. One result of the recent epidemic was that they had learnt that in analysing for arsenic a certain proportion remained in the apparatus. It had been estimated that in one gallon of beer containing arsenic the amount of the poison was from one and a half to two grains.

FRIDAY AUGUST 1ST

The **President** (Dr **Nestor Tirard** of London) dealt with the subject of

The Local and General Treatment of Diphtheria

He thought that since the introduction of antitoxin in 1890 the experience of the last 12 years had fully shown its value From 1891 to 1896 the new method of treatment appeared to establish its claim on the attention of the medical profession but from 1895 when the medical superintendents of the Metropolitan Asylums Board hospitals issued their special report and from 1898 when the Clinical Society issued a report upon the clinical value of antitoxin in diphtheria, the whole question appeared to him to be settled It was true that during these years the treatment had been continually assailed and notwithstanding the reduction in the mortality which appeared to have been undoubted many ill effects had been attributed to the use of antitoxin. It was perhaps only necessary to remind them of the greater frequency of paralytic conditions and of albuminuria and also of the production of rashes of various types all of which were laid to the credit, or rather to the discredit, of antitoxin. Many of the attacks appeared to be based upon sentimental grounds, some upon a conservative antagonism to new forms of treatment. In 1897 he ventured to write a small book on the subject of diphtheria and antitoxin in which he detailed his experiences and he thought that as an unwilling convert his experiences would receive attention Attention was certainly roused, for immediately after the publication of the book he received an anonymous letter which was so precious that he ventured to introduce it there. Has Mr Nestor Tirard noticed a paragraph in the *Cable* in which it is stated as a fact that the juice of a pineapple will cut the diphtheria membrane when nothing else will? Why not try this and discard the disgusting and cruel antixonial (*sic*) treatment? All these systems allied to vivisection are wrong Has Mr Tirard read what is written in the Bible about doing evil that good may come? It is written Their damnation is just And spiritual clairvoyants say that the fate of vivisectionists beyond for a long period is too awful. So long as such practices are tolerated the hospitals will never get sufficient money as the bulk of the populace and all right-thinking men and women are against it. From an Influential Person." This letter was of extreme interest as indicating the attitude of many earnest but prejudiced persons. Still in the interval he had thought that the numerous reports on increasing experience with antitoxin had carried conviction to the medical profession at least until the appearance of the recent correspondence relating to diphtheria and its treatment at Colchester in which the use of antitoxin in diphtheria was termed bowing the knee to medicinal Baal." The whole question therefore, appeared to be re-opened and ripe for discussion. He did not propose to weary them with statistical proofs Those were to be found in the reports before mentioned and would prove interesting reading The points he wished to raise were briefly these (1) whether any remedy or remedies gave the same sense of security and of hope that were derived from the use of antitoxin (2) whether the ill effects attributed to antitoxin were not rather sequelæ of the disease, their greater frequency being due to the fact that since the use of antitoxin so many more patients lived to experience such sequelæ (3) whether the disease even in its milder form could be safely treated by any local or general measures and (4) whether after the use of antitoxin greater security was obtained in laryngeal cases by the use of intubation or by the performance of tracheotomy Incidentally he would wish to draw attention to the very different rates of mortality which occurred with nasal and post-nasal cases as compared with pharyngeal cases and he would also like to draw attention to the diminished frequency of laryngeal diphtheria since the employment of antitoxin. During many years in the wards of a children's hospital in London he had seen many so called specifics tried. Most of these were of the nature of antiseptics. Of the local measures he might perhaps mention lactic acid boric acid, perchloride of mercury biniodide of mercury sulphurous acid and paraffin. Some of these were directly applied to the membrane on a swab of cotton wool. Others were used in the form of spray It had further to be noted that sometimes the membrane was carefully detached before the application of the remedy although that method of treatment was speedily discarded, as the membrane almost invariably spread more rapidly owing to the production of a raw surface. For all of those remedies good results were claimed in individual cases, and although many proved rebellious to *any of these forms of treatment the mental attitude of* dealing with diphtheria was as follows If the case was seen early and the membrane was confined to the soft palate and fauces and did not spread rapidly they became somewhat sanguine. On the other hand if laryngeal dyspnœa arose as evidenced by increased rapidity of breathing and marked retraction of the costal margins, they might be obliged to perform tracheotomy and in many epidemics this operation merely seemed to render death less painful It must be admitted that from time to time long lists of consecutive cases in which tracheotomy had been performed successfully were produced by the medical officers but these brilliant results could not always be counted upon and were indeed sometimes viewed with some suspicion. Since the introduction of antitoxin they had been far more hopeful. When the case was seen sufficiently early and the remedy immediately applied the frequency of laryngeal diphtheria was much diminished although unhappily in poor districts children were often brought to the hospital when the aspect of the case was extremely grave. Still, although in a general hospital the selection of cases was distinctly against them—since all who were well enough to undertake the journey without danger were sent to the nearest fever hospital—yet their results continued to afford satisfaction and as he had commenced by saying he thought that one of the chief points to be considered was the relative advantage of intubation and of tracheotomy That question according to his observation appeared to be determined largely by the manual dexterity of the medical officers. Some appeared to find a difficulty in inserting the intubation tube. They scarcely seemed to realise the alteration in the direction of the tube which resulted from any slight change in the position of the hand of the operator and accordingly with some he had no doubt that the child was in a condition of greater safety if operated upon by the method which was easiest to the operator On the other hand, he must express his personal preference for the use of intubation rather than of tracheotomy They had all probably noted the rapidity with which the membrane in diphtheria liquefied and disappeared after the use of antitoxin. They were frequently able to remove the intubation tube within 24 or 48 hours of its first introduction. On the other hand when tracheotomy had been performed it was often difficult to remove the tube as early since in many instances the child felt a nervous dread of the removal of the tube and ceased to breathe Sometimes however that arrested respiration was undoubtedly due to changes in the positions of the cords or due to agglutination of their margins. He had witnessed several cases in which after tracheotomy in diphtheria the child had been doomed to employ a tracheotomy tube for some years, and his impression was that possibly in some of those cases the trouble was due to keeping the tube in too long and that it would *not* have arisen had intubation been performed

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INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION

WEDNESDAY, JULY 30TH

Dr S KING ALCOCK (Burslem) read a paper opening a discussion on

The Value of Systematic Examination of Workers in Dangerous Trades

He said that it might be assumed that the official aim in instituting these examinations was (1) elimination of the unfit, (2) early recognition of dangerous symptoms and consequent diminution in the amount and character of trade diseases, (3) improvements in the treatment of lesions in certain trades (e.g, bi chromate), and (4) accumulation of statistics In actual practice the following results were being secured (1) gradual elimination of the unfit (whether from inherent debility or from illness produced by occupation), (2) better standard of hygiene, consequent on repeated warnings, &c., and (3) accumulation of valuable statistics concerning the original and acquired characteristics of workers—e g, age limit, relation between pregnancies and miscarriages, order of development of symptoms of poisoning, &c There were limitations in the amount of accurate information obtainable. The ordinary medical inquiry into the state of a patient comprehended a pertinent questioning and an unimpeded physical investigation, but the industrial examination was *sui generis* and had little in common with the conditions obtaining in private or hospital practice, it compared more closely with the examination of a candidate for life assurance, as in both cases the truth might only be elicited with difficulty and with little voluntary co-operation from the examinee. Consequently there was a limit of accuracy as the verdict depended on the report received from the worker (who often suppressed inconvenient truths) added to facts brought out by the incomplete physical examination. A well lighted room affording privacy for each examination was essential. Notes put in a factory register necessarily could not be full, many details could not possibly be inserted. Therefore it was wise to keep a private note book. The general type, facies, pallor, speech, tongue, tremor in outstretched hand, grasp, and resistance to forcible flexion of wrist, should be noticed If strabismus was present it should be noted whether it was of old standing or recent, and if ocular troubles seemed imminent optic neuritis should be examined for In deciding on suspension or rejection the personal element in judgment was necessarily involved, and a plan that he had found very satisfactory in practice was to classify the cases according to the degree of severity Slight colic, pure and simple, of short duration, female anæmia in adolescence, aggravated by employment Moderate colic with anæmia, advanced anæmia, apparently uncomplicated, slight muscular paresis Severe advanced paralysis, encephalopathies In estimating possible causes, after reviewing them as producible apart from industrial poisoning it was well to remember the value of associated symptoms, each of which taken separately had little pathogenic significance It was well to suspend or to reject young persons of either sex for slight reasons, but to act more cautiously in the case of the bread winner of a family Warnings instead of actual suspension were often useful and persistent threats and an inquisitorial style of examination were often effective. The periodical examinations were just as necessary now, notwithstanding the general regulations governing work in factories, because no restrictions could keep the careless worker free from danger Cases of poisoning of a slight and doubtful type were always in evidence, while the reports of independent practitioners had shown that there were still sections of employment as yet unscheduled which should be included as dangerous, so that their addition to the schedule must follow

Mr B M BOND (Poole) contributed a paper which was read by the Secretary In it Mr. Bond stated that in his district the examination of women and young persons who worked in dangerous trades had been carried out every month for nearly four years The chief value of the examination, in his opinion, lay in the power possessed by the surgeon to suspend or to discharge female workers injuriously affected by their work. The only toxic substance with which he had to deal was lead and his workers were majolica painters and colour dusters The two states of the worker obviously most in need of supervision were pregnancy and anæmia. He believed anæmia to be the most dangerous factor in female workers He thought that colic and gastro intestinal troubles generally were the prerogatives of the house painter for the most part Starting with a diminished number of red blood cells, and corresponding enfeeblement of oxygenation, the influence of the lead on the blood-cells actually present was entirely pernicious, the blood became more watery, the red cells were reduced below their (already) low standard, and the end came with startling suddenness It was a matter of great difficulty in localities where anæmia was prevalent to distinguish anæmia *a loco* from anæmia *a plumbo* Certain individuals were highly susceptible to the influence of lead, and in some cases this influence was not demonstrated by any obvious sign or "signal symptom," until they suddenly became unconscious and died. The lead line on the gums was often conspicuous by its absence To suspend a girl from her work because she was anæmic might be unfair to one who had always been anæmic, and the gradual increase of pallor, without the blue line, headache, colic, or peripheral neuritis, was extremely difficult to gauge The cases of girls with fresh complexions who became sallow, heavy, and cachectic at their work were clear, but the fatal cases that had occurred in his experience had been of a nature that nothing short of a periodic blood count could have foreseen. The pathology of plumbism was still undetermined He had for some time held the opinion that in the great majority of cases lead entered by the digestive system and was in most cases inhaled by the mouth and absorbed by the oral and pharyngeal mucous membranes, in addition to being swallowed dissolved in saliva. The action of the lead after its entrance into the system was also a matter of great difference of opinion. It was difficult to exclude the blood in any case, as the lead must be carried to an organ before the latter could be injuriously affected. He thought that in all cases of lead-poisoning the blood was primarily affected and that in cases of saturnine encephalopathy it was the only part affected. With regard to prophylaxis much might, of course, be done The daily ingestion of sulphur—in dose proportionate to the work—could be strongly impressed on the minds of the workers. The worker in lead must be surveyed as an individual and idiosyncrasies must be carefully studied and allowed for—the "personal equation" was of vital moment. The soil on which she lived, the climate in which she dwelt, must be taken into account. The swing of the pendulum in its monthly excursions must be carefully estimated and corrected. The *nuances* of energy and vitality, of buoyant vigour and alertness, must be weighed or compared, the increase of pallor or the reverse must be clearly stamped on the observer's mind, in short, the whole aspect of the worker must be closely scrutinised

Mr W H. VICKERY (Newcastle on Tyne) thought that every worker in lead absorbed a certain amount, and it was the duty of the inspecting surgeon to try to determine at what point this absorption passed the boundary line of safety The main signs which the text books laid stress on were the blue line on the gums and the appearance of muscular weakness in the extensor muscles of the hand and wrist, but it was difficult to appraise either of these at their correct value. The blue line varied in the rapidity of its onset and on its intensity according to the condition of the mouth and teeth. A worker with a number of carious teeth and who never used a tooth-brush rapidly acquired it, while one suffering from severe lead colic who had a complete set of false teeth showed no blue line at all The presence of muscular weakness was always difficult to determine. Some men naturally had greater power of wrist extension than others and in the usual method of examination could extend their wrists well, even some time after the trouble had started, and since some of the inspectors had been in the habit of trying the power of extension in the men the men had taken some trouble to develop their extensors to prevent being suspended from this cause. The most trustworthy sign, generally speaking, was progressive anæmia. It was a safer guide than any other sign, because the worker had no way of counteracting it

Dr W A. ATKINSON (Camberwell) remarked that his experience in the systematic medical examination of workers employed in the enamelling of metal plates, where lead was one of the chief ingredients of the enamelling powder dated from July 1897 since which period he had visited an enamelling firm in the factory district of Camberwell once a month and had carefully examined the men employed there. He considered that the periodical examination of lead workers was undoubtedly a safeguard against plumbism because it gave an opportunity of detecting some of the earlier symptoms such as anorexia and constipation, and such cases, if taken away from the influence of lead and placed under appropriate medical treatment seldom developed the more marked symptoms of lead poisoning

Dr J HOLMES (Radcliffe) said that at the tile works from which his experience was drawn and which extended over seven years good results had followed systematic examination In his opinion the blue line was misleading for it depended in a large measure on the presence or absence of tartar on the teeth.

Dr T F YOUNG (Liverpool) said in reference to phosphorus poisoning that anæmia was a pronounced symptom and he was quite convinced that in trades involving the use of lead or phosphorus constant supervision and examination were very necessary

Dr THOMAS OLIVER (Newcastle-on-Tyne) in his paper stated that no doubt existed in his mind as to the benefits that accrued from a systematic medical examination of workers engaged in dangerous trades, and by that he meant an examination repeated at regular intervals. Although often extremely easy it was nevertheless sometimes very difficult, especially in the early stages to detect the signs and symptoms of lead poisoning However valuable as a confirmative sign of plumbism the presence of a blue line on the gums might be this must not be regarded as a proof that at the time of its detection the worker was suffering from lead poisoning One of the earliest *signs or symptoms of plumbism was slight alteration* in the complexion of the worker with complaint of a metallic taste in the mouth and diminished zest for food. As a rule there was something in the general aspect of the worker that informed the medical examiner of a man or woman becoming slowly poisoned. The ability to recognise this change was personal to the examiner himself It was the man or woman who was being poisoned that should be considered by the medical man and not simply signs of lead poisoning looked for Lead often acted so slowly and insidiously that its effects were only very gradually produced. In many instances it was but a very small line that divided the ordinary workaday health of the white lead worker from the fully-developed plumbism of the hospital in patient. One or two days additional employment in the factory and a female worker who was just on the verge of breaking down at the time of inspection was without further warning precipitated into the worst form of plumbism—viz. lead encephalopathy—in which she died or recovered but with her eyesight lost. There was a form of plumbism that developed with a suddenness almost akin to an explosion, and yet in such a case if careful inquiry had been previously made there might have been detected some premonitory symptoms Such cases appeared every now and then in works notwithstanding systematic medical examination and their occurrence must not be used as an argument against the necessity of the examination but as a reason for the exercise of greater care and discrimination. In females working in lead processes the development of hysteria without any of the ordinary assignable causes would probably point to lead intoxication and in pregnant lead workers the recurrence of abortion or repeated miscarriage of a dead fœtus, while the mother herself remained healthy would indicate the probability of saturnine poisoning Systematic medical examination of the workers was also beneficial to the employers By saving the breaking-down in health of large numbers of the workpeople a particular trade lost the bad name it had made for itself with the public and employés were more easily obtained. Employers objected to the examination on account of temporary dislocation of the work and of the expense, but so far as expense was concerned that should be one a tax upon the finished product. Apart from the irksomeness and their dislike of the examination as an examination what the workpeople objected to was the compulsory suspension from work with the loss of wages which this entailed. At present there were signs in one industry of how that might be overcome The Staffordshire potters had recently agreed to compensate workers in lead processes who were laid aside through plumbism. They had undertaken to provide gratuitous compensation after the third week of suspension the amount to be one-half of the wages on an average of the 13 weeks previously and to continue this during incapacity from work for a year on the testimony of a medical certificate also where death occurred within six months of suspension a year's wages would be paid to the dependents In order that any working potter should receive those benefits he must submit to the monthly medical examination and have been in a works or working in lead processes for 13 weeks before becoming ill. Workers could be protected by (1) improved ventilation of factories and removal of dust—the removal of dust was most important for it was generally admitted that the dangers of lead poisoning were greatest when the metal entered the system by respiration, (2) wearing of respirators (3) alternation of employment (4) good food, (5) systematic medical examination—the moral effect of which was to make the workpeople more careful than they otherwise would be and (6) suspension and medicinal treatment.

Dr A. SCOTT (Glasgow) thought that no person, old or young should be employed in a dangerous trade without a medical certificate of fitness and that in addition to the usual monthly examination at the factory the certifying surgeon should have the power if necessary of visiting and examining absentees at their homes, while in industries in which there was danger of poisoning from lead mercury arsenic, phosphorus, or anthrax every case of illness however trifling should be reported to the certifying surgeon in order that the disease might be early diagnosed and treated with greater hope of success

Mr COLL. CAMPBELL (Saddleworth) said that the blue line if present was an admirable aid to diagnosis but it might not be present in a large number of cases.

Dr T M. LEGGE (London) said he agreed with the suggestion that all cases of illness that were found in factories should be followed up in their homes

Mr J KEAY also joined in the discussion.

The PRESIDENT of the Section (Dr WHITELEGGE, C.B.) said that the results obtained from statistics and the information gained that morning could not but lead them to the conclusion that success so marked in the past ought to be extended to a wider field.

Mr W F DEARDEN (Manchester) *after alluding generally* to the poisonous effects produced by substances derived from coal tar on the health of those engaged in their manufacture and application stated that although extensive investigations had been made in this respect in connexion with their manufacture and their employment in the production of explosives, little attention had hitherto been given to their effect on the workers in dye works and print works He himself had observed among dyers of fast aniline blacks similar ill effects to those described in connexion with the other processes alluded to. In 1863 Lightfoot of Accrington patented a process of producing aniline black Although this colour had been known for so long a period the high price of aniline and the difficulties encountered in obtaining a good and reliable shade without affecting the goods had up to about 12 years ago been adverse to its extensive application. These drawbacks had now been removed with the result that the production of aniline black had become one of the commonest operations in dye and print works Though each firm had its own particular process the principle involved in all of them was the same—viz a rapid oxidation of the aniline in presence of the fibre In making the dyeing solution some dyers used aniline salt and others aniline oil The latter being volatile got into the surrounding atmosphere by the heat evolved when it was being mixed with the hydrochloric acid and could thus exert ill effects through inhalation. Poisonous effects might also result from the oil or a solution of the salt *coming into contact* with and being absorbed by the skin This frequently took place through the practice of running the cloth through the hands when saturated with the dyeing solution. In the ageing process which followed the saturation of the cloth with the dyeing solution the material was subjected to a high temperature so that in case of bad ventilation or of workpeople entering the ageing chamber cases of poisoning were likely to occur It also sometimes happened that the aniline oil contained *nitro-benzol as an impurity and it* should be borne in mind that this substance was very similar to aniline in its toxic effects The symptoms exhibited among the class of workers referred to were sickness loss of appetite, weariness pale countenance ulcers of the lips and finger nails, and, in extreme cases, unconsciousness People were, however, not all affected alike, some being quite resistant to ill effects whilst others rapidly succumbed. Full credit was due to the dyeing trade for improvements that had already been carried out with a view to obviate ill effects, but the fact of a well-known poison being extensively used in an ordinary trade process, with known injurious results in the absence of proper precautions, showed the desirability of establishing some supervision Among the precautions that he advocated were the use of aniline salt in place of oil, or if oil be used the provision of a suitable hood or other contrivance over the mixing vessel to carry off the noxious fumes , the boxing off of the drying cylinders , the provision of the suitable respirators for anyone entering the ager , the adoption of means to prevent the workpeople handling the cloth when saturated with the dyeing solution , and plenty of air space and efficient ventilation

ETHICS

THURSDAY, JULY 31ST

Mr O S LOCH, secretary of the Charitable Organisation Society, opened a discussion on

Hospital Reform

by reading a paper on the Better Organisation of Medical Relief He commenced by quoting what the late Mr Sampson Gamgee of Birmingham had said on hospital abuse some 20 years ago, showing how these remarks still applied in the present day Mr Gamgee had maintained that the bad out-patient department work "lowers medicine in practice to the mere act of administering physic in all cases, to the neglect of full inquiry into the cause of disease, and of well considered advice for restoration to health in conformity with the laws of nature " The number of out patients attending the 92 London hospitals had increased from 1,082,259 in 1887 to 1,448,026 in 1897, and to 1,584,987 in 1900 The number of in patients had likewise increased, but there had been no augmentation in the number of medical attendants, the hospital staffs being approximately the same. This was as bad for the patients as for the profession. In 1899 inquiry had been made General practitioners in different parts of London were questioned One of them who had attended at the out-patient department of a London hospital for two years thought that the majority of patients would recover more quickly if attended in their own homes, adding that "cases of bronchitis and whooping-cough, which form no small proportion of the out-patient cases at a children's hospital, are made worse by being brought to the hospital " Then there were many instances where, after long attendance as an out-patient at a hospital, the patient consulted a private practitioner and then better results were obtained. The fact was that proper care could not be given at the hospitals because the out-patients came no one knew where from changed from hospital to hospital, disappeared, and there was no means of ascertaining what had caused their diseases or what was the effect of the treatment given The hospital was isolated , it received patients from the outer world but was not in touch with the outer world What effort was made to link hospital treatment with the necessary sanitary changes in the patient's home ? The cause of the disease thus often remained unremoved. The outdoor hospital treatment served as mere patchwork for the continuation of existing evils There was not a "scientific method planned deliberately and definitely for the real cure of the patients " In London, certainly, the Hospital Sunday Fund insisted that an inquiry officer or almoner should be appointed, but little or nothing really effective had been done At most, inquiries had related to some wage standard, but many other facts should be ascertained before it was possible to judge whether a patient was a fit subject for charity If the wage limit was high then many persons would be admitted who could pay , if low, it would be constantly set aside. To show the amount of abuse that existed it would be noted that when the outdoor patients' department was temporarily closed there was a great increase in paying private patients Three hospitals had attempted to make systematic inquiries, but their patients were too scattered and the inquiry should be uniform for all hospitals The first thing necessary was for the medical men themselves to agree who should be admitted To carry out any rule trained almoners were necessary, and such training necessitated one or two years' apprenticeship The almoner should be abl see that the home conditions were in keeping with the requ ments of the treatment and should be well acquainted with Poor-law and with the charities that might help to prov such conditions Where inquiries on these lines had b made Mr Loch found that out of 1920 patients interviewe the course of three months 82 had been referred to provid dispensaries, 104 to friendly societies, 18 to the Poor-law were sent away as being able to pay, and 44 were referre the Charity Organisation Society, and 47 to other agenc thus effecting a reduction of 344 patients. In another the reduction amounted to 397 out of 1443 patients, 27 per cent of the applicants. Such elaborate inquiries w more fair to the poor than a mere arbitrary wage-limit. course, this ran counter to the system of appealing for s scriptions by reason of the number of the cases treat If anything, the number of cures effected, the quality not the quantity, should be the basis of such appeals. to bring about such reforms a central controlling board needed

Dr D E ANDERSON (Paris) then read a paper on Refo in Hospital Management, in which he argued that committees of management had proved a failure and pla the medical staff in a false position The selection of sen officers should be made as in France. Patients should be employed to do menial work in the wards and treated inferior beings They should be allowed to make complai to some impartial authority Many hospitals were in pr tice managed by one single person who was always a layma Those members of the medical staff who failed to curry fav with this individual were soon compelled to resign. T could only be remedied by securing the appointment medical men on the committees of management. T speaker knew of hospitals where medical men were in t majority on the board of management and there no co plaint had arisen In France the directors of hospitals we appointed by the Government and the staff by order of me and after special and lengthy studies and examinatio The pharmacy department was also better managed

Mr E H T NASH (Accrington) read a paper on Hospi Competition and said that the greatest evils arose in lar centres and more particularly in regard to hospitals f special diseases There was much abuse in Lancashi and a wage limit by itself would not suffice to remedy th evil , He related several cases of abuse occurring in his ow practice and complained that at the Manchester Infirma instead of giving a second opinion they kept the patient Therefore, practitioners did not like to send difficult cases the infirmary to obtain a second opinion for fear of losi them altogether

The discussion was now thrown open and Mr J WHITAKER (Great Yarmouth) moved —

> That the Ethical Section desires cordially to thank Mr O S Loc for his attendance and for the valuable information he has imparte on this subject of hospital reform, and the section would ask th Council to take into careful consideration the important suggestio of Mr Loch that a standing joint committee of representative medica men and laymen shall be formed to collect facts already ascertaine investigate proposals for amendment and, in conjunction with th Charity Organisation Society and the British Medical Association tak such further steps as may seem desirable to elucidate the subject an bring about reform

Mr Whitaker explained that he had not included in th motion the names of the readers of the other paper because they were members of the Association and member were naturally bound to work for each other No such obligation rested on Mr Loch and he thought it a goo omen that the debate should have been opened by the abl secretary of the Charity Organisation Society Past effort had failed for want of organisation Such movements a had been attempted were only sectional. The grievance were old and well known to many among them, but they must hammer away and not fear repetition till the end was achieved With the new constitution of the British Medical Association the machinery for action had now been provided.

Dr J DULBERG (Manchester) formally seconded the motion. He confirmed the statement that at the Manchester Infirmary patients were invited to come in and be treated when they were sent by their private medical attendant for a second opinion. Such conduct was opposed to the *esprit de corps* that should prevail throughout the profession.

Mr H. NELSON HARDY (London) protested that a good deal had been attempted in the past, though it was necessary to admit that the results were not encouraging The British Medical Association had appointed a sub committee on medical charities which met in London during the month of June this year and drafted a scheme for the management of out-patient departments of hospitals. It had made 12 recommendations First, notices should be posted to the effect that none but the poor would be admitted. Then an officer should be appointed to question applicants to register their answers, and occasionally to call at their homes to verify these statements. The age, sex occupation, and pecuniary position of each patient should be fully recorded. A wage limit based on local and general conditions should be enforced except in cases of urgency A qualified practitioner should see that no infectious cases were admitted into the waiting rooms. No medical officer should attend more than a fixed number of fresh cases each day and the limit shall be such as to insure a reasonable average space of time being devoted to each patient." When the applicants exceed in number this limit preference should be given to those who were seriously ill and then to those who bring letters of recommendation from doctors or governors" Suitable arrangements should be made for practitioners to consult with members of hospital staffs when they certified that their patients could not pay a consultant's fee. If the medical attendant could not attend personally he should give his patient a sealed statement of the case. Patients should be admitted to the consultation in the order of their arrival. All gratuities to porters, &c., should be strictly prohibited. No charge, however small should be made to out-patients. The out-patient department should coöperate with other institutions for the relief of the poor with medical men, clergy, and others working among the poor Mr Hardy, after enumerating the above recommendations, stated that they had been accepted by six hospitals and were partially applied in other hospitals. They had now facts enough in regard to existing grievances and only needed a definite plan of action.

Dr W MUIR SMITH (Eastbourne) explained that at the Eastbourne hospital the medical officers alone decided whether the applicants should be admitted. Every patient must have a written sanction from his usual private medical attendant.

Dr F E. WYNNE (*Leigh Lancs*) *explained* that in his town there were 40 000 inhabitants mostly colliers, and though many accidents occurred they possessed no hospital When necessary the patients had to be conveyed to the Wigan or Manchester hospitals. Two years ago a movement in view of building a local hospital was started. The local practitioners approved but objected to the creation of an outdoor patients department. He explained how throughout the medical men had been treated with but scant courtesy The outdoor patients' department, they were told was necessary otherwise the workmen and colliers would not subscribe. If the local medical men objected house surgeons could easily be imported and encouraged to set up a practice in the neighbourhood. The public, he thought, had assumed a hostile attitude towards the profession. The recent efforts to organise the profession had engendered a belief that the public were about to lose what they conceived to be their vested right in gratuitous medical service. He was anxious to know what could be done to prevent the establishment of outdoor patients departments.

Mr R. H KINSEY (Bedford) thought that the indoor department was fed from the outdoor department. Though abuses arose out of the ticket system, yet without tickets they could not get subscriptions. But when a governor gave a ticket injudiciously the hospital managers should write to him and expostulate. Good results also had ensued when members of the managing committee occasionally visited the waiting rooms and questioned the applicants. Much of the abuse was due to the medical men themselves. The hospitals competed against each other and tried to show the longest list of applicants.

Dr MAJOR GREENWOOD (London) protested against the acceptance of any sort of payment as it destroyed the charitable aspect of hospitals. Many better-class people went to the hospitals and thought that they had fully met the case by putting silver in the box" He had never found any difficulty in obtaining a second opinion from the staffs of the London hospitals

Dr ALFRED COX (Gateshead) insisted on the growing danger due to the fact that workmen now subscribed such large sums for the maintenance of hospitals that they thought they were paying for the services they received and also expected to govern the hospitals. This would lead to the State or municipal ownership of the hospitals. When so many paid for their maintenance they would inevitably come under public control. The question rested on the trend of economic development, and this went to make the workmen masters of the hospitals. But if the profession could be *organised as the workmen were organised the general* practitioner would also reduce his hours of labour He would then be able to do better work and would get more support than at present from the general public.

Mr J T. J MORRISON (Birmingham) urged that it was necessary to act on economic lines and on the lines of medical science. The first affected their charitable subscribers, for their money was being misapplied. Also, a large number of patients would do better if they paid a private practitioner They would save time lost in waiting and the risk to health due to the unhealthy conditions of the out-patients waiting rooms. He thought that the economic base should be argued more in the interests of the subscribers and of the patients than in the interests of the profession. The science aspects of the question were obvious though lay committees were apt to consider the quantity of patients treated rather than the quality of the treatment In regard to the Hospital Saturday movement he thought that Mr Sampson Gamgee had left the town of Birmingham a terrible legacy He had inaugurated this movement and last year the Birmingham workmen had collected £18 000 Of this sum they had made a free gift of £10,000 to the hospitals and the workmen claimed, and honestly believed that the hospitals and the hospital staff belonged to them. Men earning £2 and £3 a week thought they had a right to be treated in what they considered to be their own hospitals If any protest was made concerning a case of abuse the committee for the sake of peace soon let the matter drop

Mr LOCH was now invited to reply and after expressing his thanks for the reception which had been accorded to his paper he urged that special stress should be laid on the fact that the cure and not the quantity of patients was the main issue. The rule in regard to professional secrecy made it difficult to collect facts that could be put in as evidence. It was as necessary to be scientific in administrative as in professional work and therefore trained experts were needed to apply the principles of reform

The motion as given above was then put and carried unanimously

Mr NASH further moved that—

> When a new out patient department is opened it is essential that, with regard to it, conditions of management should be adopted which recommend themselves to the medical practitioners of the district

This was *seconded by Dr* LOVELL DRAGE (Hatfield) and carried with but a few words of explanation the object being to strengthen the hands of the Leigh Medical Society in its efforts to prevent abuse of the new hospital to be built in that town.

TROPICAL DISEASES.

THURSDAY JULY 31ST

Dr ANDREW DUNCAN (London) opened a discussion on

Dysentery

He said that a discussion of dysentery might be well commenced by considering the unity of the disease. The symptoms of dysentery were pain tenesmus and the passage of blood from the bowel, but these were symptoms common to many forms of intestinal flux Bacteriology had revealed several varieties of micro-organisms Amongst these *might be mentioned Shiga* and Ogata's organism in Japan Flexner's in the Philippines a third variety described as occurring in Egypt, the bacillus coli dysenteriæ of Celli and Fiocca, and pyogenic cocci of various kinds streptococci had been found to excite dysentery in animals bacillus pyolaxeus prevailed in the United States, paramœcium coli had been observed in Cochin China, and there were numerous other micro-organisms found in connexion with forms of dysentery In regard to the question of *amœbic or so-called tropical dysentery in* India Dr Duncan was of opinion that the amœba had nothing to do with the causation of dysentery in that country, and he doubted the scientific accuracy of ascribing dysentery to the amœba in any country There was no relation really between the numbers of amœbæ found and the severity of the dysentery and further the amœba had been found in other ailments and in the normal intestine. Chronic dysentery in India was marked by its infrequency nor were cases with intermissions alternating with exacerbations common Elevation of the temperature was not a marked feature of dysentery nor was the mortality high when the treatment was commenced early in the disease. Large tropical abscesses did not bear any special relation to antecedent dysentery, but apparently multiple abscesses did. Recent Indian reports showed that "in 86 post-mortem cases of liver abscess, in 1900, 40 cases showed evidence of dysentery", and between the years 1896 and 1900 dysentery was absent in 53 per cent. Hepatic abscess was rarely connected with dysentery in the West Indies or with the asylum dysentery in England, and had scarcely been met with during the recent war in South Africa. In the treatment of dysentery there seemed to be no reason to discard ipecacuanha in acute forms, cinnamon appeared to be an excellent substitute when ipecacuanha could not be tolerated. Salines in the hands of many practitioners in India had done great good. *Monsonia ovata* had met with indifferent success Sulphur and Dover's powder in combination were most favourably reported upon by Duprez It would appear, therefore, that dysentery gave different results with regard to treatment by different drugs in different countries

Major W J BUCHANAN, I M S, Deputy Inspector of Prisons, Bengal, contributed a paper on

The Prevention and Treatment of Dysentery in Institutions in the Tropics

Although dysentery, like pneumonia, might be a disease of multiple origin, at present they could clearly point to two forms (1) the amœbic, and (2) the bacillary due to the bacillus of Shiga. The term "amœbic" was often regarded as being synonymous with "tropical," but as the amœbic form of dysentery occurred in places well outside the tropics the name was misleading The amœbic form of dysentery was markedly chronic and had a tendency to relapse, but its main features were that it was intimately associated with liver abscess, with the finding of the amœba, and by the absence of reaction with Shiga's bacillus. Amongst the 1130 cases of dysentery on which Major Buchanan based his observations not a single case of liver abscess was seen in the living or dead Dysentery, although it might be associated with a polluted water supply, would persist when the water-supply had been of excellent quality The disease was also seasonal, especially prevailing during or immediately after the rainy season and reaching its minimum in the dry hot season Good cooking and well cleaned rice, wheat, pulse, &c., had a direct bearing upon the prevalence or subsidence of dysentery The communicability of dysentery would also appear to be an important factor, for by isolation of the sick, disinfection of all bedding and clothing, and disinfection of all stools an epidemic could be arrested. As regarded treatment, (1) rest in bed, (2) milk fresh or curdled and such starchy substances as rice water, sago, arrowroot, &c, and (3) early medicinal treatment were most important. To begin with, castor oil and laudanum were useful, but sulphate of soda was to be recommended *par excellence* One drachm of sulphate of soda in cinnamon or fennel water should be given four, five, or six times daily, until bright yellow soft feculent stools were passed without a trace of blood or mucus Ipecacuanha and enemata might be useful, izal had proved useless, the sulphur treatment was not trustworthy With so simple and efficacious a remedy as the saline method there was no reason for employing any other, for in Major Buchanan's hands, of 1130 cases of dysentery thus treated but nine deaths resulted, and in the last 272 cases not a single death occurred.

Major LEONARD ROGERS, I.M.S, contributed a paper on

Tropical or Amœbic Abscess of the Liver and its Relationship to Amœbic Dysentery

Major Rogers stated that although the thick pus of a liver abscess was often free from amœbæ, yet if a scraping of the abscess wall was examined the amœbæ would be easily found and it was the only constantly found organism in "tropical" or amœbic abscess of the liver Dysentery had been proved by clinical data or by lesions seen in the large bowel post mortem to have been present in 95 83 per cent. of liver abscesses recorded by Major Rogers Patients frequently denied, the fact that they ever had dysentery and yet post mortem the bowel might be found the seat of old or recent dysenteric attacks Although the presence of a liver abscess might appear to coincide with an attack of dysentery it was possible, and in some cases proved, that there had been a previous attack of dysentery which had been forgotten. The amœbic type, as opposed to the catarrhal or bacillary type, of dysentery was associated with the large tropical abscess of the liver In regard to alcohol as a direct factor in causing abscess of the liver there was evidence both for and against, as regards malarial infection, there was no proof that it played a part in the etiology of the disease Major Rogers stated that the commonest seat of single liver abscess was underneath the diaphragm immediately above the liver and involving the liver to but a small extent. He believed that the amœba coli found its way from the gut along the peritoneal cavity to the lymphatics in the under surface of the diaphragm where "being stopped here by the suspensory ligament of the liver it might work its way into the organ at this point." The value of leucocytosis in the diagnosis of liver abscess was discussed by Major Rogers and he considered leucocytosis was most marked in comparatively small deeply seated abscesses of the liver and less in those which were already beginning to come to the surface, in fact, this change was marked in those cases where the diagnosis was most difficult and in which leucocytosis would exclude malarial fever As quinine in a solution of 1 in 5000 would kill the amœbæ, Major Rogers suggested washing out the cavity of the abscess with solutions of quinine They were also worthy of trial as injections into the cavity of a liver abscess after aspiration of the pus as a possible curative measure, especially in such cases as were found to be free from the ordinary pyogenic organisms

Dr PATRICK MANSON, C M G, F R.S (London), wished to pronounce a word of warning against accepting agglutination tests as being a thoroughly trustworthy proof of the efficacy of any particular kind of micro organism in dysentery As a diagnostic test it might be efficient, but as a means of establishing the specific agency it was open to doubt. Dr Manson's treatment for the cases of dysentery that he met with in London, which were necessarily mostly of a chronic type, was (1) rest in bed, however chronic the case, (2) rest to the intestine by non irritating food and easily digested food in small quantities, (3) occasional doses of castor oil, and (4) doses of ipecacuanha lasting over a week and administered daily The amœba seemed to be present in all cases of tropical abscess of the liver, it was not met with in Mott's "asylum dysentery" which was, moreover, amenable neither to ipecacuanha nor to salines. Still, he was not sure that the term "amœbic dysentery" was a scientifically accurate one and warned against accepting a handy name of a disease as being a correct one.

Dr W G ROCKWOOD (Ceylon) believed that dysentery was a communicable disease Ipecacuanha had failed in his hands as a means of treatment, but he had found salines efficacious along with rest in bed and rice water as food Liver abscess was found in a very small proportion of cases of dysentery amongst natives, but it frequently occurred amongst Europeans and he had seen it even in women.

Dr J H MUSSER (Philadelphia) stated that amœbic or tropical dysentery occurred beyond the tropics, as he had seen the disease in Philadelphia, and cases had been reported from Michigan He was firmly convinced of the value of the agglutination test as taught by Flexner, who, in the Philippines, in the West Indies, and in several of the States of America, had corroborated the value of the serum test

Dr EDWARD HENDERSON (late of Shanghai) said that ipecacuanha was largely, and almost solely, used in Shanghai in the "sixties," but that he believed that the majority of cases of catarrhal dysentery tended to get well and that any drug which happened to be given, such as ipecacuanha, often got the credit of bringing about a favourable issue without any justification The old classification of dysentery into "catarrhal" and "diphtheritic" seemed to hold good at the present day, the names only, and no other features of the disease, being changed Some form of bowel complaint always preceded cases of liver abscess in Shanghai.

Mr JAMES CANTLIE (London) said that if treatment by salines benefited dysentery by washing away the deleterious products developed within the intestine the speediest and surest method of purifying the bowel in obstinate cases would be by opening the colon in the right flank and applying flushings directly to the colon, as had been done in gangrenous colitis Major Rogers had described the most frequent site of amœbic abscess of the liver to be between the liver and diaphragm, this was the abscess which he (Mr Cantlie) had named supra hepatic abscess and he had drawn attention frequently to the fact that the pus was sterile and that the amœba coli appeared early on the third day in the pus flowing from the wound Mr Cantlie had failed to find either clinical or post-mortem evidence of dysentery in many cases of liver abscess and he had seen some seven or eight cases of liver abscess which had developed within a few weeks of the patient arriving for the first time in the tropics, when the possibility of dysentery as a cause was totally excluded.

Dr F M SANDWITH (Cairo) said that he regarded asylum dysentery and ulcerative colitis existing in non tropical countries as quite different from the typical dysentery of the tropics. The former disease, however probably also existed in the tropics and readily yielded to treatment. Dr Sandwith had for many years believed that dysentery was an infectious disease and should be treated with the same precautions as typhoid fever As regarded treatment, he had long ago renounced ipecacuanha and he used enemata of at least one litre containing alternately boric acid and sulphate of copper for acute dysentery with benefit.

Inspector-General TURNBULL, R.N stated that he had met with three different types of dysentery in Hong Kong—the gangrenous, the aphthous and the catarrhal. He had operated upon three cases of liver abscess there successfully and although the patients had remained at work in the tropics they had had no recurrence of the disease.

Dr M LOGAN TAYLOR, who accompanied Major Ross's expedition to Sierra Leone read a paper on

Sanitary Work in West Africa

The method of attempting to abolish malaria from Freetown, Sierra Leone was by clearing the premises around houses of anything in which the larvæ of the anopheles could exist. Where the pools were small the water was simply swept out, but larger ones were treated with culicicides—either crude kerosine or crude creasote oil. These were superior to formalin corrosive sublimate, copper sulphate, &c If half a drachm of crude creasote was added to a pint of water in which were adult larvæ and the water was stirred up the larvæ died in five minutes, pupæ were more resistant and would live for an hour or more. Oil applied once a week to a pool of water containing mosquito larvæ effectually prevented any larvæ ever reaching the adult stage.

Dr GEORGE A. WILLIAMSON (Cyprus) sent a communication entitled

Bilharzia Hæmatobia in Cyprus

Hitherto bilharzia had been described in Africa, in Mesopotamia, and in Arabia, but until the past year its presence in Cyprus was not known. Dr Williamson's communication established the fact of its presence there without doubt, as the patient in whose urine he found the ova had never been away from the island of Cyprus.

ERRATUM.—In the report of the discussion on the Differential Diagnosis of Functional and Organic Paralysis published in THE LANCET of August 9th, p. 375, under the remarks attributed to Dr David Drummond it ought to have been stated that in this gentleman's opinion certain signs (Babinski phenomenon, girdle sensation relaxed sphincters, facial paralysis in hemiplegia, loss of knee jerk &c.) were for all practical purposes pathognomonic of organic disease and that he believed that marked ankle clonus was quite consistent with functional disorder

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THE ANNUAL MUSEUM.

(*Concluded from page 396*)

IV —SURGICAL INSTRUMENTS AND APPLIANCES.

Whilst there was a very excellent assortment of modern surgical instruments presented to view this section was more interesting than usual in regard to therapeutic appliances such as those used for the production of electric rays, ultra violet rays, and heat rays. The accessories of the operating theatre were also well represented. In this section may also be included surgical lints, bandages, splints and the appliances employed in the treatment of deformities. Photo-therapeutic apparatus was well illustrated in the exhibit of the Sanitas Electrical Company of 7A Soho-square, London, W Here the Dermo lamp was shown in action and a number of models of various kinds of light baths were on view Related apparatus in going order was also exhibited by M G Gaiffe of 40 Rue St. Andre-des-Arts, Paris. A static machine with eight ebony plates of 55 centimetres diameter was employed for generating a large amount of current for the production of x rays and high frequency phenomena. Demonstrations were given of the efficiency of the apparatus which included an induction-coil giving a spark of 40 centimetres High frequency apparatus after Professor D Arsonval's design was also exhibited. Opposite to this stall the Electrical Ozone and Light Treatment, of 14 Hanover square, London W, exhibited a model of an actinic bath, an installation of which has recently been completed at Harrogate. The baths are combined with ozone generators and the electrodes employed for the administration of high potential currents are of special form Types of lupus lamps and radiant heat and light baths were shown by the Dowsing Radiant Heat Company Limited of 24, Budge-row Cannon street London E.C. Messrs. Harry W Cox, Limited of 10, 11, and 28 Cursitor street, Chancery lane, London, W C. showed some special x ray and light apparatus. Particular attention is paid to the construction of the coils to avoid a break down in the insulation. A local firm Messrs. Mottershead and Co. of 7 Exchange-street, Manchester showed also an excellent collection of electrical apparatus adapted for medical work, including constant and intermittent current batteries, transformers x ray apparatus high frequency apparatus, and electric motors for massage or for working drills or other purposes. The exhibit of the International Oxy Generator Syndicate Limited, of 21, Southampton row, London, W C proved to be of interest. It consisted of a portable oxygen generator for medical purposes A definite length of iron barrel is provided in which cakes of manganese dioxide and chlorate of potash are placed. A spirit lamp immediately under the tube serves to expel the oxygen which on its way to a collapsible gas holder is first passed through a wash bottle. The entire apparatus does not exceed 20 pounds in weight and its cost is £6, while the cakes for making the gas are from 2*s* to 3*s* 6*d* per dozen. Coming to hospital equipment the exhibit of Messrs John Weiss and Son, of 287 Oxford street London W occupied a very large space and was freely inspected by the visitors. The exhibit included a special operation table anæsthetic apparatus, complete operation cases, and a large number of surgical instruments. Close by Messrs Allen and Hanburys of Plough court, London E.C. exhibited a number of instruments and appliances. These included aseptic instruments, cabinets operation tables a nail cleaner and sterilisers for various purposes. Of similar interest was the exhibit of surgical instruments and appliances of Messrs James Woolley Sons, and Co. of Victoria Bridge, Manchester Messrs Isaac Chorlton and Co. of 17 Blackfriars street, Manchester exhibited a number of ingeniously constructed bedsteads adapted especially for hospital use. The exhibit also included a bed rest, a bed table, and an invalid spring couch. The extraordinary strength of Wood's patent wire mattress is now well known. The Longford Wire Company of Warrington exhibited models of bedsteads fitted with this mattress and also a cycle saddle made with the same wire. The Surgical Supply Association, Limited of 35 Market-street, Manchester is an association composed it is stated of a company of medical men formed on coöperative lines to supply the profession with surgical instruments and the like. The association's exhibit comprised medicine bottles, chloroform bottles, aseptic furniture bandages dissecting instruments bougies and other surgical instruments. We have already commended the petanelle preparations which have as a basis peat fibre possessing antiseptic absorbent and deodorant properties and therefore adapted for surgical dressings. Examples of petanelle clothing accouchement sheets hygienic towelings and other fabrics made with petanelle were exhibited by Messrs. Lait Burke, and Co. of 6, Wool Exchange Basinghall street, London E.C. A number of petanelle disinfectant preparations were also shown The goods of the Sanitary Wood Wool Company Limited, of 26, Thavies Inn, Holborn-circus, London E.C are also disinfectant preparations Wood wool is an efficient absorbent and is the basis of a number of useful preparations—as for example accouchement sheet surgical pads, and the like. The Liverpool Lint Company of Mark-street Mills Netherfield road, North Liverpool exhibited specimens of splint padding surgeons tow absorbent gauze tissue, and a number of special bandages The feature of the exhibit of Messrs. Pocock Brothers of 235, Southwark bridge road London S.E., was the universal invalid tabular water and air bed. The bed consists of several compartments quite independent of each other, an arrangement by which obvious advantages are gained for patient, nurse, and medical man alike Messrs. Mayer and Meltzer of 71, Great Portland street, London, W , exhibited some novel hospital furniture in which great interest was taken This included a patent portable surgical motor for mastoid surgery and a motor for general surgery, an operation table, and an aseptic cabinet, the exhibit including a number of special surgical instruments. Surgical instruments also were shown in great variety by Messrs. Down Brothers of 21, St. Thomas s street, Borough, London, S E , and a model of an aseptic operation theatre with furniture of the most recent type was very generally approved Operation tables, glass hospital ware, surgical instruments, cabinets, and ambulance apparatus were exhibited by the Medical Supply Association of 228 Gray's Inn road, London, W C The "Lawson Tait" spring bedsteads, adapted especially for hospital or invalid use, are well known and a number of appliances thus designated were shown by Messrs George Gale and Sons of Dominion Works, Birmingham. An excellent assortment of lints, dressings, and bandages were shown by Messrs Robinson and Sons, of Wheatbridge Mills, Chesterfield Mills, Chesterfield. Modern surgical instruments were also well represented at the stall of Messrs. W Wood and Son, of 42 and 44, Cross street, Manchester The Domen Belts Company, of 456, Strand, London, W C , exhibited its specialities, including abdominal belts, belt corsets, and suspensory belts Besides a number of scientific instruments, including microscopes specially designed for the use of the medical student, Messrs. Thomas Armstrong and Brother of 88 and 90, Deansgate, Manchester, showed also ophthalmoscopes, retinoscopes, and laryngoscopes. Of the patent appliances for the lame made by the O'Connor Extension Company, of 2, Bloomsbury street, London, W C , we have already expressed a favourable opinion. The exhibit included a new support for flat-foot, the "O'Connor patent extension," which compensates for shortening of the leg and enables ordinary shoes to be worn, and a patent surgical boot with a similar object. Messrs J Gardner and Son, of 32, Forrest-road, Edinburgh, exhibited a large assortment of surgical and medical appliances, many of them the suggestion of the members of the Edinburgh School of Surgery, and a number of instruments and surgical dressings were also exhibited by Messrs. Billings and Sons, of Oxford arcade, Oxford street, Manchester The exhibit of the Holborn Surgical Instrument Company, of 117, Holborn London, E C , was on a quite large scale, its catalogue comprising, it is stated, over 14,000 different instruments. The well known manufacturers of plaisters, Messrs William Mather, Limited, of Dyer street, Hulme, Manchester, exhibited their specialities, including belladonna plaisters of guaranteed alkaloidal strength, surgeons' rubber adhesive plaister, and royal balsamic plaisters identical with those supplied to the army and navy at Scutari Hospital. Lastly should be mentioned the bedsteads designed for special institutions, such as small pox and fever hospitals, made by Messrs John and Joseph Taunton of Belgrave Works, Sherbourne road, Birmingham The patent "diagonal" anti sagging spring bedstead has been supplied in great numbers to the Metropolitan Asylums Board The exhibit included an "epileptic" bedstead, a hospital cot, and a high sided bedstead used for epileptic patients or aged people

V —MINERAL WATERS, BEVERAGES, &C

Both natural and artificial waters were represented although on a somewhat small scale compared with previous years As an example of the former may be mentioned the mineral waters of Harrogate, of Leamington, and of Friedrichshall , these are too well known to need further description. The artificial mineral water exhibits afforded a pleasing contrast to the drugs and surgical appliances A tastefully arranged stall was that of Messrs Jewsbury and Brown, of Ardwick Green, Manchester The exhibit included medicated aerated waters and carbonated lime water and also koumiss. The Chemists' Aerated Mineral Waters Association, Limited of 329, Stockport-road, Manchester, also displayed a variety of aerated waters, including lithia, potash, piperazine, and lysidine. Medical visitors were invited by these exhibitors to inspect the Manchester works The Vichy waters were represented by Messrs Ingram and Royle of 26, Upper Thames street, London, E C , as were also the table water of Ober-selters and Carlsbad waters The Apollinaris Company of 4, Stratford-place, Oxford street, London, W , exhibited specimens of Apenta water drawn from the natural mineral water springs near Buda pest and containing sulphate of magnesia and sulphate of soda. Specimens of Apollinaris water and Johannis water were also shown, while the use and action of a neat rubber stopper for preserving the effervescent properties of these waters in bottle after the cork has been withdrawn was demonstrated

VI —PUBLICATIONS

Several well-known publishers now take advantage of the annual exhibition to bring recent medical publications to the notice of the visitors Amongst these were Messrs W B Saunders and Co of 9, Henrietta street, Covent Garden, London, W C (*medical hand atlases, text-books, &c.*), Messrs. Macmillan and Company of London (manuals of medicine and surgery), Messrs Rebman, Limited, of 129, Shaftesbury avenue, Cambridge circus, London, W C (medical, surgical, and hygienic publications), Messrs. J B Lippincott and Co , 5, Henrietta street, Covent Garden, London, W C (medical dictionary, manuals, &c.), Messrs. William Green and Sons, Edinburgh (Encyclopædia Medica and *other medical works*), Messrs John Wright and Co , Bristol (the Medical Annual and the Golden Rule Series in medicine and surgery), Messrs Baillière, Tindall, and Cox, 8, Henrietta street, Covent Garden, London, W C (Medical Monograph Series, Gould's Dictionary, and atlases of anatomy and physiology)

VII —MISCELLANEOUS

In this section we may give a brief account of the motor cars and other vehicles exhibited which claim some attention, since they were offered as meeting the special needs of the medical practitioner Messrs. F Wilkinson and Co of 25A, Cornbrook-road, Manchester, exhibited a model of the "steamobile" with an eight horse-power engine. The oil burner is atmospheric and may be started with a match. By an automatic contrivance the fire is completely cut off when the steam pressure is up By means of a bypass the burner is automatically lit again. The Benz Motor Car Company, of 251, Tottenham Court-road, London, W C , showed the "Doctor's Ideal Car" and the Stirling Motor Carriages Company, Limited, of Granton-Harbour, Edinburgh, showed examples of the "Stirling auto-car" specially designed for the use of medical men, and the Gardiner Serpollet steam carriages (94, Victoria street, Westminster, London, S W) were available for trial runs up and down Oxford street. Amongst coach builders showing special designs of carriages for the use of medical men were Anne Cowburn of Cheetham hill-road, Manchester , Mr John Roberts, of Stretford road Carriage Works, Manchester , Messrs Slack Bros , of 44, Oxford-street, Manchester , and Messrs. Joseph Cockshoot and Co of Newbridge street, Manchester Messrs Worsnop and Co of the Carlton Lamp Works, Halifax, exhibited a number of lamps for carriages and motor cars, including acetylene and petroleum lamps. Mr Richard Sibbitt of Riley street, Coventry, showed the "doctor's bicycle," built especially for medical men Again, the patent brougham ambulance of Messrs. Wilson and Stockall of Bury, Lancashire, is well worth attention A recumbent patient is placed in position in the brougham through a door at the back. There are doors also at the sides with opaque windows which prevent the patient from being seen from the street though he can see into the street himself The brougham is fitted with a stretcher and special rubber air-bed, an arrangement which is collapsible so that when the stretcher and frame are removed the brougham can be used in the ordinary way It is convenient to mention in this section also the non inflammable flannelette exhibited by Messrs Whipp Bros and Tod, Limited, of Manchester Demonstrations were given showing the comparative non inflammability of the fabric, whilst its softness is unimpaired. The result is obtained, we believe, by treatment with certain chemical salts We have long recognised the necessity of rendering flannelette much less easily inflammable than it is and a word of commendation is due to these manufacturers for accomplishing that end with a distinct degree of success Finally the exhibit of the Shannon, Limited, of 49, Moseley street, Manchester, should be mentioned as demonstrating a system of letter-filing, &c. calculated to be of service to the busy medical practitioner

Public Health and Poor Law

LOCAL GOVERNMENT BOARD

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD

Report on Recent Sanitary Administration in the Borough of Falmouth, by Dr G S BUCHANAN[1]—In THE LANCET of April 14th 1900 p. 1090 we commented on reports which had been presented to the Local Government Board by Dr Buchanan in connexion with an outbreak of enteric fever in Falmouth during 1899 In October 1901 he made a re-inspection of the locality and now states that the town council has shown much greater activity than it did formerly in sanitary matters. The report nevertheless clearly shows that at the time at which his last inspection was made there were present all the conditions suitable for the spread of enteric fever It would not be necessary even if it were possible, to recapitulate all the details mentioned by Dr Buchanan, and it must suffice to point out that the conditions of the drainage and of the water supply are about as unsatisfactory as it would be possible for them to be. The sewers are leaky they were not properly laid in the first place and the deficiencies have not since been generally made good Dr Buchanan says In two streets defective portions of the sewers have been renewed. Often in making new connexions of a house drain with the sewer the joint or joints of the latter which were exposed were noticed to be leaky and have been patched up. Otherwise the sewers throughout the borough which I described as generally showing leakage on account of the clay working out of the sockets of the pipes remain in the same condition as before. There can be no reasonable doubt, therefore, that the soil is saturated with sewage The borough is intermittently supplied with water by a company the water is delivered from sources open to pollution and is not efficiently filtered, the service pipes in many cases were laid in the most irregular manner with only bit joints, there were no properly made plumber s joints. This description of the service pipes was given by Mr C E Phillips M. Inst. C.E. in a report he made at the instance of the town council of Falmouth. The result of this engineer s investigation confirmed the probability of a suggestion which Dr Buchanan had previously made that the water was liable to pollution from insuction of fluid from the soil when the water is turned off and the mains are emptied It is the custom to shut off the supplies on Fridays, and the pipes are often emptied by rapidly running off the water into the harbour thereby increasing the opportunities of insuction. The town council has manifested its activity by adopting a scheme for laying an iron intercepting sewer to an outfall beyond the outer harbour but it does not propose to deal with the defective sewers which permeate the town. The new scheme has been submitted to the Local Government Board and it is found that amendments are desirable in certain important matters of detail. The intercepting sewer is undoubtedly wanted but it is perfectly clear that it alone will not make Falmouth into a sanitary town. In order to accomplish this it is necessary that all defective sewers should be made good, that the domestic fittings should be efficient, that the purity of the water supply should be ensured and that the service pipes should be sound In regard to the sewers it appears from Dr Buchanan report that most of them will have to be relaid. It is evident that the town will have to provide for the expenditure of a considerable amount of money but fortunately at present the rates do not exceed 3*s.* in the £. From the point of view of economy alone the borough authorities would be well advised to have the necessary work done well and done at once. Falmouth is naturally a place of great beauty In its present unhygienic state it will be avoided by all sensible people who are not obliged to live there.

REPORTS OF MEDICAL OFFICERS OF HEALTH

The City of London.—The night population of the City has been steadily diminishing since 1861 and at the last census it amounted only to 27 639 The birth rate was 13 7 per 1000 for the whole registration district of the City and 8 9 per 1000 in the Allhallows and 18 1 in the St. Botolph sub-registration districts. Dr W Collingridge devotes much attention in his report to the subject of tuberculosis which, in consequence of the large meat markets within the City boundary is a matter of serious moment for the corporation, more particularly so when the report for 1901 of the veterinary inspector of the City shows that of 500 cows examined after slaughter 48 8 per cent. were tuberculous. In July 1901, the corporation adopted the voluntary notification of phthisis and agreed to pay the usual fee in respect of each case notified. The corporation has followed the example set by Kensington and other boroughs and has appointed a female sanitary inspector whose duties have now been defined by regulation, approved by the Local Government Board. In connexion with the question of workshops Dr Collingridge has drawn up a diagram to show the number of bakehouses in the City which are above or below ground. Of the total (41) seven are above ground and 34 below During the hot weather of last year a special inspection was made of the sanitary conveniences at the 21 railway-stations within the City boundaries. In all these, save Bishopsgate, Broad street, and Liverpool street serious sanitary defects were discovered and remedied. We should be glad to see an inspection of this nature extended to every station in the United Kingdom. It is within our own knowledge that a large proportion of these places are in quite a disgraceful condition. With respect to the better control of ice-creams the corporation decided to support the Bill promoted by the London County Council provided that within the City the corporation should be the sole authority for carrying out the provisions of the Act This is we imagine, not quite in keeping with the scheme which the County Council have in view The attitude of the corporation towards the County Council s milk clauses is very similar—i e. they approve the clauses provided the City has concurrent powers with the County Council in the administration of such clauses. With regard to the condemnation of unsound food it is stated that during 1898-1900 no fewer than 31 327 tins of condensed milk 13 180 tins of fruit and 22,554 miscellaneous tins were destroyed and that during 1891 265 cartloads of unsound food were similarly dealt with a trade refuse. No less than 415,510 tons of meat were delivered at the corporation markets during 1901 and of this amount 0 306 per cent. was condemned. An instructive chart relating to the supply and seizure of meat from 1877 to the present time is contained in the report before us, and there is a second chart showing the origin of meat delivered at the central markets Smithfield from 1898 to 1901 A somewhat remarkable seizure of the carcasses of 30 tuberculous pigs took place during the year All these pigs had tuberculosis of the thyroid glands and some other glands were similarly involved These pigs were part of a consignment of 74 which were purchased in the Ipswich market, and the detection of the malady reflects great credit upon Mr Downs the inspector who effected the seizure. We are quite in accord with Dr Collingridge when he suggests that certain of the funds available for technical education might be usefully applied towards the spread of knowledge as to the characteristics of sound and unsound food We fear that a large number of officers who act as meat inspectors are not sufficiently educated on this subject to allow of their doing justice either to the public or to the butchers

St Marylebone Borough.—Mr A. Wynter Blyth has opposed to those provisions of the County Council (General Powers) Bill which enable the officers of the London County Council to *inspect dairies either* within or without the county of London in cases where the milk is supposed to have caused the disease. Mr Blyth is evidently in favour of the power in question being granted to the borough council and he expresses regret that the London Council constantly in their policy depart from this great and essential principle of referring all detail to local authorities and evince a desire to initiate and carry out themselves the most minute detail with regard to sanitary inspection " It appears to us, however that in an aggregation of people such as constitutes the metropolis where the several sanitary areas are immediately contiguous [illegible] are desirable

Newport Borough [illegible] furnishes in his current annual [illegible] the death rate from phthisis [illegible] Such rate rose until 1871 when the downward curve commenced which has continued almost uninterruptedly up to the present. Phthisis is not yet notifiable in Newport, but the disinfection of rooms takes place after death from this disease The borough of Newport has for several years taken an active share in the control of chemical preservatives in milk, &c , and it has now set a good example by adopting as a working basis the recommendations of the recent departmental committee on food preservatives

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[1] London: Eyre and Spottiswoode. 1902. No. 178.

Cornwall County Council —This county council has not maintained the reputation for sanitary reform which it possessed in the days when Mr Sylvanus Trevail was chairman of the sanitary committee There is a notable falling off in the character of the reports and the one now before us affords but very little useful information , indeed, the report is practically devoted to the statistics of the county From these we learn that phthisis is increasing instead of, as in the country generally, decreasing It is we think, to be regretted that the county council does not appoint a properly qualified medical officer of health who would use the valuable material at his disposal for a useful end.

St Helens Urban District —The infant milk dêpot in this town still carries on its useful work, but Dr F Drew Harris is disappointed at the apathy of the public in the matter The results, as far as they go, appear to be highly encouraging, as is indicated by the table given below —

Year	Number of children on books	Death rate per 1000 among children at depôt	Infantile death rate.
1899	232	103	157
1900	332	102	188
1901	282	106	175

i e , there is apparently a saving of life of 70 per 1000 among children using the milk. The income from the sale of milk during 1901–1902 was £245 16*s* 3*d* , and the expenditure £402 16*s* 3*d* There was therefore, a deficit to be paid for out of the rates of £157 But, as Dr Harris observes, the cost to the town is small in comparison to the benefits which accrue

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 6785 births and 3883 deaths were registered during the week ending August 9th The annual rate of mortality in these towns, which had been 13 9 and 14 1 per 1000 in the two preceding weeks, declined again last week to 13 6 per 1000 In London the death rate was 13 4 per 1000, while it averaged 13 7 in the 75 other large towns. The lowest death rates in these towns were 0 9 in Smethwick, 3 0 in Willesden, 5 5 in East Ham, 6 5 in Rotherham, 6 9 in Hornsey, 7 4 in Burnley, 7 6 in Bournemouth, and 7 7 in Swansea , the highest rates were 18 7 in Huddersfield, 18 9 in Gateshead, 19 0 in West Bromwich and in Tynemouth 20 2 in Liverpool and in South Shields, 20 9 in Hanley, and 23 7 in Wigan The 3883 deaths in these towns last week included 584 which were referred to the principal infectious diseases against 476, 522 and 533 in the three preceding weeks , of these 584 deaths 186 resulted from diarrhœa, 113 from whooping cough, 107 from measles, 81 from scarlet fever 49 from 'fever" (principally enteric), 42 from diphtheria, and six from small pox. No death from any of these diseases was registered last week in Willesden, East Ham, Hastings, Bournemouth, Great Yarmouth Smethwick, Warrington, Rotherham or Swansea , in the other towns they caused the highest death rates in Portmouth, Bristol, Hanley Walsall, West Bromwich, Liverpool, Bootle, Wigan, and Middlesbrough The greatest proportional mortality from measles occurred in Bristol, Stockton-on Tees, Gateshead, Cardiff, and Rhondda , from scarlet fever in Burton on Trent, West Bromwich, Birmingham Wigan and Middlesborough, from diphtheria in Tottenham , from whooping cough in Portsmouth Norwich, Hanley, Barrow in Furness, Huddersfield, Tynemouth and Cardiff , from "fever" in Ipswich , and from diarrhœa in Leyton, Walsall Stockport, Birkenhead, Liverpool, and Bootle Of the fatal cases of small pox registered last week four belonged to London, one to Leicester, and one to Liverpool, but not one to any other of the 76 large towns There were 239 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, August 9th, against numbers declining from 1515 to 305 on the 15 preceding Saturdays , 21 new cases were admitted during the week, against 48, 23, and 44 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2591, against 2377, 2486, and 2562 at the end of the three preceding weeks , 296 new cases were admitted during the week, against 333, 397, and 382 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 155, 128, and 135 in the three preceding weeks, declined again last week to 131, and were 28 below the corrected average number The causes of 63, or 1 6 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, and in 48 other smaller towns , the largest proportions of uncertified deaths were registered in Coventry, Liverpool, Wigan, and Blackburn

HEALTH OF SCOTCH TOWNS

The annual rate of mortality in the eight Scotch towns, which had been 14 7, 15 8, and 16 6 per 1000 in the three preceding weeks, declined again to 12 9 per 1000 during the week ending August 9th, and exceeded by 0 3 per 1000 the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 12 2 in Paisley and 12 6 in Leith to 15 6 in Perth and 18 9 in Greenock The 449 deaths in these towns included 16 which were referred to whooping-cough, 16 to diarrhœa, five to measles, four to "fever," three to scarlet fever, and two to diphtheria. In all, 46 deaths resulted from these principal infectious diseases last week, against 55 and 48 in the two preceding weeks. These 46 deaths were equal to an annual rate of 1 4 per 1000 which was 0 6 per 1000 below the mean rate last week from the same diseases in the 76 large English towns The fatal cases of whooping cough, which had been 15, 13, and seven in the three preceding weeks, rose again to 16 last week, and included nine in Glasgow, two in Edinburgh, two in Paisley, and two in Leith The deaths from diarrhœa, which had been 21 and 19 in the two preceding weeks, further declined last week to 16, of which nine occurred in Glasgow, two in Edinburgh, two in Dundee, and two in Aberdeen The fatal cases of measles, which had been 10 and 12 in the two preceding weeks, declined again to five last week, and included three in Edinburgh. The three deaths from scarlet fever, two of which were registered in Glasgow, corresponded with the number in the preceding week. The fatal cases of "fever," which had been one and three in the two preceding weeks, further rose last week to four , while the deaths from diphtheria declined to two last week, having numbered four in each of the two preceding weeks The deaths referred to diseases of the respiratory organs in these towns, which had been 80 and 70 in the two preceding weeks, further decreased last week to 63, but exceeded by 19 the number in the corresponding period of last year The causes of 12, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 20 2, 20 2, and 21 2 per 1000 in the three preceding weeks, declined again to 20 2 per 1000 during the week ending August 9th. During the past four weeks the death rate has averaged 20 5 per 1000, the rates during the same period being 13 8 in London and 15 5 in Edinburgh The 147 deaths of persons belonging to Dublin registered during the week under notice showed a decline of seven from the number in the preceding week, and included 30 which were referred to the principal infectious diseases, against 14, 15, and 29 in the three preceding weeks , of these 20 resulted from measles four from "fever," three from diarrhœa, and one each from scarlet fever, diphtheria, and whooping-cough These 30 deaths were equal to an annual rate of 4 1 per 1000, the death-rates last week from the same causes being 2 4 in London and 1 4 in Edinburgh The fatal cases of measles, which had risen from three to 18 in the six preceding weeks, further increased last week to 20. The deaths from "fever" which had been one and two in the two preceding weeks, further rose to four last week. The fatal cases of diarrhoea, which had been three and five in the two preceding weeks, declined again last week to three. The 147 deaths in Dublin last week included 31 of children under one year of age and 31 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. Three inquest cases and two deaths from violence were registered during the week; and 57, or more than a third of the deaths, occurred in public institutions. The causes of 10, or nearly 7 per cent. of the deaths registered in Dublin last week, were not certified.

THE SERVICES

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel H. Charlesworth, C.M.G., is appointed to succeed Lieutenant-Colonel W. G. Don, A.M.S. (retired), at the depôt of the London Recruiting District, and Lieutenant-Colonel J. Latchford (retired) is appointed medical officer in the Dublin Recruiting District. Lieutenant-Colonel H. E. R. James is ordered to London for temporary duty in connexion with the Army Medical School and Medical Staff College. Lieutenant-Colonel O. W. S. Magrath is appointed to the North Eastern District for duty.

Lieutenant-Colonel William S. Pratt to be Colonel. Captain G. O. Phipps is placed on temporary half pay on account of ill health. Dated July 6th, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Fifeshire: The undermentioned Surgeon Captains to be Surgeon Majors:—J. W. Moir and R. B. Graham. Supernumerary Surgeon Captain S. Linton to be Surgeon Major and to remain Supernumerary. 1st Kent: Surgeon Captain R. J. Bryden to be Surgeon Major. 2nd Kent: Surgeon Captain J. F. Tabb to be Surgeon Major.

Royal Engineers (Volunteers): East London (Tower Hamlets): Surgeon Captain W. A. Dingle to be Surgeon Major.

Rifle: 2nd Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon Captain C. J. Marsh to be Surgeon Major. 2nd (Berwickshire) Volunteer Battalion the King's Own Scottish Borderers: John Paxton to be Surgeon Lieutenant. 2nd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Captain J. S. Wilson to be Surgeon Major. 2nd Volunteer Battalion the Welsh Regiment: Surgeon Captain J. A. Jones to be Surgeon Major. 3rd Volunteer Battalion the Welsh Regiment: The undermentioned Surgeon-Captains to be Surgeon Majors:—C. Downing and J. T. Thompson. 1st Wiltshire: Surgeon Captain H. P. Tayler to be Surgeon Major. 2nd Volunteer Battalion the Wiltshire Regiment: Surgeon Captain H. J. Mackay to be Surgeon Major. 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders: Alexander Cruickshank to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADES.

1st Lothian: Surgeon Major A. D. Webster, the Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment), to be Brigade-Surgeon Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

MENTIONED IN DISPATCHES.

A General Order dated July 4th, 1902, publishing a report from Major General C. C. Egerton, C.B., D.S.O., on the operations undertaken against the Mahsud Waziris has been received from the Government of India, in which the following passages occur:—Colonel G. McBride Davis, M.D., C.B., D.S.O., Indian Medical Service, Principal Medical Officer, is an officer of very great practical experience and administrative ability, to whose power of organisation it is largely due that the medical arrangements have been able to cope with the situation. Lieutenant-Colonel W. A. Mawson, Indian Medical Service, Principal Medical Officer Derajat District, had charge of the medical arrangements during the passive blockade and was largely responsible for those during the active operations. Before the arrival of the field hospitals he had with scanty means to provide for the medical needs of a number of regiments which arrived with hospitals on the relief scale, and this he did in an efficient manner. He has displayed administrative ability and rendered valuable service.

The following names of officers of the Indian Medical Service are also mentioned:—Captain W. H. Cox, Major M. A. Ker, Lieutenant H. D. Pello, and Lieutenant A. B. Fry.

THE LATE WAR IN SOUTH AFRICA.

We must, of course, be content to await the publication of the complete official history before we can arrive at correct knowledge of all the facts and circumstances connected with the war and learn the sacrifices which it has entailed. We know fairly well the sum total of the deaths, but not the number of these and of the wounded as distributed over the several engagements and as appropriated to each of them respectively. According to the War Office returns issued from the beginning of the campaign in South Africa on Oct. 11th, 1899, to the end of May, 1902, the total death casualties amounted to 22,450, of which 1080 were officers and 21,370 were rank and file. Of the above the deaths from sickness were 339 officers and 12,911 non-commissioned officers and men. The wounded (excluding those who died from wounds) numbered 1668 officers and 19,143 rank and file. These numbers only cover the war period, and to them must be added the returns of sickness and death which have since appeared in the public prints up to the present time. As regards our late enemy, the Boers, we only know approximately the total strength of the forces which they brought into the field against us—namely, from 50,000 to 100,000, according to different estimates. We have no accurate knowledge of the amount of their losses in killed and wounded and by sickness.

THE TRANSPORT SCANDALS.

The alleged overcrowding scandals on board the transports *Drayton Grange* and *Britannic* are to be much lamented. They occur most inopportunely at a time when our colonies have been doing their best to aid the mother country and helping to make the Empire something more than a geographical expression. A thorough investigation will, it is understood, be undertaken at once by a joint Imperial and Colonial commission, and we consider it premature to impute any blame or indeed to express any opinion beyond one of regret until the facts are known.

IMPERIAL YEOMANRY HOSPITAL FUND.

On August 11th at Devonshire House Queen Alexandra distributed medals to the staff of the Imperial Yeomanry Hospitals from South Africa.

Captain H. E. Haymes, R.A.M.C., has received the King's permission to accept and wear the decoration of the Medjidieh of the Fourth Class conferred upon him by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of services rendered by him to His Highness while employed in the Egyptian Army.

Correspondence

"Audi alteram partem."

ON THE USE OF THE TERM "BLASTOMA."

To the Editors of THE LANCET.

SIRS,—That I find myself in the heart of the Rocky Mountains rather than, as I had hoped, in England, will explain the long delay in answering the letter by Dr. C. J. White which appeared in your issue of June 14th, p. 1723, and that of Dr. Herbert Snow which appeared in the *British Medical Journal*. An answer would seem necessary, for neither correspondent takes note of my main contention or appears to realise its importance. The question as to whether, other things being equal, the term "blastoma" would fittingly describe a particular group of tumours is purely academic and neither here nor there once it is shown that the term has already been employed with a different meaning. Unless we regard the law of priority chaos results. When continental writers and readers already understand the order of conditions to be signified by this term, imagine the confusion if English writers, following either Dr H Snow or Dr White, use it in another and very much restricted sense This is why I felt it imperative to point out that Dr White must choose another name

It is no valid argument to urge that Klebs's use of the term is to be forfeited because he included under the term conditions which we in general, or anyone in particular, no longer places among the true tumours—any more than it would be to propound that we must no longer employ the term "fish" to indicate the division Pisces, because in times past this comprehended whales, cuttle fish and may be, lobsters, which now we place elsewhere.

Failing a permanent committee—of the International Medical Congress, for example—which should decide matters of nomenclature, if our terminology is not to become a very Babel, we have to adhere as nearly as possible to the laws of nomenclature accepted by other branches of biological science. According to those laws, so far as I understand them, it is legitimate to introduce new designations for large classes and divisions of objects, but for what correspond to genera and species no names must be introduced which have already been employed in another sense even if in not so fitting a manner Thus "blastoma' is excluded from being utilised as a generic name I must disagree with Dr White, however, as to the inappropriateness of "blastoma" as a designation for true tumours For if, as he acknowledges, a leading characteristic of these true tumours is their capacity for independent growth within the organism—independent, that is, of the needs of the organism—it would be difficult to select a word which better expresses the idea of autonomous germination. Following Dr White's line of argument it is open to anyone to speak of those chondromata, gliomata, &c , which originate from embryonic cell rests—from "indifferent cells"—as blastomata, leaving it for the future to determine which meaning of the term gains acceptance—his or Dr White's or Dr Snow's or Klebs's !

One last word with reference to the deviation pointed out by Dr White in my nomenclature from that of Professor Klebs As he notes, Klebs divided the blastomata, or true tumours, into the blastomata proper and the terato blastomata or teratomata—another instance of loose nomenclature leading to confusion, for, using the same word to designate both order and class, one is never certain which is indicated save when a qualifying adjective is used. In such circumstances it is wholly lawful to select either usage of one s original authority, and, as Klebs gave the alternative names of terato blastoma and teratoma for the one class, I selected blastoma for the other I admit that I could with equal propriety have elected to employ blastoma as the name for the order and might have entitled the classes eublastoma and terato blastoma respectively This might indeed, have been better, but I believe that I acted with correctness I agree with Dr White in this, that, with him, I would remove many conditions which he includes under the "progressive hypertrophies" from the category of true tumours

I am, Sirs, yours faithfully,

Field British Columbia July 11th 1902. J GEORGE ADAMI

MOTOR BICYCLES

To the Editors of THE LANCET

SIRS,—I have ridden about 2000 miles on an "Excelsior" motor bicycle since May this year and I can strongly recommend these machines to medical officers of health of rural districts and other practitioners who have long distances to cover I have ridden my machine in all weathers and over all sorts of roads—mostly hilly As an example only a fortnight ago I started from my house, which is 240 feet above sea level and ran some 70 miles through the Peak, crossing the 1250 contour line more than once On another occasion I took a friend in a trailer over 70 miles To show how easy the machine is to manipulate I lent it one day to a medical neighbour This was at three o clock in the afternoon In five minutes he had mastered it and at six o clock he returned it, having done a round of 28 miles To appreciate the full significance of this performance I ought to add that my neighbour is a fine specimen of a man.

I find my accumulator wants recharging about every 700 miles This costs me 9*d* My petrol bill works out at about one tenth of a penny per mile The machine I have is one and a half horse power I have seven inch cranks and have the machine geared for pedalling to 60 inches The result is that if I ran short of petrol or my accumulator ran down I can remove my belt and pedal along comfortably at six miles an hour To those of your readers who are contemplating purchasing a motor bicycle let me recommend them to peruse a few numbers of that excellent paper *Motor Cycling* As a stimulant and a remedy for insomnia I can thoroughly recommend motor cycling for any except the most weakly , the rider must, however, be warmly clad. If any of your readers desire further information I shall be glad to give it if I can

I am, Sirs, yours faithfully,

SIDNEY BARWISE M D Lond., B Sc., D P H.,
County Medical Officer of Health Derbyshire
County Offices, St Mary's-gate, Derby August 11th 1902.

PERITYPHLITIS

To the Editors of THE LANCET

SIRS,—In July, 1530, Erasmus wrote to Melanchthon[1] "I have been ill these three months—suffering, sick, and miserable Medicine made me worse First I had a violent pain , then came a hard swelling down my right side to the groin, gathering at last at the pit of my stomach, as if a snake had had my navel in his teeth and was coiled round the umbilicus Shooting pangs continued so that I could neither eat nor sleep The surgeon nearly blistered me to death , at length the tumour was cut open, sleep returned, and I was relieved. Now I crawl about feebly, but am not out of the doctor's hands " Erasmus thought himself the subject of stone in the bladder , but was this not perityphlitis ? and is not this an example of an operation ? He lived for six years afterwards and seemed to have had rather better health

I am, Sirs, yours faithfully,

August 11th, 1902 O CLAYTON JONES, M.B OXON

REAPPEARANCE OF RASH AND ALL SYMPTOMS IN A CASE OF SCARLET FEVER

To the Editors of THE LANCET

SIRS,—A note in this week's issue of one of the medical papers has suggested to me that the publication of the following case may be interesting On June 6th, 1899, two brothers were attacked with scarlet fever in a house where there were already four other cases In the one to whose case these notes refer the symptoms were all well marked and in some respects severe—high temperature, loss of appetite, nausea, sore throat, enlarged glands, profuse rash, and drowsiness amounting almost to stupor His progress was of the usual kind , desquamation began about the same date as in the other five cases On June 20th all the initial symptoms, even the marked stupor, were reproduced, accompanied by a temperature of 102° F On June 21st the rash reappeared. Perhaps the most remarkable point in the recurrence was that on June 28th erythema nodosum was well marked on both legs and had probably been present in a slighter form for a few days This subsided quickly but reappeared on July 10th and increased in severity up till July 13th. The first attack of erythema was 22 days after the appearance of the first rash, or probably its commencement may be dated as a little earlier The second attack commenced 19 days and was most severe 22 days after the appearance of the second rash. Desquamation was complete on July 29th. Both brothers were discharged together and no infection was subsequently conveyed to others

I am, Sirs, yours faithfully,

C H. POWERS, L R C P Lond., M R C S Eng

Gosforth, Cumberland, August 9th 1902.

THE DUTIES OF A MEDICAL MAN AND THE LAW OF LIBEL

To the Editors of THE LANCET

SIRS,—The questions involved in the case of a married woman contracting syphilis recently referred to in your columns are of such importance that I trust I may be excused if I submit the following

1. In the interest of the wife, the late Mr Henry Lee drew attention to the fact that in a man who had acquired syphilis previous to marriage a urethral discharge or irritation about the penis, accompanied by an increased mucous discharge

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[1] Froude s Life and Letters of Erasmus p 392.

from the urethra, might appear and so infect the wife with syphilis. The husband (granted that there was no freshly acquired disease on him) believing himself cured of syphilis and that his wife could not have become infected without having exposed herself to the contact of primary disease, would have no alternative but to consider that the wife had been unfaithful The most cruel injustice has in this way through an erroneous pathology been inflicted." In the interest however of the husband he goes on to state that it sometimes, although more rarely happens that the husband is the party who suffers from these mistakes. I have been engaged in more than one trial where the wife or her friends have sought to obtain a divorce on the ground of the husband having contracted disease after his marriage and communicated it to his wife , the whole class of cases to which I am now referring show that secondary affections of the existence of which the husband may have been unconscious at the time of his marriage may recur and be the means of imparting constitutional syphilitic disease This may happen before impregnation although it is much more common afterwards.[1] Pregnancy moreover in many cases determines syphilitic manifestations in a woman and in successive pregnancies recurring manifestations may simulate a first attack.

2. The law of libel in syphilis is remarkably strong In all other cases of libel injury or loss to the person libelled has to be shown but the mere fact of stating that a person has syphilis has been declared to be a libel. To quote from Dr Blake Odgers's text-book on libel it has been decided that he has the pox (*simpliciter*) shall be taken to mean he has the small pox, but if any other words be used referring to the effect of the disease or the way in which it was caught or even the medicine taken to cure it, these may be referred to as determining which pox is meant. So that the position is that though one can mention casually the fact of anyone suffering from most diseases if one says that he or she has syphilis an action for libel might be the result whether the statement is true or otherwise.

The legal opinion therefore, of those who have studied the problem, and to whom I am indebted for their kind expression of views is that publication of a wife's disease to the husband would undoubtedly be sufficient to cause an action to lie against the medical attendant at the suit of the wife. If the communication was verbal the action would be for slander if in writing the action would be for libel. In either case the truth of what the medical men had stated—if proved by him—would be a complete defence and even if there was an error in diagnosis it would probably be held to be privileged unless the plaintiff could rebut privilege," but it would not lessen the risk to the medical attendant of an action being brought and of expense. On the one hand, therefore, an action would lie which if brought would, even if the medical man was acquitted of slander or libel probably injure his professional prospects. On the other hand, probably no woman would face finding herself in the witness-box when a chief party in such a case. We have, however further the duty of the medical man in the first place to prevent the spread of the disease" balanced by the possible accusations between husband and wife and the possibility of an action for divorce or separation in which the medical man would have to give evidence, perhaps to the injury of his professional reputation. The question naturally arises whether it would be possible so to alter the law of libel that while medical men should still be liable if they improperly divulge information obtained in the course of their practice they should yet be in a position at once to instruct any patient or wife or husband or both as to the nature of the disease with a view to prevent transmission and ensure treatment without consideration of possible consequences.

I am Sirs yours faithfully
J. A. SHAW MACKENZIE.

Grosvenor-street W August 7th 1902.

CIDER AND GOUT

To the Editors of THE LANCET

SIRS,—My cyders save in very exceptional cases are never filtered the process of natural fermentation is completed without any artificial means whatever being resorted to.

I am Sirs yours faithfully
H. WHITEWAY

Whimple August 12th 1902.

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

The Infirmary Site

AT the meeting of the Manchester city council on August 6th another step was taken as to the infirmary site. Two of the streets surrounding it are narrow and already the business traffic connected with the warehouses is more than can easily be accommodated, while the tram lines which are to be taken through them to relieve the congestion of Piccadilly will add greatly to the inconvenience already existing for the passenger traffic is growing rapidly These streets will serve as a by pass and a backwater for the trams but they will have to be widened considerably The plans for rebuilding the infirmary were made apparently without regarding the evident necessity for widening George-street and Parker street, which can only be done by taking what is wanted from the infirmary area. The resolution carried at the council meeting was that the improvement and building committee be requested to lay down such building lines as they think will be adequate for the future traffic of these thoroughfares. The reduction of the infirmary area thus foreshadowed would have increased the difficulty of carrying out the rebuilding scheme The chairman of the improvement committee said it was the duty of the corporation to take very seriously into consideration what should be done with the site in Piccadilly now that the trustees had so clearly decided in favour of the Stanley-grove site. The value of the infirmary site has been variously estimated up to £400 000 The best use it could be put to would no doubt be to have it laid out as an open space, with grass shrubs and flowers in the fervent hope that with the diminution of the pall of smoke now brooding over us (supposed to be in prospect) they would grow and impart a little cheerfulness to our begrimed and dismal city The next best would be to clear away all the present buildings and occupy a portion of the area with an art gallery and free library the rest of the ground being left open and suitably planted. In this case a receiving hospital would have to be provided in a sufficiently central position It remains to be seen whether the city will act up to the value of the opportunity

The Housing Question at Eccles

The town council of Eccles is beginning to deal with the housing question At the meeting on August 6th the minutes of the insanitary area sub-committee, which had passed a resolution inviting plans for laying out the land comprised in the scheme sanctioned by the Eccles (housing of the working-classes) order 1902. were adopted Provision is to be made for the accommodation of at least 170 persons who may be displaced from their houses in the insanitary area in houses of not less than 6s weekly rental. One of the members thought provision ought to be made for those who would be displaced at rentals nearer their pockets" The order it seems requires that 340 persons should be provided for and the mover stated in answer that other provision would be made. It is clear that in some parts of this until lately almost solely residential suburb there are slums of a bad type for while in the Monton ward of the borough the infantile mortality is 94 per 1000 it is 238 per 1000 in Irwell ward This is not to be wondered at when one sees the way in which plots of ground are covered and crowded with jerry built tenements either in defiance of building by laws or in accordance with very bad ones. The rapid extension of our towns in an unsystematic, higgledy piggledy fashion is calculated to give great trouble in the future Medical officers of health are constantly engaged in remedying conditions which ought not to have been permitted to exist and it would not be an unprofitable employment of their energies if they were allowed with the aid if necessary of architect and surveyor to prepare for such extension in the way best suited to ensure good sanitary conditions

Workhouse Infirmary for Stockport

After a long period of discussion the Stockport board of guardians at their meeting on August 7th approved and adopted plans for the construction of a new workhouse infirmary at Stepping Hill. The plans were originally made for a new workhouse but that idea being given up they have been altered so as to adapt them for a new infirmary The estimated cost is £40 000 and the plans provide for 58 beds with an administration block. A deputation is to be appointed to obtain the sanction of the Local Government Board to go on with the work.

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[1] Lectures on Syphilis p. 72.

Manchester and Salford Hospital Fund

About a fortnight ago a movement was begun for the establishment of a convalescent home in connexion with the Sunday and Saturday Hospital Fund. A conference of the committee of the fund with representatives of the local medical charities took place. The proposal came from the workpeople's branch of the fund, known as the Red Cross Society It was thought that the establishment of a convalescent home would interest the people more deeply in the fund itself A scheme of this kind has been successful in Birmingham and Leeds In the former there are four such homes—one for men, two for women, and one for children—while Leeds has two Although some provision already exists here in connexion with the infirmary and other hospitals, the District Provident Society, the Cotton Districts Convalescent Fund, and other agencies, "there is ample evidence of the great need for further accommodation" It is scarcely creditable to Manchester that the statement can be made that "the workpeople in both cities are now subscribing annually several times as much as is at present obtained here," as a result apparently of the increased interest resulting from the establishment of these homes An appeal is being made to provide one home for men, with the hope that one for women may be provided later A site has been offered and some donations promised. It is said that to erect to equip, and to maintain for two years £10 000 will be required. A motion was proposed in favour of the scheme, and its supporters stated that no money would be taken from the Sunday and Saturday Fund till at least £4000 had been distributed among the medical charities The collections of the two days generally yield about £8000, and last year a sum of £7300 was distributed Naturally, therefore, objection was taken to the £4000 limit, and to secure uniformity an addition was made to the resolution that no money shall be taken for the convalescent home till at least £8000 had been given to the medical charities

August 12th

LIVERPOOL

(From our own Correspondent)

The Liverpool School of Tropical Medicine Re appointment of Major Ronald Ross

Major Ronald Ross, C B, F R.S, late I M S, who vacated the appointment that he had held in the Liverpool School of Tropical Medicine since its foundation in order to pursue another branch of scientific research work in London, has been re appointed to the post of Walter Myers lecturer to the school Steps are being taken by the school to raise an endowment for a chair of tropical medicine in the new University of Liverpool (which will shortly enter upon its corporate existence) with professional rank The lecturership was founded in memory of the late Walter Myers, who lost his life in the service of the Liverpool School of Tropical Medicine whilst on a mission to investigate yellow fever

Complimentary Banquet to the Duke of Northumberland by the Chairman of the Liverpool School of Tropical Medicine Handsome Donation to the School

The banquet given by Sir Alfred Jones, K.C M G, at the Adelphi Hotel on August 1st to the Tropical Diseases Section of the British Medical Association, to meet the Duke of Northumberland K.G, was a great success The announcement made by the host in the early part of the proceedings of the princely donation of £25 000 to the Liverpool School of Tropical Medicine by an anonymous donor was received with great applause. The speech of the Duke of Northumberland in response to the toast of his health was interesting in many ways Alluding to the amelioration of the conditions of life in the tropics, his grace said that we had arrived at a point where the warrior the diplomatist, and the colonist had done their part and it now remained for science and the medical profession to step in and to do what yet remained in that direction The bishop of the diocese (Dr Chavasse) in proposing the toast of 'Tropical Medicine' paid a flattering tribute to the unselfish work of the medical profession and said its motto appeared to be "What we know we tell and what we have we give" Interesting speeches were also made by Dr Patrick Manson, C M G, Professor Clifford Allbutt of Cambridge University, Sir William R. Kynsey, C M G, Sir William MacGregor, K C M G (Governor of Lagos), and Sir George Denton, K C M G (Governor of the Gambia), in support of encouraging in every possible manner the efforts of Major Ronald Ross and others in their efforts to extirpate malaria in tropical countries

The Mosquito Plague at Ismailia Request by the Suez Canal Company to the Liverpool School of Tropical Medicine

Sir Alfred Jones has received an important communication from Prince d'Arenberg the president of the Suez Canal Company, asking for the coöperation of the school in a concerted effort to cope with the prevalence of malaria in Ismailia. The company has made a formal request for the services of Major Ronald Ross to start operations against mosquitoes The committee of the school has at once acquiesced in the request of the Suez Canal Company and is making arrangements to enable Major Ross to proceed to Ismailia in September, when malaria is especially prevalent. Major Ross will begin by an organised campaign against malaria and will go out again later in the year to carry it through

Hospital Sunday and Saturday Funds Grants to the Charities

The total amount distributed by the committee of the above mentioned funds to the various Liverpool hospitals as a result of the year's collections was £13,600 The Royal Infirmary received £2992, the Royal Southern Hospital £2040 the David Lewis Northern Hospital £1768, the Stanley Hospital £986, the Liverpool Dispensaries, £816, the Queen Victoria District Nursing Association £816, the Infirmary for Children £816, the Eye and Ear Infirmary £544, the Hahnemann Hospital £544 the Consumption Hospital £476, the Hospital for Women £408, the Ladies' Charity and Lying in Hospital 408, St. Paul's Eye Hospital £408, the Convalescent Institution, Woolton, £340, St George's Hospital for Skin Diseases £34, &c

Proposed County Consumption Hospital by the Lancashire County Council Small pox in the County

The special committee appointed by the Lancashire county council to consider and report to the council as to the best method of appropriating the sum of £10,000 out of the county fund for the permanent celebration of the King's Coronation reports that, after a very full consideration, it unanimously recommends that the entire sum of £10,000 should be devoted towards the establishment of an institution for the treatment of cases of phthisis arising in the administrative county The public health committee of the Lancashire county council reports that during the month of June only four persons had been attacked by small pox and it was hoped that the outbreak had been successfully dealt with

Annual Meeting of the North Midland Branch of the British Dental Association.

The twenty third annual meeting of the North Midland Branch of the British Dental Association was held at Liverpool on July 24th, 25th, and 26th, under the presidency of Mr R Edwards Practical demonstrations were given by members in the Liverpool dental hospitals The President gave a reception on July 24th and the annual dinner took place at the Adelphi Hotel on the evening of July 25th July 26th was given over entirely to pleasure excursions The meeting was a most successful one

August 12th

WALES AND WESTERN COUNTIES NOTES

(From our own Correspondents.)

Cardiff Seamen's Hospital

It is nearly 40 years since H.M S *Hamadryad* was moored in proximity to the Cardiff docks and fitted up as a hospital with 40 beds for the use of the seamen who frequented the port of Cardiff, and during that period 225,000 men have been treated either as in patients or as out-patients For more than 30 years Mr William Hughes has acted as resident medical superintendent to the hospital. Four or five years ago it was felt that the usefulness of the institution would be very greatly increased by providing a building which should be constructed on the most modern principles and erected on land in the midst of the docks The late Marquis of

Bute offered to give a site for the building and £5000 provided an additional £30 000 were subscribed. Upon the death of the marquis last year it was found that he had empowered his executors to contribute any sum up to £20 000 unconditionally and the work of preparing the foundations for the building was commenced. Owing to the formation of the land this has proved both difficult and costly 131 piers having had to be constructed, and £6000 have been expended before the actual building has been begun The foundation stone of the hospital was laid on August 8th by the Marquis of Bute, who has recently attained his majority and who declared it to be his intention to take a special interest in the institution The cost of the hospital and furnishing apart from the foundations, is estimated at £24 000

Hereford Dispensary

The Hereford Dispensary was established in the year 1835 and has both a charitable and a provident department. The annual report which has recently been issued shows that in the former department 3616 patients were treated during the year In the provident department 428 households contributed in weekly pence £232, of which sum £182 were divided between the three medical officers and the balance was carried to the charity account and towards the working expenses of the institution.

The Death of Mr Joseph Reynallt James L.R.C.P. Edin M.R.C.S. Eng

The members of the medical profession in Cardiff received the news of the death of Mr J R James on August 3rd with great regret for although he had been ailing for several months it was not anticipated that his illness would have a fatal termination Mr James came to Cardiff about 25 years ago when the town was increasing in population by leaps and bounds, and has since carried on an extensive practice At one time he took an active part in the public life of the borough and was a prominent member of the town council. He leaves a widow and five children.

Exeter City Asylum

The fifteenth annual report of the Exeter City Asylum was presented at the meeting of the Exeter city council held on August 6th. It stated that 48 male and 25 female patients had been discharged cured during 1901 and that 19 male and 13 females had died during the same period On Dec. 31st 1901 there were 167 males and 205 females remaining in the institution. The maintenance rate chargeable for the Exeter patients was 11*s* 6*d* per week The committee in its report mentioned that the condition of the asylum was excellent and added an appreciative remark on the manner in which the medical superintendent performed his duties

Vaccination Expenditure

At the meeting of the Barnstaple (Devon) board of guardians held on August 1st a discussion arose over the resolution of the metropolitan boards of guardians for the reduction of the vaccination fees. The guardian took no action in the matter the chairman remarking that the conditions in the country where the public vaccinator often had to travel several miles for the purpose of vaccination were very different from those in metropolitan unions.—The Monmouth board of guardian on July 31st unanimously passed a resolution in support of the views of the metropolitan boards of guardians

August 2nd.

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland a Loyal Address

A DEPUTATION from the Royal College of Surgeons in Ireland waited on Earl Cadogan at Dublin Castle on August 12th and was introduced by the President, Mr L. H Ormsby The loyal address was as follows —

> To His Most Excellent Majesty Edward the Seventh of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas King, Defender of the Faith and Emperor of India.
>
> MAY IT PLEASE YOUR GRACIOUS MAJESTY,—We the President Vice-President and Council of the Royal College of Surgeons in Ireland beg most respectfully to offer our loyal and cordial congratulations on the auspicious occasion of the Coronation of your Majesty and of Queen Alexandra as King and Queen of Great Britain and Ireland and of the Dominions beyond the Seas. We feel proud of being the subjects of a Sovereign who has ever been foremost in all works of charity and in efforts for promoting the comfort and alleviating the suffering of humanity not only as exemplified by the lifelong interest taken in hospital extension and efficiency but also as instanced by such movements as the housing of the working classes the Tuberculosis Congress and the Cancer Commission We rejoice that the happy event of the Coronation should have an additional splendour conferred upon it by the declaration of peace in South Africa and the permanent extension of the empire We trust the time is not far distant when Your Majesties will visit this country as Ireland's King and Queen and we venture to express our confidence that in no part of the realm would there be a deeper feeling of gratitude and welcome. As a Royal College of Surgeons we have for over a century been responsible for the training and education of a large number of surgeons who have served not without distinction in Your Majesty's navy and army We beg to assure Your Majesty of our determination to maintain the loyal and dutiful relation with your Sovereign which has always characterised the Royal College of Surgeons in Ireland We rejoice that Your Majesty has recovered from your recent illness. Signed on behalf of the council,
>
> LAMBERT H ORMSBY President.
> ARTHUR CHANCE Vice-President.
> CHARLES A CAMERON Secretary

Medical Expenses in the Belfast Union Workhouse

At a meeting of the Belfast board of guardians held recently a letter was read from the Local Government Board in reference to the recent inquiry as to the alleged excessive expenditure on medicines and appliances held by its medical inspector Dr J Smyth The Board directs the guardians to convene a meeting with a view to determine whether the medicine contractors should any longer be entrusted with the contract for supplying medicines to the workhouse It advises the guardians to impress upon their medical officers that the proper discharge of their duties involve not only skilful treatment of the sick under their charge but also the due exercise of economy in requisitioning the articles required for their patients. In addition it is to be expected that medical officers shall possess ordinary administrative capacity and a sense of responsibility in seeing that articles obtained under their signature are really necessary and are applied to the purposes for which they are ordered. The want of control over the nurses and their wasteful extravagance point, the Local Government Board says to a lax state of discipline in the nursing staff which having regard to the fact that the Belfast Workhouse Infirmary has become a large and important school for training may if not checked have far reaching evil effects and the Local Government Board requests the guardians to endeavour to provide for the proper supervision education and control of the nurses As a result of the inquiry the Local Government Board concurs with the view of its inspector Dr Smyth, that the sum of £427 11*s* was excessive and it has accordingly disallowed recoupment from the Local Taxation (Ireland) account upon this sum. The reports of the medical inspector are to be carefully considered at a special meeting of the guardians

The Smiley Cottage Hospital, Larne

Early in 1901 Mr H. H. Smiley J P Drumalis Larne county Antrim, agreed to erect an up-to-date cottage hospital for the town of Larne and since that time he has agreed to provide an endowment fund by contributing £5000 A good site with a frontage of 190 feet has been secured the plans have been prepared and have passed the urban council so that after a time the new and much required cottage hospital will be ready In recognition of Mr Smiley's princely generosity it has been decided to present him with his portrait.

The British Association.

The arrangements for the meeting of the British Association, which will begin in Belfast on Sept. 10th are now in an advanced state and it is expected that there will be a record attendance. The buildings at Queen's College have been placed at the disposal of the local committee and will form an admirable centre for those attending this scientific reunion

August 12th

PARIS

(FROM OUR OWN CORRESPONDENT.)

Dr Doyen's Antistaphylococcic Serum

AT the meeting of the Academy of Medicine held on July 29th Dr Doyen showed a new serum which he has just obtained and which acts he claims with efficacy in pathological manifestations due to the staphylococcus pyogenes It is especially beneficial in cases of carbuncle and boils Dr

Doyen has not yet made public the method of preparation but has published some results which are extremely encouraging One injection of 10 cubic centimetres made in the thigh, for instance, is enough in the case of a boil to bring down the temperature, to do away with the pain after the lapse of an hour, and to abort the boil altogether if it has not gone on to suppuration. If suppuration is present discharge takes place very rapidly through a small orifice, no new purulent foci form, and cicatrisation is complete at the end of 24 hours In cases of carbuncle results are remarkable and many cases have already recovered by the use of this serum together with a simple dressing moistened with some antiseptic. No incisions have been necessary Dr Doyen also reported recoveries in cases of acute phlebitis, notably one in which the ophthalmic vein was affected and where the cerebral sinus was already involved Other diseases which have rapidly ameliorated under the influence of the serum are osteo-myelitis, acute tonsillitis, and septic broncho pneumonia The action of the serum is so marked that Dr Doyen compares it to that of the anti diphtheritic serum of Behring and Roux

A Statue of Pasteur

On August 3rd a statue of Pasteur was unveiled at Dole. M Trouillot, the Minister of Commerce, presided. The Rector of the Academy of Besançon represented the Minister of Public Instruction, M Thureau Dangin represented the French Academy, and Dr Roux represented the Pasteur Institute M Ruffier (formerly mayor), M Renaud (the present mayor of Dole), M Thureau Dangin, Dr Roux, and M Mollard, a deputy, gave addresses, M Mollard drawing a parallel between Victor Hugo and Pasteur The address of M Trouilot was frequently interrupted by loud applause At the conclusion of the ceremony the school children sang a cantata in honour of Pasteur and afterwards piled palm branches at the foot of the statue In the evening a banquet was given by the municipality

Medical Excursions to the Mineral Water Stations and Sanatoriums of France

The medical excursion for 1902 will take place between Sept. 7th and 16th inclusive The places to be visited are in the Vosges and Eastern France and will be taken in the following order Vittel, Contrexéville, Martigny, Bourbonne les Bains, Luxeuil, Plombières, Gérardmer, La Schlucht, Bussang, Le Ballon d'Alsace, Salins, and Besançon. The scientific director of the excursion is, as in the three preceding years, Dr Landouzy professor of clinical medicine at the Paris Faculty of Medicine, and he will deliver lectures upon mineral water treatment. The railways will take any French medical man at a reduction of half price on his ticket from his place of residence to Vittel and to any foreign medical man from the place at which he shall set foot in France to Vittel The same reduction is allowed at the end of the excursion from Besançon to the place of departure from French territory An inclusive ticket from Vittel to Besançon costs 200 francs It includes everything—railway tickets, carriages, board, hotel expenses, luggage charges, and tips. Those anxious to join the excursion must write to Dr Carron, 2, Rue Lincoln, Paris Names must be sent in by August 25th

August 12th

NEW YORK

(FROM OUR OWN CORRESPONDENT)

Summer Work of Charity Associations of New York.

THE Children's Aid Association is one of the largest and most efficient of the associations in New York which support summer homes for poor children The large home of this society at Bath Beach accommodates thousands of children every summer and excursions are made daily there in the season for the benefit of those who can only get a day's outing The Working Girls Vacation Society gives working girls in the city an opportunity of getting a little rest and recreation in the country in summer and it also sends those who need a change to the Santa Clara Home in the Adirondacks The St John's Guild supports three floating hospitals which daily carry children and their mothers for short trips down the bay in hot weather Together these hospital ships give some 70,000 people a chance to breathe fresh sea air in July and August.—The Gilbert A. Robertson Home in Westchester affords whole families an opportunity to refresh themselves for a few weeks in the country —The Association for the Improvement of the Poor has a place at Sea Breeze, Long Island, while the Edgewater Crèche, near Port Lee, has one of the prettiest and best equipped country playgrounds and recreation places for the poor in the country

Opinions on Appendicitis in the United States

The illness of King Edward VII and the operation performed upon him by Sir Frederick Treves have caused endless discussion and much newspaper correspondence by medical men of the United States with regard to appendicitis and its treatment. The American medical profession has shown great interest in the matter and heartfelt wishes for the King's recovery have been universally expressed. Eminent authorities in this country have, however, made some severely critical remarks on the procedure adopted by his medical advisers The surgeons and physicians upon this side of the Atlantic are with singular unanimity in favour of prompt operation in all cases of appendicitis, and argue that in the case of the King the delay in operating was an error of judgment, although it must be said that the successful issue of the methods used by Sir Frederick Treves and his colleagues has to some extent silenced the advocates of immediate operation.

Committee on the Prevention of Tuberculosis

The Charity Organisation Society of New York has formed a committee on the Prevention of Tuberculosis, consisting of Dr E L Trudeau, Dr Lederle, New York City, commissioner of health, the Hon. Horner Folks, head of the city's department of public charities, and several other members, equally well known, 11 of whom are physicians. The objects of this committee have been formulated in part as follows in a statement made by the Charity Organisation Society (1) the promulgation of the doctrine that tuberculosis is a communicable, preventable, and curable disease, (2) the dissemination of knowledge concerning the means and methods to be adopted for the prevention of tuberculosis, (3) the advancement of movements to provide special hospital, sanatorium, and dispensary facilities for consumptive adults and scrofulous and tuberculous children among the poor, and (4) the initiation and encouragement of measures which tend to prevent the development of the various forms of tuberculous disease

August 4th

AUSTRALIA

(FROM OUR OWN CORRESPONDENT)

The Plague

AT a meeting of the Board of Health held at Sydney on July 1st it was decided to declare Sydney free from plague, as more than 10 days had elapsed since the last case was reported There are 16 patients suffering from the disease in the Coast Hospital but they are all recovering As the plague has disappeared from Sydney Mr T A. Grieves has retired from the service of the Board of Health At the outbreak of the first epidemic he was appointed to investigate reported cases and he has diagnosed most of the cases that have occurred, and his services and expert knowledge have elicited the warmest eulogies from Dr Ashburton Thompson, the President, and Dr F Tidswell, the chief medical officer of the Board of Health. On July 1st Dr B B Ham, the Public Health Commissioner for Queensland, in reply to a deputation of ship owners, stated that as the port had been free from plague for 31 days he intended to advise that the plague regulations be rescinded

The Friendly Society Difficulty

At a recent largely attended meeting of the Friendly Societies' Association of New South Wales the following motion was proposed and after a long and general discussion was carried by 20 votes to 11 —

> That the Australian Natives' Association be requested to retire from the Friendly Societies Association as their aims and objects are inimical to the interests of the association

This is a very severe reflection on the position of the Australian Natives' Association, and a great triumph for the medical profession in New South Wales. Leading officials of the Australian Natives' Association in Victoria commenting on the action of the friendly societies in New South Wales attribute it to jealousy, to the intimidation of the medical profession, and to the indiscretion of members of the New South Wales Australian Natives' Association in dealing with unimportant public and political questions.—In Victoria friction has arisen between the Ancient Order of Foresters and some of the medical officers of their lodges and it has been decided to establish a medical institute for the benefit of members of friendly societies in Fitzroy Collingwood, and Carlton, very thickly populated suburbs on the north east of Melbourne. A constitution and rules for the institute have been drawn up. The surgeons to the institute are to devote their whole time to the members and are to be paid at the rate of £300 per annum each and £6 per annum for every 10 or proportion of 10 members over 500 registered on their lists provided that the total number shall not exceed 1000. The proposed institute was discussed by the Carlton branch of the Australian Natives Association but the question was not put to the vote. It was stated that the reason for establishing an institute was an attempted boycott of a lodge in Fitzroy by medical men which would have been successful but for the action of one medical man who, in spite of threats from his fellow members of the Medical Defence Association, went to the assistance of the lodge The facts are as follows. Court Friar Tuck of the Ancient Order of Foresters resolved to reduce its payment to the court surgeons from 15*s* per annum per member to 13*s* and gave the surgeons a month s notice to terminate existing agreements. These surgeons were all members of the Carlton, Collingwood and Fitzroy Branch of the Medical Defence Association of Victoria and the matter was discussed at a meeting of the branch and the members of the branch present at the meeting decided to decline to accept the position of surgeons to the court at less than 15*s* *They also subsequently obtained promises from all the other* members of the branch to do the same Amongst those who promised was Mr Peter Lynch of Carlton. However when applications were called for Mr Lynch applied and was appointed surgeon to the court at 13*s* The secretary of the Carlton, Collingwood, and Fitzroy Branch of the Medical Defence Association accused Mr Lynch of having acted in a manner calculated to bring discredit on the association." The council of the Defence Association after hearing much evidence and holding many *meetings excluded Mr Lynch from the association.* It may be observed that the reason that the members of the branch resisted the action of Court Friar Tuck was that it is one of the largest most powerful and wealthiest lodge in the district, having 306 members on its roll and a credit balance of over £5000 in addition to a benevolent fund and last year paid away £9379 in medical benefits

A New Hospital for the Northern Suburbs of Sydney

The foundation stone of a new hospital for the northern suburbs of Sydney was laid on June 13th by the Governor of New South Wales The institution is close to St. Leonard s railway station and when completed will contain 200 beds. The pavilion system has been adopted, running on an axial line bearing north north-east so that all aspects will have the sun at some time of the day The completed scheme comprises 13 blocks that for administrative purposes being in the centre. Each ward to hold 20 beds, will be 92 feet six inches by 26 feet. It is proposed at first to erect two large wards and two isolation wards with a total of 44 beds. His Excellency in replying to an address from the trustees said that he would take the earliest opportunity of obtaining His Majesty s consent to designate the in titution the Royal North Shore Hospital."

Proposed Changes at Melbourne Hospital

At the meeting of the committee of the Melbourne Hospital held on June 24th a conference was held with the honorary medical and surgical staff as to certain proposed changes in the method of appointment tenure and number of the honorary staff and the increase of the accommodation concerning which correspondence had passed between the committee and the staff At present, as is only too notorious the whole honorary staff is elected by the subscribers to the hospital every four years the method of election giving rise to great scandal and being very degrading to the candidates. There is no retiring age. The work of the hospital especially on the surgical side and as regards clinical in truction has greatly increased but the number of the staff and the accommodation remain as they were originally and the buildings are out of date The completion of the new fever hospital ought to relieve the Melbourne Hospital of some of its cases and the committee proposed to erect new ward on the site of the present tents for infectious cases. As stated previously in these columns the Board of Health objects to these proposals unless they embrace a scheme for the gradual rebuilding in modern style of the whole hospital. All these questions were then referred to the staff who carried the following resolutions —

1 That the retiring age for indoor physicians be 65 and for indoor surgeons 60 but that, as regards the present indoor members, their appointment be for 13 years from expiry of present term of office in the case of those members who shall not have reached the age of 65 as indoor physicians and the age of 60 as indoor surgeons

2. That vacancies for the indoor staff be filled by promotion from the out-patient staff by seniority according to hospital rule.

3 That vacancies in the out-patient staff be filled by th subscribers

4 That the number of beds be increased

5. That there be five in-patient physician and five in-patient surgeons and that the number of the out-patient staff be the same as at present.

These were presented to the committee and explained by the chairman of the staff who pointed out that the present system of election was a scandal and militated against good work by the staff. The hospital was the clinical school of the largest medical school in Australia, and to maintain a high standard in the training of students and afford proper facilities for medical teaching the institution required remodelling and if it did not keep abreast of the times the medical school would have to seek other institutions to carry on the clinical part of the work. The matters were adjourned for further consideration by the committee.

Women s Hospital Melbourne

Dr Martell, who took the position of resident medical officer of the Women s Hospital Melbourne has resigned as she found herself unable to carry out the duties single-handed. The resignation was accepted with deep regret and Dr Martell was personally thanked for her good work. A special meeting is to be held to consider the position The honorary staff wrote to the committee regretting that [a want of agreement existed between the staff and the committee and that it was due to the fact that in professional matters their expert advice had not received the recognition from the committee which was its due. It was re olved to ask the staff to point out any instances to support its statements. The financial position of the hospital is not quite satisfactory The receipts had fallen short of those for the previous year by £1236 and the expenditure had increased by £671. Public subscriptions had fallen off and the Government grant was less The increased expenditure was due to the greater cost of provisions.

Sydney Hospital

Plans for a new casualty room and large waiting room are being prepared for the Sydney Hospital. They are to be one-storeyed and situated at the back of the hospital with an entrance from the Domain, and are e timated to cost about £1500

Action by a Hospital Surgeon for Compensation for Wrongful Dismissal

A case of some interest to the medical profession was recently tried in Sydney before Mr Justice Owen and a jury Dr John Krueger Kelmar a duly qualified medical practitioner was appointed in May 1901, by the committee of the Wyalong Hospital as medical officer at a salary of £8 8*s*. a month for the balance of the year 1901 According to the by laws the committee had power in the case of gross misconduct on the part of the medical officer to discharge him without notice. By a resolution of the committee on Oct. 31st the plaintiff Kelmar was dismissed under the following circum tances The hospital had private rooms for paying patients. In June a boy was injured at some works and at the request of his employer was placed in a private room and was there 14 weeks, during which time the committee charged 30*s* a week for his maintenance. After the boy left Dr Kelmar sent *in an account to his* employer for £44 2*s* pointing out the nature of the services rendered. The employer complained to the committee that the charge was unju t. The committee decided against Dr Kelmar and [illegible] him He claimed £200 The jury decided in favour of Dr Kelmar and awarded him £69 2*s* being £19 2*s* balance of salary and £50 damages for di missal.

Haab Electro-Magnet for the Victorian Eye and Ear Hospital

Th tru tees of the Edward Wilson bequest for charitable purposes have presented the Vic rian Eye and Ear Hospital with a Haab electro-magne for the extraction of foreign metallic bodies from the eyeball.

The Right of an L S A. to Practise as a Pharmaceutical Chemist

Last year reference was made to a case in which Mr Honman, L.S A., was charged with carrying on the business of a chemist while not registered under the Pharmacy Act The magistrates dismissed the case, holding that it had not been proved that Mr Honman was carrying on a chemist's business within the meaning of the Act. The secretary of the Pharmacy Board obtained an order to review the magisterial decision The case was heard by the Chief Justice He ruled that Mr Honman's qualification of L S A. entitled him to practise as a chemist in England. By the Medical Act of 1858, which extended to Australia, medical men were entitled to practise according to their qualifications The rights given by that Act were not cut down by the Victorian Act and a Licentiate of the Society of Apothecaries of London was entitled to carry on business as a chemist without registration under that Act The magistrates' decision was right though their reason for it was wrong and the order to rescind was discharged with costs

Appointments

Dr T J M Kennedy, has been appointed port health officer at Geelong —Mr J T Brett has been appointed a member of the Medical Board of Victoria, in place of Dr T Rowan who has gone to South Africa.—Mr F M Harricks has resigned his position as surgeon to out-patients at the Alfred Hospital, Melbourne.—Dr W A. Wood has been appointed lecturer on Art Anatomy to the School of Art, Melbourne —Dr L. G Balfour and Mr Farmer have been appointed anæsthetists to the Melbourne Hospital

Obituary

Dr L G Mallam of Armidale, New South Wales, died from pneumonia on June 29th. Deceased was born in Maitland 44 years ago and went to Armidale with his father, who was a chemist, in 1865 He was educated primarily in the Armidale Public School, after which he went to Sydney and then proceeded to Edinburgh, taking the degree of M B in 1884 He had been practising in Armidale for 18 years and was one of the medical officers of Armidale Hospital, he was also medical officer of the Guild Lodge. He was a member of St Peter's Cathedral Council and also of the public school board He leaves a wife and several young children.

July 5th

Obituary.

JAMES THOMAS WARE, F R.C S ENG

WE regret to announce the death of Mr James Thomas Ware at his residence, Tilford, near Farnham, Surrey, on July 30th. Mr Ware, who was born 85 years ago, was the eldest son of the late Mr Martin Ware of Tilford and of his wife Anne, the younger daughter of the Rev Thomas Tayler of Tilford Surrey, and Whitlenge, Worcestershire Both Mr Ware's father and grandfather, Mr James Ware, were eminent as surgeons and oculists, the latter being a Fellow of the Royal Society and one of the founders of the Medical Society of London

Mr Ware entered as a student at St. Bartholomew's Hospital in 1835, and subsequently became house surgeon and a governor of the hospital He also studied at Berlin, Vienna, and Paris While at St. Bartholomew's Hospital he took an active part in founding the Metropolitan Convalescent Institution, now so well known for its important and beneficial work carried on at Walton (Surrey), Broadstairs, and Highgate. One of his fellow students, Theodore Monro, being struck by the necessity of fresh air and proper kind of treatment for a poor girl in the hospital, whose leg had been amputated and who was about to be discharged though in a state of great weakness, consulted Mr Ware and a few other fellow students and friends and determined to establish a home for convalescents in the country The result was that they founded what is now known as the Metropolitan Convalescent Institution. At the time of which we are now speaking—about 60 years ago—there was no such thing in the country as a convalescent home. This institution was the first, the pioneer of the large number of these useful and beneficial homes which are now spread over the country For many years Mr Ware took an active part in the management of this charity as a member of the committee, and especially as one of the surgeons, and when he was unable to assist in this work he became one of its vice-presidents

When Mr Ware was still a young man his health failed for a time and as a consequence he relinquished the medical profession, though his knowledge and skill in it were of great use to him in after life, especially as the squire of a country village and in reference to his work as a Poor-law guardian. On retiring from the profession Mr Ware settled on the family property at Tilford, where his unvarying kindness and wise help were highly appreciated by his neighbours. After a time he became one of the guardians of the Farnham Union and was elected chairman, in which office his ability, character, and wisdom were most valuable and much appreciated. *For many years* Mr Ware was churchwarden of Tilford church, the foundation stone of which was laid by his father About 19 years ago Mr Ware met with an accident to his knee from which he never recovered For the last two years he had been confined to his bed and in the early morning of July 30th he passed peacefully away The funeral took place on August 2nd at Tilford church and was attended by many of his neighbours, friends, and tenants. Mr Ware was never married

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS —The following gentlemen passed the Second Examination of the Board in the subjects indicated at the last quarterly meeting of the examiners —

Anatomy and Physiology —John Henry Dyke Ackland and Edward Leicester Atkinson, St Thomas's Hospital Hugh Lowrie Askham, Middlesex Hospital Henry Hugh Baker B A. Oxon Oxford University and St Mary's Hospital John Bromley Ball Guy's Hospital Frank Gower Burgin University College, Bristol Richard Charles Palmer Berryman St Bartholomew's Hospital, Harold Bevis and Ronald Anderson Bryden St. Mary's Hospital George Birch Edward John Blewitt, and Percy Arthur Bodkin London Hospital Wilfred Buchanan Burr, Middlesex Hospital Laurence Henry Burner, Alfred Hollier Clough, and Albert Benjamin Cocker Guy's Hospital George Chalkin, B A Lond, University College, Sheffield Percival Charles Coombes Madras and University College, London Ralph Crompton Owens College Manchester Arthur George Cole and Clive Thornley Edmunds St. Mary's Hospital George John Eady Richard Vernon Favell, and Charles Henry Fernie, St Bartholomew's Hospital William James Fletcher Owens College, Manchester William Hardy Fleetwood, Lawrence George Gibson and Jonathan Grogono, London Hospital Peter Gow New Zealand and Middlesex Hospital, George Frederick Greening Guy's Hospital Samuel Lewis Graham and George James Harman L R C P and S Edin University College London James Glenny Gibb Frederick Gooding and Willoughby Henwood Harvey, St Bartholomew's Hospital William Harrison University College, Sheffield, Claude Sebastian van Renen Harwood Westminster Hospital, Gilbert Heathcote, Owens College Manchester James Edward Hoar London Hospital Charles Edward Horder King's College London Frederick Duke Gwynne Howell and Alfred Bakewell Howitt, B A. Camb St. Thomas's Hospital Hector Lionel Howell Charing Cross Hospital Alfred Norman Jeans University College, Liverpool Rowland Phillip Lewis, Guy's Hospital, James Charles Robert Lind, University College London, William Sherwood Livock and Arthur Harkness Macdonald, London Hospital Walter Longley and James Ernest Middlemiss Yorkshire College, Leeds Walter Gerald Loughborough Reginald Charles Pattison McDonagh and George Stanley Morse, St Bartholomew's Hospital Howard Vincent Mitchell and Arnold Morris B.A Camb, Guy's Hospital Leonard Newsom Morris, University College Bristol Richard John Mould, B A. Camb St. Thomas's Hospital, Reginald Goldie Newton St. Mary's Hospital Douglas Catterall Leyland Orton Owens College Manchester William Fergus Paterson New Zealand and Middlesex Hospital; John Sydney Pearson London Hospital Robert Elliot Pitts Middlesex Hospital; John Edwin Scales, Guy's Hospital George Henry Sedgwick, Yorkshire College Leeds Ernest Henry Shaw St Bartholomew's Hospital Harold Sigismund Sington St Thomas's Hospital Francis George Snead, Birmingham University Frank Montague Wilson South, Westminster Hospital Charles Speers St Mary's Hospital Frederick Thomas Turner King's College London John Ronald Rigden Trist, John Samuel Williamson and Alexander Chamier Wroughton St. Bartholomew's Hospital Horace Walshman Ward Birmingham University Alfred Gurth Whitaker Charing Cross Hospital Ernest White Guy's Hospital Arthur Cyril Charles Wright, St Mary's Hospital and James Montagu Wyatt St Thomas's Hospital

Anatomy only —Mr Norman Henry Oliver Guy's Hospital

Physiology only —Mr Arthur Frank Palmer, Cambridge University and Middlesex Hospital.

FREEMASONRY —The American Ambassador, Mr Choate on Friday August 8th unveiled at Freemasons' Hall an excellent portrait of George Washington which had been presented to the United Grand Lodge of English Freemasons by Mr Henry S Wellcome, an American resident in London whose name is known to members of the medical profession The portrait which is full length, is the work of an American artist, Mr R. Gordon Hardie, who was at great pains to ensure the correctness of the costume and of the masonic regalia in which the most distinguished of all Americans is depicted. The Earl of Warwick, Deputy Grand Master occupied the chair and addressed a few words of greeting to Mr Choate, which were heartily endorsed by the large company present. Mr Choate after unveiling the portrait gave an interesting appreciation of the character of Washington

UNITED KINGDOM POLICE SURGEONS' ASSOCIATION —A meeting of this association took place at Manchester on July 30th Dr H. W Oulton of Dublin (Vice-President) occupied the chair The question of the fees of medical witnesses and the attitude of the Home Office in respect thereto was discussed Mr Frederick W Lowndes, M.R.C.S. Eng of Liverpool (honorary secretary), and Mr H. Nelson Hardy F.R.C.S Edin of London (treasurer) described the nature of the evidence which they had given before the Departmental Committee of the Home Office. Criticism was also passed upon the action of the Home Office the Home Secretary having described as discreditable" the attitude of the medical men at Bungay who refused to examine a police case which involved their giving evidence at unremunerative rates.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION —The summer general meeting of the above association was held at the Owens College Manchester on July 30th In the absence of the President (Sir Philip Crampton Smyly) the chair was occupied by Dr Richard Fegan (Blackheath). Among the other members present were Dr P S Abraham (London) Mr J Chestnutt (Howden) Dr W Douglas (London) Dr Stanley A. Gill (Formby) Dr F S Gramshaw (Stillington) Mr T Adrian Greene (Ennis) Dr J Mills (Ballinasloe) Dr A. Morton (Halifax) Dr J Goodwin Shea (Chesterfield) Dr O T Woods (Cork), and the honorary secretaries, Mr J Stewart (Sneyd Park) and Dr J H. Swanton (London) The council reported that Wednesday Nov 26th had been fixed for a banquet to be given to the Commander in Chief by the association at the Hotel Cecil London, and that the Countess Roberts and the Ladies Roberts had also accepted invitations to dine with the association on that evening The council also reported that a considerable accession to their members had been made since the annual general meeting and that there was a prospect of the total number on the roll reaching 1000 members before the date of the banquet to Earl Roberts A vote of thanks to the council of the Owens College for the use of the room terminated the proceedings

DURHAM UNIVERSITY COLLEGE OF MEDICINE, NEWCASTLE UPON TYNE.—During the last 12 months there has been a large increase in the number of specimens examined in the Bacteriological Diagnosis Department of the College of Medicine, Newcastle upon Tyne Some of these examinations have been made for medical practitioners others by special arrangement. for the county councils of Northumberland and Durham the Guisbro combined district councils of the North Riding of Yorkshire, the town councils of Newcastle and Sunderland and the Royal Infirmary and the Hospital for Sick Children Newcastle The total number of specimens examined in the laboratory during the year ending May 31st, 1902, amounts to 1009 as compared with 595 during the preceding 12 months The different kinds of examinations carried out were as follows 428 samples of sputum from suspected cases of phthisis were examined for tubercle bacilli which were found in 215 cases 233 specimens of blood were examined from suspected cases of enteric fever by Widal's method, a positive result being obtained in 103 and 228 swabs from suspected cases of diphtheria were examined for the bacilli which were found in 99 specimen 16 specimens of pus were examined the pneumococcus was found in three streptococcus pyogenes in two, staphylococcus pyogenes albus in two, staphylococcus pyogenes aureus in two gonococcus in one and bacillus coli communis in three 10 samples of urine were examined for tubercle bacilli, which were found in three Eight specimens of blood in suspected cases of anthrax were examined positive results being obtained in six One specimen of serum from a suspected case of malignant pustule was examined and anthrax bacilli were found Three specimens from suspected cases of tetanus were examined with negative results. Two specimens from suspected cases of glanders were examined with negative results. Four inoculations were made from the blood of a lamb with louping ill with negative result. Two specimens of milk were examined (one for tubercle bacilli and one for septic organisms). Four samples of ice-cream were examined in one of which as many as 3,120 000 bacteria were found in one cubic centimetre. 70 samples of water were examined quantitatively for bacteria.

Parliamentary Intelligence

NOTES ON CURRENT TOPICS

The Session.

AFTER sitting for nearly seven months Parliament has adjourned until Thursday Oct. 16th The rule is to have prorogation about this period of the year but it happens that the work of the session is far from completed and consequently adjournment until the autumn has been rendered necessary It is clearly understood that the main business when Parliament reassembles will be the Education Bill and the London Water Bill both of which measures are at present in the committee stage So far the only legislation of special interest to the medical profession passed this year has been the Midwives Act.

HOUSE OF LORDS.

THURSDAY AUGUST 7TH

Sickness on Board a Transport

Earl CARRINGTON raised the question of the alleged overcrowding of the hired transport *Drayton Grange* during her voyage from Durban to Australia and consequent sickness among her passengers who consisted of Australian troops.—The Earl of HARDWICKE intimated that the Secretary of State for War was prepared to make inquiry into the subject He explained that the *Drayton Grange* was a cargo ship of 8000 tons She was surveyed by the naval authorities at the Cape and passed for 40 officers and 2000 men each man having a hammock berth and the usual hospital accommodation being provided The principal transport officer in South Africa and the principal medical officer at Durban denied categorically that there was any overcrowding and the latter further stated that all the troops embarked in good health and that no case of infection was on board The actual numbers embarked at Durban were 41 officers, seven warrant officers, and 1934 men As there appeared to have been an outbreak of measles on board the necessity for extemporising isolated quarters for the patients might have led to some inconvenience.

HOUSE OF COMMONS

TUESDAY AUGUST 5TH.

Medical Test for Army Candidates

Sir JOHN STIRLING-MAXWELL asked the Secretary of State for War whether he was aware that Mr H H Fleming of Glasgow a university candidate for the army having been pronounced physically fit for a commission by a medical board in Edinburgh in July 1900, was in October 1901 rejected by the medical board who made the final examination for a congenital defect which was discovered and passed by the first board; and whether in view of the fact that the inconsistency of the two boards cost Mr Fleming 15 months of time and £200 of money the Secretary of State would undertake that candidates would be rejected in future for congenital defects at the preliminary examination if they were to be rejected at all —Mr BRODRICK replied: There was no inconsistency between the reports of the two boards as the candidate's health had become worse in the interval

WEDNESDAY AUGUST 6TH

The Meal Intervals of Post Office Workers

Sir WALTER FOSTER asked the Secretary to the Treasury as representing the Postmaster-General whether his attention had been called to a resolution passed by the postal and telegraph employés attached to the Birmingham Post Office protesting against the withdrawal of intervals for meals on certain divided attendances and whether in view of the recommendations of the medical department of the General Post Office that overfatigue and long fasting should be carefully guarded against he would modify the regulations so as to prevent the employés being compelled to take two meals between 2 P.M. and 4 P.M., or else undergo a fast for a period exceeding six hours daily with the liability to be retained on duty one hour further before being permitted to partake of refreshment —Mr AUSTEN CHAMBERLAIN replied The Postmaster General has seen the resolution in question He understands that it refers to a desire of the staff that intervals for meals should be allowed in the case of attendances not exceeding four hours in duration, such as from 10 A.M. to 2 P.M.

followed by one from 4 P M to 8 P M In the case of duties arranged in this manner it does not appear to the Postmaster-General that any interval for meals is required If however the attendance is prolonged to four and a half hours or upwards an interval of 15 or 20 minutes is given

The Ventilation of the House of Commons

In the course of the discussion on the Appropriation Bill Mr WYLIE called attention to the state of the atmosphere in the House on occasions when there was a large attendance of members and of the public He insisted that it was most deleterious and that evil results followed, and he recommended the adoption of electric ventilating fans

THURSDAY, AUGUST 7TH

Buildings on Disused Burial Grounds

Mr BRYCE asked the Home Secretary whether his attention had been called to several recent cases in which faculties had been granted by the Consistory Court of the diocese of London for the erection of buildings upon disused burial grounds in London whether it was the fact that the buildings so permitted by these faculties were not enlargements of a church but other buildings, in respect of which no exception was made to the general prohibition of the erection of buildings on such burial grounds contained in the Disused Burial Grounds Act 1884, whether any and what steps could be taken to secure the due observance of the provisions of the last-mentioned Act in order that these open spaces might be reserved for the use of the public or whether if the law was defective, he would take any steps to have it amended —Mr RITCHIE replied: I have referred to the chancellor of the diocese and am informed by him that in all cases in which he has granted faculties for the erection of buildings upon disused burial grounds he was satisfied that the buildings were enlargements of a place of worship within the meaning of the Disused Burial Grounds Act 1884 It does not appear on the facts before me that an amendment of the law is required There is a right of appeal from the Consistory Court to the Court of Arches and thence to the Judicial Committee of the Privy Council besides the procedure by writ of prohibition if the ecclesiastical court exceeds its jurisdiction I may add that I understand that the chancellor of the diocese will make it a rule of court that due notice of applications for faculties of this kind shall be given to the London County Council who have powers under the Disused Burial Grounds Acts

Hansom Cab Accidents in London

Sir HOWARD VINCENT asked the Home Secretary if the returns of the Public Carriage Department of the Metropolitan Police afforded any information as to the number of accidents last year in hansom cabs and if by legislation or otherwise some improvement could be brought about in the arrangement of the window so as to secure greater safety to the passenger and bring it as in Manchester under the latter's control instead of that of the driver — Mr RITCHIE replied: The number of accidents in hansom cabs brought to the notice of the police in the course of last year (1901) was 94 Of this number 39 were caused by collisions 43 from the horse falling and 12 from various causes such as the breaking of harness, from a wheel breaking &c. In no case reported to the police does it appear that injury was caused by the arrangement of the window and though the present vehicle is doubtless not perfect it would hardly appear that any legislation is demanded in the direction suggested in the question If any effective substitute for the present window is suggested the Commissioner of Police would have it brought to the notice of proprietors as is invariably done when attention is drawn to desirable improvements The adoption of these improvements however is a matter for the makers and the owners of these convenient and popular vehicles who would promptly respond to any public demand for alteration Every care is taken to see that the licensed hansom cabs are fit for use

FRIDAY AUGUST 8TH

Milk Adulteration Prosecutions

General LAURIE asked the President of the Local Government Board whether his attention had been called to the report of the public analyst of the borough of Paddington of March 25th last in reference to the difficulties experienced by local authorities in conducting prosecutions for adulteration of milk and whether such amendments of the law would be proposed by him as would enable local authorities to conduct such prosecutions without being penalised in costs —Mr LONG replied: My attention has not been drawn to this report but on receiving a copy of it I will give consideration to the matter

Ear Trouble in the Hanwell Schools

Mr FLOWER asked the President of the Local Government Board whether he would state what steps if any were being taken to carry out the suggestions in the report on Mr A H Cheatle s examination of 1000 of the children at the Hanwell Poor law Schools which had been prepared by the medical officer of the schools —Mr LONG replied: I am informed that a committee of the managers will meet this afternoon to receive a report of the medical officer of the schools as to special treatment of the cases of ear trouble and that steps are being taken to obtain permission from the parents to operations being performed in cases in which surgical treatment is required As I stated in reply to a question last month the children suffering from adenoids have been receiving surgical treatment

Treatment of Feeble minded Paupers

Lord HUGH CECIL asked the President of the Local Government Board whether his attention had been drawn to the difficulties attending the treatment and care of feeble-minded paupers in workhouses and whether he would consider the propriety of appointing a departmental committee to inquire and report on the matter —Mr LONG replied: The case of the feeble-minded in workhouses has been brought before the Local Government Board and at the request of the National Association for promoting the welfare of persons of this kind my predecessor obtained some statistics which were communicated to the association I shall be happy to consider any further representations which may be made on the subject but I am not at present prepared to say that it would be desirable to appoint a departmental committee with regard to it.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number*

BLEASE, ARTHUR TORKINGTON, M R C S, L R C P Lond M B, Ch.B Vict has been appointed Senior Resident Medical Officer to St. Mary's Hospital for Women and Children, Manchester

CLAY, DAVID LLOYD, M R C S L R C P Lond has been appointed Public Vaccinator for the District of Otaki New Zealand

ELLIS, ALFRED P B late Captain in the Medical Department, S.A.C., has been appointed a Plague Medical Officer for the Punjab India.

FINN P T, L R C.P Edin L.R C S Edin L F P S Glasg, has been appointed Certifying Surgeon under the Factory Act for the Ashwick District of Somersetshire

HARDING NORMAN E M B Ch B Edin, has been appointed Second House Surgeon to the East Suffolk and Ipswich Hospital.

HARVEY, ALFRED, M B Lond. M R C S L S A has been appointed Medical Officer to the Southmead Workhouse by the Barton Regis Board of Guardians

HOOLE, JOHN M R C S Eng L S A Lond, has been appointed Medical Officer and Public Vaccinator to the Hartington District of the Ashbourne Union

JENKINS GEORGE HARRISON L R C P, L R C S Edin L F P S Glasg, has been re-appointed Medical Officer of Health for the Usk (Mon) District Council

JOHNSON, HENRY SANDFORD M R C.P Irel L.F P S Glasg has been appointed Medical Officer of Health for the Ashburton (Devon) District Council

LAPAGE C P M.B, Ch B, has been appointed House Surgeon to the Manchester Royal Infirmary

LOW, CHARLES M.B Ch.M Edin has been appointed Public Vaccinator for the District of Mercury Bay New Zealand

LUCAS STANLEY ARTHUR, M R C S L R C P Lond., has been appointed a Public Vaccinator under the Public Health Act 1900, for the District of Takaka New Zealand

MACMILLAN J I M.B, M S Glasg, has been appointed Certifying Surgeon under the Factory Act for the Laurencekirk District.

PATON LESLIE B A, M B B C Camb F R C S Eng, has been appointed Assistant Ophthalmic Surgeon to St Mary's Hospital Paddington

POWER PATRICK JOSEPH L R C S Irel has been appointed Public Vaccinator for the District of Otaki, New Zealand

SADLER E A M D Lond has been appointed Medical Officer of Health to the Ashbourne District Council, vice Dr C E Potter, resigned.

STEWART J H M B, B Sc R U I, has been appointed Certifying Surgeon under the Factory Act for the Cruden District of Aberdeenshire

SWEENY W J M.B B Ch B A O R U I has been appointed Deputy Medical Officer for the Thornbury District and Workhouse

WALKER ERNEST F D M.B C M Glasg has been appointed Assistant Medical Officer of the Seacliff Lunatic Asylum New Zealand

WHEELER CHARLES HENRY, M.D Q Univ Irel has been appointed a Port Health Officer for the Port of Hokianga New Zealand

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL —House Surgeon for eight months Salary at rate of £70 per annum

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN — Resident Medical Officer Salary £60, with board washing and attendance

BIRMINGHAM GENERAL DISPENSARY —Resident Surgeon unmarried. Salary £150 per annum (with allowance of £30 per annum for cab hire) rooms fire light and attendance

BIRMINGHAM WORKHOUSE INFIRMARY —Assistant Resident Medical Officer, Salary £100 per annum, with apartments rations &c.

BOURNEMOUTH ROYAL BOSCOMBE AND WEST HANTS HOSPITAL —House Surgeon Salary £80 per annum with board lodging, and washing

BRISTOL ROYAL INFIRMARY —Junior House Surgeon and Anæsthetist, also Casualty Officer both for six months Salaries at rate of £50 per annum with board lodging and washing

BUCHAN COMBINATION POORHOUSE.—Medical Officer Salary £40 a year

BURY INFIRMARY —Junior House Surgeon Salary £90 with board residence and attendance

CANCER HOSPITAL London.—Pathologist. Salary £250 per annum

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST Victoria park E —Second House Physician for six months Salary at rate of £30 per annum with board washing and residence.

CITY (FEVER) HOSPITAL Aberdeen —Resident Physician Salary £100, with board and rooms

CORNWALL COUNTY ASYLUM Bodmin —Junior Assistant Medical Officer unmarried Salary £130 rising to £160 by annual increments of £10 with board furnished apartments laundry &c.

DENBIGHSHIRE INFIRMARY, Denbigh —House Surgeon Salary £100 with board residence and washing

DEVONPORT ROYAL ALBERT HOSPITAL.—Assistant House Surgeon for six months Salary at rate of £50 per annum, with board, lodging and washing

DUNDEE SANATORIUM FOR CONSUMPTION.—Medical Superintendent. Salary £250 per annum

EDINBURGH VICTORIA HOSPITAL FOR CONSUMPTION.—Resident Physician for six months. Residence, board, and washing, with nominal honorarium.

HITCHIN THREE COUNTIES ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with washing allowance, board, and residence.

JENNER INSTITUTE OF PREVENTIVE MEDICINE, Aldenham, Herts.—Assistant Bacteriologist, unmarried. Salary £200, with furnished rooms.

LANARK MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £140 per annum, with board, &c.

LEICESTER INFIRMARY.—Surgical Dresser for six months. Honorarium of £10 10s., with board, apartments, and washing.

LIVERPOOL, CITY OF, INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

LIVERPOOL, TOXTETH PARK WORKHOUSE AND INFIRMARY.—Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

LIVERPOOL, VICTORIA WOMEN'S SETTLEMENT DISPENSARY.—Senior and Assistant Resident Medical Officers (Women).

LONDON HOSPITAL, Whitechapel, E.—Assistant Physician to the Skin Department.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Anæsthetist. Also House Surgeon.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary at rate of £80 a year, with board and lodging.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

ROXBURGH DISTRICT ASYLUM, Melrose, N.B.—Assistant Medical Officer. Salary £120 per annum, with board, rooms, and washing.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Salary at rate of £70 per annum, with board, lodging, and washing.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House Surgeon. Honorarium at rate of £50 per annum, with board, &c.

ST. BARTHOLOMEW'S HOSPITAL.—Lectureship on General Anatomy and Physiology in the Medical School of this Hospital.

ST. GILES (CAMBERWELL) WORKHOUSE, Gordon-road, Peckham.—Assistant Medical Officer. Salary £120 per annum, with apartments and allowance in lieu of board and washing.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Honorarium at the rate of £60 per annum, with residence, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

TADCASTER, GOOLE, RICCALL, AND SELBY RURAL DISTRICTS AND SELBY URBAN DISTRICT.—Medical Officer of Health. Salary £420 per annum.

TIVERTON, DEVONSHIRE, INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser, unmarried. Salary £60 and all found.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer. Salary £100 per annum, with board, lodging, and washing.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Assistant Medical Officer and Pathologist. Salary £140 per annum, rising to £160, with board, &c.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon. Also Assistant House Physician. Appointment for six months, with honorarium at rate of £75 per annum, board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Act at Harrogate.

Births, Marriages, and Deaths

BIRTHS.

ATTLEE.—On August 6th, at 58, Brook-street, London, W., the wife of John Attlee, M.D., of a son.

HASTINGS.—On August 8th, at 415, Mile End-road, E., to Edwin Birchall Hastings, M.D., and Theresa Hastings, a daughter, Anna Birchall.

HARDYMAN.—On August 11th, at Pulteney-street, Bath, the wife of George Hardyman, M.B., F.R.C.S. Edin., of a son.

HENSHAW.—On August 8th, at Priory-terrace, Kew-green, Surrey, the wife of H. W. Henshaw, M.R.C.S., L.R.C.P. Lond., D.P.H., of a daughter.

MARSHALL.—On August 7th, at Ashcroft-villas, Cirencester, the wife of Howard Marshall, M.B. Cantab., of a daughter.

DEATHS.

KELLY.—On August 5th, Charles Augustus Kelly, M.R.C.S. Eng., L.R.C.P. Edin., Civil Surgeon to H.M.'s Forces at York, aged 46.

NEAL.—On August 10th, at his residence, St. Cross, Sandown, Isle of Wight, James Neal, M.D. St. And., aged 66 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents

INFLUENCE OF INJECTIONS OF OXYGEN ON INFECTIOUS DISEASES.

WE have received from Dr. Ermanno Palombi of Macerata, Italy, a small pamphlet containing a preliminary announcement relative to some observations which he has made on the effects of injections of oxygen. He commences with a reference to the recent injection of oxygen into the veins of dogs by Gärtner and into the human veins by Mariani and Maragliano of Genoa. Dr. Palombi has for 10 years been occupied with this question, chiefly in the direction of supplementing impaired pulmonary respiration by means of injections of gaseous oxygen into the femoral veins, the peritoneum, or the subcutaneous cellular tissue. He also tried peroxide of hydrogen and after many experiments he succeeded in preparing an "oxygenated serum" which he found had the effect of considerably retarding and diminishing the effects produced by inoculation with various pathogenic materials, such as pus, tuberculous sputum, and diphtheritic membrane.

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—I should be deeply grateful if you or any of your subscribers would suggest some treatment which would be beneficial in the following tedious case. I have given all the ordinary drugs generally administered, but with no satisfactory or beneficial result. I have likewise given carbolic acid, creasote, and other intestinal disinfectants internally, combined with injections of boric acid solutions mixed with oatmeal water. The case in question is that of a man aged 60 years who has been a hard drinker for 20 years. His bowels have always been irregular, diarrhœa and constipation alternating with each other. *Lately the attacks of diarrhœa have been frequent* with marked tenesmus and evacuation of mucus mixed with blood. Every two or three days the patient is seized with violent griping pains and the only thing that offers relief is the above rectal enema, although unaccompanied by any motion except mucus. To my mind there is no doubt that the case is one of ulcers situated at a point somewhere between the splenic flexure and anus. Any hints as to further treatment will be much appreciated. Thanking you for inserting the above,

I am, Sirs, yours faithfully,

August 12th, 1902. A SUBSCRIBER.

HYGIENE FOR HAIRDRESSERS.

"To my horror," writes a correspondent, "I discovered yesterday morning that I had a patch of ringworm at the back of my head. The only probable source of infection is a barber's shop where for about a year I have had my hair cut. It is a fairly clean and well appointed establishment, but so far as I am aware no disinfection *of brushes and instruments is ever attempted*." The subject is one of considerable interest to medical men and we refer our readers to a brief article which appeared in our columns on Feb. 8th, 1902, p. 419. Our unfortunate correspondent is entitled to sympathy; his very disagreeable acquisition is one to which most of us are exposed through the tyranny of fashion which has tabooed the wearing of long locks, save for spring poets. As a rule barbers regard antisepsis and disaster as convertible terms, but it ought to be possible to overcome this prejudice. The difficulty is to convince them that the antiseptic process can be carried on without excessive damage to their stock-in-trade. Steel instruments can easily be made safe by singeing in the flame of a spirit lamp; but with brushes the case is different. Immersion in an antiseptic solution brings on premature decay of the hair; while the employment of sterilised steam not only entails great expense but also leads to the ungluing of backs and the softening of cement. If combs and brushes entirely composed of metal were available the question of disinfection would be simplified, but so far such goods have not found favour. In the June number of the *Archives de Médecine Navale*, p. 478, Dr. Couteaud, a French naval surgeon, describes a simple method of ensuring the disinfection of hair and shaving brushes without injury to them. All that is required is a *formolateur Milia*, which consists of an alcohol vaporiser in connexion by means of a glass and rubber tube with a so-called "hygienic bucket" (*seau hygiénique*). A single paraformic pastille costing a trifle gives out a formaldehyde vapour which will render the contents of the bucket perfectly sterile in about 12 hours. In order to test the trustworthiness of the apparatus Dr. Couteaud instituted a series of experiments by which he was convinced that it was scientifically perfect. If hairdressers and barbers were wise in their generation they would adopt something of the kind and place proofs of their hygienic up-to-dateness before the public. It would undoubtedly lead to a large increase in the number of their customers. In addition to the appliances already mentioned it is possible in the same way to disinfect not only combs and brushes but also syringes, catheters, and other hollow instruments that ordinarily are very hard to keep absolutely clean. The *Milia* should also prove invaluable to dentists.

THE "Y" FUND

Surgeon General H S Muir begs thankfully to acknowledge additional donations towards the above Fund from Surgeon Majors Beevor (Scots Guards), Rayner (Royal Horse Guards), and D Elcum I M S (retired) Lieutenant W M Houston, I M S Brigade-Surgeon C H Browne A M D (retired), Dr Thomas and Dr Nash (South Africa) A. B C" "D E F," and "X Y Z" (anonymous from South Africa) and the following officers R.A.M C: Colonels R Exham and H Martin Lieutenant Colonels R J S Simpson E O Wight and R H Sawyer Majors Mathias J M Nicholls, and J Donnet and Captains T McDermott Austin O Fflahertie, W E Hardy, A. H Young and J H Power The fund now amounts to £525 It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on to *confrères*) Should any reader of The Lancet desire further particulars with a view to expressing *practical sympathy* a copy of the letter will be forwarded on application to Surgeon General Muir 26, Kensington-gardens terrace, Hyde Park, London, W

A SIMPLE INHALER.

To the Editors of The Lancet

Sirs —I should like to bring under your notice an idea for a portable inhaler which I have found very useful Get a common cherry wood cigarette-holder and pack it with absorbent wool on which can be placed a few drops of creasote or eucalyptus oil or any other drug This can be used in the street or elsewhere without attracting attention and furthermore, its cost need not exceed 1½*d*.

I am, Sirs yours faithfully
P H Parsons L R C P Edin,
Late Resident Medical Officer, Manchester Chest Hospital
August 11th 1902

FOREIGN MEDICAL LITERATURE

To the Editors of The Lancet

Sirs —In answer to the query of "A. C C" regarding foreign medical literature in your issue of June 14th I beg to inform him that medical subscription libraries exist in Germany to my knowledge: (1) M Boas Berlin N W Karlstrasse 25, and (2) Johannes Alt, Frankfurt a. M. Possibly either one or the other of these two may be able to accommodate him

I am Sirs yours faithfully,
S A. Philippi M D
Bad Salzschlirf August 9th 1902.

THE BABY FARMER AGAIN

At the Westminster Police-court on August 12th Elizabeth Glasse was charged with neglecting nurse children and with the manslaughter of an illegitimate infant aged eight months at Seaton-street Chelsea. The coroner s officer for Chelsea and an inspector of the National Society for the Prevention of Cruelty to Children said that in the room occupied by the accused they found two infants aged respectively eight months and 12 months partially covered with rags and chaff infested with vermin and ravenously hungry Another inmate of the room was a woman suffering from the effects of alcoholism Both this woman and the infants were removed to the Poor law infirmary where the younger child afterwards died Mr Sheil committed the prisoner for trial on the charge of neglect she being already committed by the coroner for manslaughter

MEDICAL EXAMINATIONS FOR THE CAPE MOUNTED POLICE

To the Editors of The Lancet

Sirs,—Can any of your readers inform me whether it is any use for a young man suffering from secondary syphilis to go to London to pass the Medical Board for the Cape Mounted Police? or would the existence of syphilis absolutely disqualify?

I am, Sirs, yours faithfully
Mercury
August 12th 1902.

THE LAW FUND

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON

Dr. R. Paramore writes to us as follows from 2, Gordon square, W C:—"A meeting of the friends and sympathisers of Dr W T Law will be held at the Holborn Restaurant London W C on Friday afternoon August 29th 1902. The chair will be taken by Sir William Church The presentation of the gifts from members of the medical profession will be made to Dr Law In the meantime the fund will remain open for the reception of any contributions from all who are interested in the success of the movement" Dr Paramore adds his belief that with the exception of the case of Dr Cullingworth which was so generously responded to by the medical profession no more deserving case has appeared for the universal sympathy of the profession If the prosecution had succeeded there would have been no limit to these vexatious proceedings of actions being brought by ungrateful patients Cheques and postal orders should be made payable to the Law Fund and crossed London and County Bank, Holborn, W C "and sent to me, and I will most gladly acknowledge all donations however small The following additional subscriptions have been received by Dr Paramore:—

	£	s	d		£	s	d.
Faith, Time and Energy	1	1	0	Dr Ian Donald Mackay	0	10	6
Dr T Cuming Askin	0	2	6	Dr G Morton Wilson	1	1	0
Dr Albert J Adkins	0	5	0	Dr B R Craig Christie	0	7	6
Dr G Clark Cameron	0	10	6	Mr W John Gillespie	0	5	0
Mr W Pugin Thornton	0	10	6	Mr W Boyle Norcott	1	1	0
Mr Benjamin Morgan Lewis	0	5	0	Dr L E Valentine Every Clayton	0	5	0
Mr John Edward S Barnett	0	5	0	Dr W Haig	0	5	0
				Dr John Matheson	0	10	6

THE REWARD OF MERIT

The *Westminster Gazette* of August 12th publishes the following "from the advertising columns of a provincial paper"—

> A Nobleman, travelling abroad, will be glad to hear of a fully qualified Medical Man to accompany him who is an expert in passing a bougie into the middle ear, and the treatment of ingrowing toe-nails terms, food and out of pockets an M.D preferred evening dress and Church of England.—Address, &c.

Our contemporary has omitted to give the nobleman s address so that we cannot supply him with a free advertisement to the extent that we should like to do In the overcrowded state of the medical profession this appointment may offer a chance not to be missed, but this largely depends on the personality of the nobleman For though peers are technically equal, there are peers and peers Not every M.D can command the society of a first-class nobleman, and with "food and out of pockets" thrown in the post might be everything that a gentleman, a member of a learned profession and the possessor of a suit of dress clothes ought to expect But it might not be such a post, and the nobleman might turn out the sort of person with whom decent people do not care to foregather From the character of the advertisement we suspect the latter, or a hoax.

SOME VIEWS ON ANTITOXIN

To the Editors of The Lancet

Sirs —I notice that J J Lawrence A.M M D, editor of the *Medical Brief*, in a recent issue of that journal states that antitoxin is the greatest delusion of modern times that antitoxin contains carbolic acid, trikesol or other antiseptic, and that water solutions of these antiseptics of the same strength as that used in preparing the serum, will produce the same effects in diphtheria that the carbolic acid injections have been tested in several thousand hospital cases as well as in private practice and the results are identical with those obtained from antitoxin in the same type of cases I should like to hear what some of your readers think of the above

I am, Sirs, yours faithfully,
Harlesden
August 11th 1902

WHY NOT CLARET?

In The Lancet of July 19th page 193 we referred to the gift of claret which the shippers of Bordeaux wines had offered to the King through King Edward s Hospital Fund for the use of patients in the London hospitals We understand that the amount of wine really offered was 1000 dozen bottles and not 1000 bottles as we stated Moreover the refusal of the gift came directly from King Edward s Hospital Fund Committee and not from Lord Pembroke We can only repeat our regret that the kind offer of the Bordeaux shippers was not accepted

◆

Surgeon—Sometimes the fee is given to the substitute sometimes it is not and sometimes it is divided between the substitute and the patient s usual medical man There is no definite rule in the matter and the last is probably the course to be preferred It is well in such cases for the two medical men to refer the question to a third fellow practitioner as arbitrator unless the matter can be brought to the attention of the ethical committee of any local medical society

Doc Med—An exceptionally good man is independent of degrees and diplomas It is always well, however to obtain the best that are within the student s reach The questions cannot be answered more definitely

Communications not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received—*Literary Digest (New York), Hong Kong Daily Press La Caducée Rivista Medica de San Paulo Il Policlinico Bristol Mercury Birmingham Daily Mail Liverpool Daily Post, Reading Mercury, Southampton Echo Belfast News Dublin Evening Telegraph, Coventry Herald Scientific American Local Government Chronicle Manchester Guardian Hertfordshire Mercury Aberdeen Free Press Echo Times of India Hong Kong Weekly Press Windsor and Eton Express Pharmaceutical Journal, Allgemeine Medicinische Central Zeitung, Sunday Magazine St James s Gazette Kensington News, Ibero-Americana de Ciencias Medicas &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—3.30 P.M.: Dr. Saunders: Demonstration in Medical Wards.

TUESDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—5 P.M.: Mr. Bidwell: Application of Plaster-of-Paris Splints.

WEDNESDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M.: Lecture:—Dr. Russell: Aphasia.

THURSDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M.: Mr. Paget: Demonstration in Surgical Wards.

FRIDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—4.30 P.M.: Lecture:—Dr. Abraham: Skin Cases.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 14th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Aug. 8	29·77	W	—	11[illegible]	[illegible]	60	[illegible]	62	Cloudy
" 9	30·12	W		82	69	62	53	6[illegible]	Cloudy
" 10	30·09	W	0·11	101	[illegible]	54	53	56	Cloudy
" 11	30·00	N W	0·04	11[illegible]	67	47	[illegible]	64	Cloudy
" 12	29·[illegible]	N W		1[illegible]	6[illegible]	51	[illegible]	[illegible]	Cloudy
" 13	29·97	S W	0·03	9[illegible]	6[illegible]		[illegible]	[illegible]	Cloudy
" 14	29·[illegible]	W		9[illegible]	—	[illegible]	[illegible]	61	Overcast

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A Clinical Lecture

ON

THREE CASES OF BANTI'S DISEASE.

Delivered at the Liverpool Royal Infirmary

BY JAMES BARR, M.D. GLASG., F.R.C.P. LOND.,
PHYSICIAN TO THE INFIRMARY AND LECTURER ON CLINICAL MEDICINE, UNIVERSITY COLLEGE, LIVERPOOL.

GENTLEMEN,—I am able to show you to-day three cases of a comparatively rare disease, and as these cases have been for a considerable time under treatment the majority of you must have had frequent opportunities of observing them. These three cases may be legitimately designated as cases of Banti's disease which is usually looked upon as a form of splenic anæmia which is not a very definite nosological or pathological entity. Very interesting papers, with a full bibliography on Banti's disease, by Dr. W. Murrell appeared in the *Medical Press and Circular* of Jan. 8th, 1902, and in THE LANCET of April 26th, 1902, from which we gather that there are not more than from 30 to 40 published cases of splenic anæmia. The pathology of splenic anæmia is not at all settled and there are certainly a great many varieties of disease at present classified under this generic head. As stated by Dr. Murrell, most writers on this subject use the terms "Banti's disease," "splenic anæmia," "splenic cachexia," "splenic pseudo-leukæmia," "lymphadenoma splenica," and "spleno-megalia primitiva" as synonymous. In my opinion many varieties of disease have been more or less closely grouped under these various designations, the conditions common to all being a large spleen with more or less well marked anæmia. Professor Banti[1] of Florence described three cases of progressive anæmia. Clinically he recognised the progress of events as anæmia with enlargement of the spleen and secondary cirrhosis of the liver with ascites. There are frequent hæmorrhages such as epistaxis bleeding of the gums, hæmatemesis, and melæna. Pathologically he recognised fundamental and striking changes in the sympathetic nervous system. In his three cases there were found important changes, not only in the semilunar ganglia and solar plexus of the abdomen, but also in the ganglia of the neck. The changes consisted in lymphoid infiltration of the stroma of the ganglia, fatty and pigment degeneration of the ganglion cells and a degeneration of the nerve fibres springing from the ganglia. In one case there was atrophy of the pancreas with hyperæmic spots in the parenchyma. The lymphoid changes in the bone marrow appeared to him to be such as are usually found as a secondary sequence of anæmia. The changes in the chyle and hæmopoietic organs (as the stomach, the bowels, the spleen and the liver) had a great influence on nutrition, so that the cause of the anæmia in these cases became very apparent. He also mentioned that he had found analogous changes in other constitutional diseases—such as nephritis, diabetes, and Addison's disease. He looked upon the tumefaction or engorgement of the spleen and liver as the primary condition and the fibrosis of these organs which followed as a secondary consequence. Senator[2] considered Banti's disease as splenic anæmia with cirrhosis of the liver and he pointed out the great liability to hæmorrhages in such cases.

I shall now give you a brief abstract of the three cases which I exhibit to you to-day and we will then see how far these cases fit in with the description which has been given of Banti's disease. Some may say that the cases are not complete without post-mortem examinations but the patients and myself hope that such an event may be long deferred. The physical and pathological conditions of the patients are, however, so apparent that there can be no difficulty in arriving at an accurate conclusion as to the morbid anatomy of their viscera. It is true that we cannot tell what changes, if any, have taken place in the sympathetic nervous system, but the state of the circulation points to a paretic condition of the whole splanchnic area in each of the three cases, and I look upon this as an important determining factor in the causation of the disease.

CASE 1.—The patient, a carter, aged 48 years, was first admitted on August 12th, 1901, in a very precarious condition. He stated that he had always enjoyed good health up to four years previously when he met with an accident which injured his abdomen. After this he noticed some swelling but it did not incapacitate him from work. In June, 1901, he strained himself lifting heavy weights and after that the swelling of the abdomen became more marked and about the end of July he had to give up work. For 20 years he drank rum and other spirits but he did not acknowledge to any great excess. He had epistaxis and hæmatemesis on several occasions. On admission he presented the appearance of a man who was suffering from cirrhosis. His dark, sallow, somewhat icteric appearance, injected malar capillaries, shrivelled skin, attenuated extremities, and emaciated frame with large abdomen, all pointed to portal obstruction. His spleen was enormously enlarged, filling the greater part of the left half of the abdomen. The liver was large, firm, and irregular on the surface, and the abdominal cavity was distended with fluid; on two occasions 80 and 134 ounces of clear ascitic fluid were drawn off. There were mitral and tricuspid systolic murmurs with pulsation in the liver and veins of the neck. Friction fremitus was felt all over the abdomen and the fluid did not reaccumulate. He was kept on a dry diet and given salol and digitalis. His spleen diminished much in size, his general state greatly improved and he was discharged in fair condition on Oct. 16th, 1901.

He was readmitted on March 24th, 1902, in a very weak condition, suffering from dyspnœa, cough, and profuse expectoration of frothy mucus. The skin was of a dirty sallow yellow colour and was loose and shrivelled, the conjunctiva had an icteric tinge, there was no subcutaneous fat, the abdomen was much enlarged, and both legs were œdematous. The left pleura was full of fluid and soon afterwards 88 ounces of serous fluid were withdrawn. The heart's action was feeble and the mitral and tricuspid valves were incompetent. The blood pressure was low. An examination of the blood by my house physician, Dr. J. C. Mann, showed hæmoglobin, 40 per cent.; red cells, 2,400,000 per cubic millimetre, and white cells, 5000 per cubic millimetre. The circumference of the abdomen was 41 inches, the abdominal veins were much distended, the liver was large and irregular on its surface, and the spleen was enormously enlarged, extending nearly down to Poupart's ligament and about three inches to the right of the mesial line; the surface was smooth and two large notches about four inches apart could be readily felt. You can feel the same condition in the present day though the spleen is somewhat smaller. He was put first on a terebene mixture and afterwards on one of perchloride of iron and chloride of calcium. On April 11th Dr. Mann's examination of the blood gave the following result: hæmoglobin, 65 per cent.; red cells, 2,560,000 per cubic millimetre; and white cells 8000 per cubic millimetre. A differential count of the white cells gave the following result: large hyaline, 44 per cent.; lymphocytes, 20 per cent.; finely granular oxyphiles 35 per cent.; and eosinophiles 1 per cent. The red cells were normal in shape and size. During the patient's previous residence in the infirmary his temperature was subnormal throughout, but on this occasion there has frequently been an evening rise to 100° F.; in the morning it is usually subnormal. He has recently gained a little flesh and now weighs nine stones and six and three-quarter pounds. He has steadily improved in general condition, and is now able to get about. His chest is quite clear, the heart's action is stronger and he looks much better. His spleen is somewhat smaller but it is still very large; it measures 16½ inches by 13 inches and, I should say, weighs over eight pounds. His liver is still rather large but it does not pulsate. Dr. R. E. Kelly, my present house physician, has recently made an examination of the patient's blood with the following result: erythrocytes, 5,000,000 per cubic millimetre; leucocytes, 12,600 per cubic millimetre; hæmoglobin, 60 per cent.; hæmoglobin value of each corpuscle, 60 per cent. His cardiac area is small, the deep dulness extending one and a quarter inches to the right and three and three-quarter inches to the left of the mesial line. At the apex the first sound is dull and murmurish, the second is clear but not accentuated. At the aortic area there are a systolic murmur and a clear second sound. At the tricuspid area the first sound is followed by a short systolic murmur and a clear second sound There is systolic pulsation in the veins of the neck. The blood pressure is low, with Hill and Barnard's sphygmometer the pressure in the brachial artery is, in the recumbent posture, mean 100 millimetres of mercury, obliterating pressure 150 millimetres of mercury In the sitting posture mean is 110, and the obliterating 160, millimetres of mercury In the illustration (Fig 1) the outline of the patient's spleen is traced

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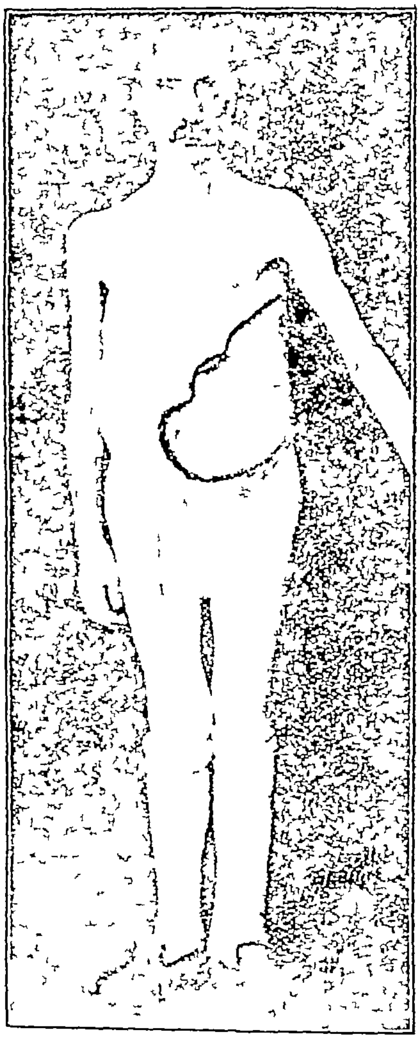
[1] Contributo allo Studio delle Anemie Progressive; Anæmia Gangliónare (Florence, 1881).

[2] Berliner Klinische Wochenschrift, vol. xlvi., 1901.

FIG 1.



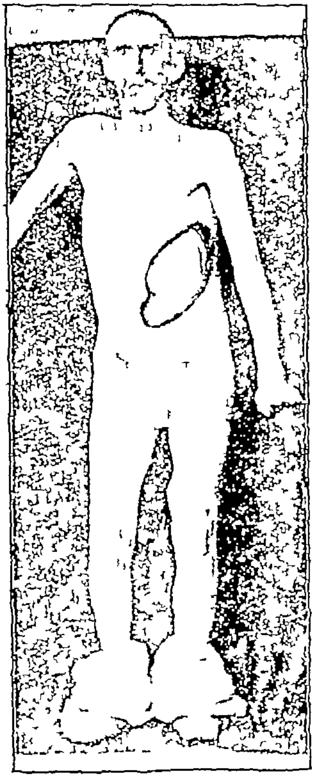
From a photograph of the patient in Case 1 The outline shows the size of the spleen

CASE 2.—The patient, a male, aged 42 years, has been a cotton porter for the last five years, and a coal miner previously to that, which was evidenced by the whole of his skin being studded with particles of embedded coal dust. He was admitted to Mr F T Paul's ward on Nov 2nd, 1901, on account of Morton s disease, but Mr Paul did not think him a fit subject for operation and he was transferred to my male ward on Nov 16th It was then evident that metatarsalgia was only a minor part of his ailment. About 20 years ago he met with an accident to his spine in a coalpit, and the spines of the lumbar vertebræ are now very prominent Five years ago he vomited blood, and again in May, 1901, he had such a severe attack of hæmatemesis that he was unconscious for a couple of days He thought that he vomited about two quarts In Mr Paul's ward he had another attack of hæmatemesis, this and his appearance led at once to the investigation of his liver for cirrhosis, though he said that he never drank more than a pint of beer daily He presented a distinctly sallow, icteric tinge with large malar capillaries, loose shrivelled skin, considerable emaciation with absence of subcutaneous fat, large abdomen, but no ascites His lips were dry, his teeth were good and were covered with sordes, his tongue was dry brown, and tremulous, and the anterior half was rather denuded of epithelium, his gums were soft and spongy and bled readily, and he suffered from thirst, his stomach was not enlarged and he had no pain after food His liver was large and irregular on the surface. His spleen was large and the notch was easily felt The area of the heart was increased, to the right there was a tricuspid systolic murmur The blood count gave hæmoglobin 30 per cent. and red corpuscles 5,000,000 per cubic millimetre, the white cells were not counted but there were about an equal number of mononuclear and multinuclear cells. The lungs were normal. The urine amounted to 41 ounces, it was highly coloured and had a specific gravity of 1014, a slight trace of albumin and bile was present, urea, 2 5 per cent. There was considerable pain at the distal end of the fourth metatarsal phalanx of the right foot, the knee jerks were present but were not well marked There was slight swelling of both feet and in the right knee joint The pain in the right foot was so severe as to keep him awake at night Dr Mann examined the blood on April 12th and found hæmoglobin 56 per cent and red cells 6,000,000, and white cells 12,000, per cubic millimetre. Again, on April 13th the blood count gave hæmoglobin, 65 per cent., red cells, 6,500 000 per cubic millimetre, and white cells, 16,000 per cubic millimetre

The progress in this case has been very slow and the patient has had a great variety of symptomatic treatment which I will try to summarise The pains in the feet have given rise to a great amount of trouble Very soon both feet became involved, and they were so exquisitely tender that he could scarcely bear to have them touched, they were much swollen, red, hot, and tender and he could not bear to have them depressed The pain was equally severe in both feet and was not confined to any particular spots, though the greatest pain was caused by lateral pressure on the distal ends of the metatarsal bones It was evident that we had a severe case of erythromelalgia of both feet. For this pain morphia and Dover s powder were administered internally and various liniments externally He had electric foot baths and his feet were immersed for hours daily in very hot water which seemed to do good, but what has really enabled him to get on his feet has been wrapping them in cottonwool and then applying tightly over this an elastic bandage The good effect of this is very apparent when you now see him walking about in his bandages, whereas a short time ago his feet had to be elevated about 18 inches above the rest of his body in order to afford him some relief For the pain and swelling in his knee and ankle joints iodide of potassium and salicylate of sodium were given His spongy gums, raw tongue, and pharyngitis gave some trouble but were relieved by the local application of nitrate of silver and the internal administration of lime juice and cream of tartar As general tonics he has had strychnine, digitalis, quinine, and hydrochloric acid Since April 12th he has been taking with advantage a mixture of the perchloride of iron and chloride of calcium. His diet throughout has been light and nutritious and rather dry He is now much better and is able to get about His digestive organs are in a fair condition, his liver and spleen are much smaller, though both are still much larger than normal The spleen measures 10 by five and a half inches There has been no ascites, his urine is now normal His heart is fairly normal and is now without any tricuspid regurgitation, there is still pain in his feet and I am afraid without the bandages he would not be able to get about His temperature has been subnormal throughout. The peculiar condition of his blood, showing an excess of both red and white cells, may be partly due to his dry diet and the limited amount of fluid in his tissues At present the area of the heart is rather small, the deep percussion extending one and a half inches to the right and four inches to the left of the mesial line The sounds are sharp and clear and free from murmur The blood pressure in the brachial artery with Hill and Barnard's sphygmometer is, in the recumbent posture, mean, 96 millimetres of mercury, and the obliterating pressure is 136 millimetres of mercury, in the sitting posture it is mean 100, and obliterating pressure 146, millimetres of mercury Dr Kelly's examination of the blood gives the following result: erythrocytes 7,000,000 per cubic millimetre, leucocytes, 13,000 per cubic millimetre, hæmoglobin, 70 per cent, hæmoglobin value of each corpuscle, 50 per cent. The patient's gums are still very spongy and his tongue is red and raw His lips and finger ends are of good colour The tip of one of his toes is gangrenous, not an uncommon event in erythromelalgia. A reproduction of his photograph is appended. (Fig 2.)

CASE 3.—A man aged 38 years, was admitted under the care of Mr Paul on June 14th 1901, for a large tumour in the left hypochondrium. Mr Paul explored and found a large vascular spleen which bled profusely on the slightest handling. The liver was found to be rather large *and smooth* but otherwise it was normal. The wound was closed and when it had healed the man was transferred to my ward on July 12th. About five years ago when jumping a hurdle he caught his toes and fell violently forwards hurting his chest and abdomen. He was then in bed for two weeks. After this he continued fit for work but during the last six months he had lost a stone in weight. About seven or eight weeks ago he first noticed severe pain in the cardiac area shooting across from nipple to nipple. After food this pain became localised in the epigastrium. There was no vomiting and his bowels were very constipated, there being five or six days between the movements lately there was melæna. His condition when in my ward may be summarised as follows. On admission he was so extremely prostrate and his blood pressure was so low that even propping him up in bed made him feel faint. He was much emaciated and rather anæmic his skin was loose and dry with no subcutaneous fat, he had a slight icteric tinge of the conjunctivæ the mucous membrane of the mouth was of a dark red colour and the tongue was red and denuded of epithelium. The area of the heart was small the sounds were short and clear the first sound being accompanied by a systolic murmur at the apex. Dr Mann's examination of the blood showed 2,800 000 red cells and no excess of leucocytes. The lungs were normal. The abdomen was much distended. The spleen was very much enlarged filling the left hypochondrium, lumbar and left half of the umbilical regions. Hepatic dulness measured three and a half inches in the nipple line, and the lower border which was sharp and smooth, could be felt below the costal margin. The urine was normal. He was put on a light diet, had a mouth wash of carbolic acid and formaldehyde salol internally and occasionally a dose of calomel. About a fortnight after admission his spleen began to shrink but his abdomen filled with fluid. Between that time and the end of October he was tapped nine times, the average amount drawn off being 264 ounces. On August 10th 44 ounces of sanious fluid were drawn off from his left pleura, but a second operation was not required. Friction was heard and felt and eventually the pleural surface became adherent.

FIG 2.



From a photograph of the patient in Case 2. The outline shows the size of the spleen.

It was necessary to settle the question of tuberculous peritonitis and accordingly some of the ascitic fluid was injected into a guinea pig at the Thompson Yates laboratories but with a negative result. By the end of October he had improved very much in general condition and the spleen had shrunken so that it could only be felt below the costal margin. I thought it useless to continue the tapping so I sent him back to Mr Paul with the view of having his abdomen drained. Mr Paul operated on Nov 4th and left the drainage-tubes in for about 10 days, but when they were removed the wound healed and the fluid reaccumulated. He operated again on Jan. 2nd 1902, and drained until the 17th. At each of these operations it was noticed that the parietal peritoneum was extremely vascular but the visceral layer was an opaque white, very like the condition of leucoplakia. After the last operation numerous adhesions took place and the right half of the peritoneal cavity was practically obliterated. On March 6th there was a large loculated collection of pus in the left hypochondrium and lumbar regions. Mr Bickersteth operated for Mr Paul this abscess was thoroughly drained until April 15th. The wounds have healed for some time and he has now returned from the convalescent home.

The following note was made on May 22nd 'Great improvement has taken place in the condition of this patient. He can now get about and attend to his business. He enjoys his food but occasionally after meals he feels uncomfortable and distended with flatus. His legs occasionally swell in the evening. The right radial artery with Oliver's arteriometer measures in the recumbent posture 3 3 millimetres in the erect posture it measures 2 8 millimetres with Hill and Barnard's sphygmometer the blood pressure in the brachial artery in the recumbent posture is mean 103 millimetres obliterating 156 millimetres in the erect posture it is mean 98 millimetres obliterating 152 millimetres of mercury. The cardiac area extends two inches to the right and four and a half inches to the left of the mesial line. The apex beat is situated in the fifth interspace gently heaving. The first sound is dull at the apex followed by a short second sound. At the tricuspid area the first sound is dull but no murmurs are present. At the base the second sound is double the final element being pulmonic. The veins of the neck are somewhat distended when he is lying down and show slight systolic pulsation they empty with inspiration. There are a few harsh sonorous râles over the chest. The expansion of the left side is not quite so good as on the right side and the left intercostals are drawn in during inspiration the percussion note throughout is good. At the base of the left lung the vesicular murmur is rather [illegible] and defective [illegible] and measures fo [illegible] pira five and a ha [illegible] tion the edge of the liver feels smooth and rounded. The spleen fills the greater part of the left hypochondrium and forms an irregular oval measuring eight inches by six inches the lower margin which extends about two inches below the border of the ribs is felt to be hard and firm with smooth surface. The rest of the abdomen is tympanitic but a diffuse thickening is felt all over evidently due to peritoneal adhesions. There are four scars at the site of the old operation wounds. The circumference at the level of the umbilicus is 35 inches. The tongue is clean, the mucous membrane is rather purplish and congested, the gums are spongy the malar capillaries are rather large and the ears are congested and feel cold. The blood-count was as follows: hæmoglobin, 85 per cent.; red corpuscles, 5,120,000 per cubic millimetre; white, 11,560 per cubic millimetre; polynuclear cells, 72; lymphocytes, 18; eosinophile, 7; and hyaline, 3 per cent. The temperature in this case was subnormal except on a few occasions, when it reached 99·2°; there was usually a range of one to two degrees between the morning and evening temperatures."

This man on admission was decidedly anæmic and Dr. Mann on one occasion found that his red corpuscles only numbered 2,800,000 per cubic millimetre with no excess of leucocytes, but examinations of his blood were not made regularly, as during the early period of his residence in hospital, before I had had an opportunity of seeing his peritoneum, I looked upon the case as one of chronic tuberculous peritonitis with an enlarged spleen. The occurrence of sanious fluid in the pleural cavity supported that view as cases of polyomenorrhitis are nearly always tuberculous. After an examination of the peritoneal cavity and its contents and watching the progress of the case that view was set aside and I have placed the case with the other two as one of Banti's disease. If this view be correct the present condition of the patient shows that Banti's disease is not necessarily fatal but even capable of being practically cured.

We can now compare these three cases. They are all males, aged respectively 48, 42, and 38 years. Each one met with a more or less serious accident to his abdomen some years before the occurrence of the present disease. There is nothing in the family history of any of them which could have any bearing on the disease. They have never been out of this country. There is no history of syphilis in any case; the first man may have taken more alcohol than was good for him, but there is no such history in either of the other two cases. The blood pressure was low in all the cases, this no doubt being due to vaso-motor paresis of the splanchnic area, and it was so very low in the third case that for a long time the foot of his bed had to be raised in order to maintain his cerebral circulation. This lessened peripheral resistance in each case led to more or less cardiac atrophy and in no case is the heart of such size and power as would be required by a labouring man. The abdominal viscera in each case have been engorged while the vessels of the rest of the body have been comparatively empty. The skin has been loose and shrivelled, there has been almost complete disappearance of the subcutaneous fat, and the muscles have been atrophied. In none of the cases was there such partial obstruction as would account for these latter phenomena. In all the cases there has been a low form of chronic peritonitis with marked friction fremitus, but without any febrile temperature. In Case 1 and Case 3 there were ascitic and pleural effusions, but the complete disappearance of the fluid in the first case after a couple of tappings showed that the ascites was not due to the cirrhosis, and in the latter case at the operations the liver was found to be fairly normal. In Case 2 the albuminuria indicated renal engorgement and the well marked erythromelalgia of both feet showed further vaso-motor paresis. The three spleens are now very firm and no doubt undergoing fibroid changes. In Case 3 the great enlargement at first was simply due to engorgement, as evidenced by the great shrinkage which has taken place. The spleen is normally a very spongy organ and capable of great variations in size. It is also, as Dr. William Hunter has well shown, a blood-destroying organ, and during the early stage of engorgement this function would be increased and the excessive hæmolysis would lead to the anæmia which is such a distinctive feature of the disease. When the fibrosis is well established the hæmolysis would diminish and might reasonably be supposed even to sink below normal; that such has here happened is shown by the increase of erythrocytes in Case 2 to 7,000,000, in Case 1 to 5,000,000, and in Case 3 to 5,120,000 per cubic millimetre.

In all these cases there was marked oligochromæmia. In the early stages there were considerable diminution of the erythrocytes without any alteration in their size or shape and no excessive leucocytosis. The great diminution in the red cells referred to by Dr. Murrell would seem to be no necessary part of the disease but would rather tend to show that such cases should be grouped with those of pernicious anæmia. If my view of this disease be correct then it is highly probable that the primary reduction may eventually end in an excessive number of erythrocytes if the patients live long enough.

In my male ward you will at present find an extreme case of pernicious anæmia where the red cells number less than 500,000 in the cubic millimetre. In these cases, especially in Case 2 and Case 3, there has been a pronounced hæmorrhagic tendency. In Case 1 and Case 2 there is distinct cirrhosis of the liver without any marked portal obstruction. If there be yet any cirrhosis in Case 3 it must be slight.

I now show you a patient suffering from alcoholic hepatic cirrhosis who has been tapped many times in order that you may compare him with the other three patients. In his case there is no marked enlargement of the spleen, and although in such cases there is usually cardiac asthenia with incompetence of the tricuspid valve, yet there is no such fall in the peripheral blood pressure as that which occurred in the cases which I have been describing. I had also recently in my ward a well marked case of leucocythæmia who has greatly improved and is now an out-patient. You will find his spleen very large, firm, and smooth, but an examination of his blood at once places the case in a different category.

In Case 2 the slight icteric tinge and absence of ascites may raise the question of biliary or hypertrophic cirrhosis of Hanot, but in that disease the jaundice is much more pronounced, there is more or less febrile disturbance, and marked leucocytosis; the liver and spleen are both enlarged but the liver is smooth on the surface and the cirrhosis is monolobular. In this case the spleen is greatly enlarged, the liver is large and hob nailed on the surface, so the cirrhosis is of the multilobular variety. There have been no fever, no leucocytosis, and no marked jaundice.

In conclusion, I may say that my view of Banti's disease is that it is probably due to a vaso-motor paresis of the splanchnic area, either in whole or in part, and that this paresis arises from disease of the visceral sympathetic ganglia. As a consequence there is great engorgement of the abdominal viscera, especially of the spleen and liver, increased hæmolysis with consequent oligochromæmia and oligocythæmia. The increased blood supply to those organs eventually leads to fibrosis and lessened function. The peritoneal effusion when it takes place would seem to be due to vascularity rather than portal obstruction. The paresis leads to retention of blood in the portal area with lessened supply to the rest of the body, fall in the general blood pressure with lessened work for the heart, impairment of nutrition, and muscular atrophy. The digestion is usually impaired, there is apt to be an increase of toxins in the intestinal tract, with further aggravation of the mischief. The engorgement of the viscera and mucous membrane generally is a frequent source of hæmorrhage.

Splenectomy has been recommended and, I may add, practised as the best method of treatment for this disease. It may be an excellent treatment for the disease, but in every case you have got to consider the patient rather than the disease. In Case 1 and Case 3 such a procedure would certainly have proved fatal and in Case 2 the spleen at present is not sufficiently active and therefore I cannot see the *raison d'etre* for its removal. I do not think in his case that it would be fatal, but it might set up in time leukæmia which would be as difficult to treat as his present illness. We may try something to assist the spleen and to increase the hæmolysis. We must get beyond the spleen, we must try to reach the nerves and ganglia which supply the spleen and other viscera. We must as far as possible raise the general blood pressure, improve the nutrition, and keep the intestinal tract as antiseptic as possible. For the latter purpose I prescribe salol, benzo-naphthol, and an occasional saline purge; for the former such drugs as strychnine, digitalis, quinine, and caffeine are useful. I am fond of the perchloride of iron with chloride of calcium as a good hæmatinic and vascular tonic, and it also lessens the liability to hæmorrhage. I have not tried arsenic systematically in these cases, as on *a priori* grounds I did not expect any benefit from its use. In the first two cases I am at present trying suprarenal capsules. Of course, in the early stage the patient should be kept in bed. It is probable that a large elastic abdominal belt firmly applied would do good.

The diet should be light, plain, simple, and easily digested, such as peptonised bread and milk, raw eggs, milk puddings, bread and butter, fish, chicken, mutton broth, ripe fruit, tea, coffee, and milk. As there is not so much obstruction to the portal circulation in the liver as in an ordinary case of cirrhosis there is not the same necessity for limiting the quantity of fluid drunk. The following jelly I find an agreeable method of introducing chloride of calcium into the system. Take about an ounce of gelatin, the juice of one lemon, from two to four drachms of chloride of calcium, and one pint of hot water Dissolve the gelatin, &c. allow to set, and it is then ready for use.

For the ascites Dr Murrell recommended the operation of epiplopexy In Case 3 drainage as carried out by Mr Paul answered admirably and I think in the majority of such cases is likely to do better than epiplopexy In these cases there is not very great obstruction to the portal circulation and so no great necessity for establishing a collateral circulation. You want rather to abolish or to limit the secreting surface. I think that cases curable by epiplopexy can be cured by simpler means. The treatment in these three cases has been to a certain extent successful and I hope by attention to minute details that further improvements will take place.

Note (*August 12th*).—Cases 1 and 3, when last seen, were in very fair condition Case 2 is still in the infirmary suffering from gangrene of several toes in connexion with his erythromelalgia.

An Address

ON

HEART DISEASE IN CHILDREN

Delivered at the Manchester Children's Hospital, Pendlebury before the Society for the Study of Disease in Children,

BY A. E SANSOM, M D, F R C P LOND,

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MR. CHAIRMAN AND GENTLEMEN —In the first place I have not a paper to read I have only a few remarks to make. Some of us are pretty well accustomed to a few remarks" and they may be agreeable or they may be otherwise But I have a very agreeable task in the first place and that is to thank the authorities of this Pendlebury Hospital especially our chairman (Dr H Ashby) on this occasion, whom all revere and for whom we have a very great affection, for their goodness in allowing us to come here and to see the wealth of material which they have. It is all very well to make apologies for the wards but it seems to me there is no place in the whole country—or I think I may say in any other country—in which disease in children is better to be observed and is better observed and studied than here And let me say on the part of the members of our society that it is not only honoured but it honours the place. The society is founded upon the best principles I believe and I think the title is one that is worthy of all commendation There is no glamour about it it is a Society for the *Study* of Disease in Children" and it is upon those lines that I have to make a very few remarks before the meeting upon heart disease in children.

When we look over the great realm of children's diseases and when we narrow our view to the question of organic heart affections in children I should say that in the enormous proportion it is the *rheumatic* heart which we have to deal with. It is quite true to say that, in children especially we have to consider anomalies and malformations. But even when we do consider malformations of the heart, which we do not hear of so much in adults because unfortunately life is not preserved long enough we find in a very large number of cases—and especially do those find it who like Dr Theodore Fisher study it in the post mortem room—that there is not infrequently *superadded to it a form of disease* essentially of a rheumatic nature that is, so far as we have morbid anatomy to guide us. And that is no original observation It was made by Dr T B. Peacock in the very early periods of investigation on the subject So that even when we have malformations to consider we have the superaddition of rheumatic troubles to think of also. And then in any case in children where the question of congenital anomaly comes in, we have to think whether that seemingly congenital anomaly is due to intra uterine endocarditis or whether it is due to congenital malformation Now there is such a thing as congenital endocarditis That I have proved myself and I know many others have clearly proved it also It becomes us, therefore, to question in any case of seeming congenital anomaly whether there is not also a question of congenital endocarditis in the case.

In this communication I propose to consider only the following groups of what I will call the chief condition of heart disease in children, the rheumatic heart of childhood The congenital anomalies I shall not consider at all, they are too rare for my present subject I shall only consider the more common forms of heart disease in children Those more common forms I would classify as examples of the *rheumatic heart* Now the groups varieties, and phases of the rheumatic heart which I propose to consider are, (1) the temporarily swollen or enlarged heart of rheumatism, (2) the heart of rheumatic pericarditis, (3) the heart of rheumatic endocarditis with resulting valvular disease, severe or extensive and (4) the heart of slow insidious *endocarditis inducing mitral stenosis* By '*rheumatic*" I mean a morbid condition in strict relation with my conception of the rheumatic process, the phenomena of true rheumatism I do not consider any specially painful implication of the joints to be necessarily an index of this condition It may be strange to say that rheumatism is not essentially a painful disease but that is my *deliberate conviction The arthritis of true rheumatism is* certainly very painful in some cases—painful while it lasts; but it is singularly controlled and influenced for good by medicines such as salicin and the salicylates, and very rarely lasts more than a fortnight. At the end of that time the pains and swellings of the joints disappear leaving no permanent morbid changes, though there may be and often are, waves or storms of recurrence There are many cases of arthritis which are not rheumatic I am of opinion that osteo-arthritis so-called rheumatic gout is dependent in many cases upon infections which have no relation with rheumatism, that the morbid changes in this disease are more permanent the pains are much more severe and protracted and the resulting deformities are more significant than in the case of true rheumatism.

Now here I must just call your attention to somewhat of a rarity *that is to say osteo-arthritis in children* and the lessons which I think it teaches us. It may be remembered—and you will see it in the published volume of the reports of this society—that I brought forward a case of osteo-arthritis in a child It was in a boy aged 11 years. The disease does not occur generally at a very early age The joints in that case were swollen nearly all the large joints were involved and it was very long lasting—six months under our own observation There was a little improvement under massage, and so on but not very much. It did not comport itself in the way that I think is usual in acute rheumatism generally Acute rheumatism in the child is evidenced mostly by rise of temperature by painfulness which may be very slightly marked in a few joints, by anæmia by skin troubles of certain forms (especially erythema) by peliosis rheumatica" *as it is called (purpura)* and *sometimes* by urticaria. *It is very doubtful whether other forms* of erythema like erythema nodosum are associated with rheumatism. I do not think that erythema nodosum has anything to do with rheumatism but at any rate rheumatism is attended by some skin affections and by rises of temperature. But in childhood as I need not say to members of this society who have plenty of opportunities for investigation we find that the heart phenomena—not complications—of rheumatism are very much to the fore that there may be pericarditis, there may be endocarditis and there may be the swollen heart of rheumatism without any signs to show that there are arthritic phenomena present They exemplify a form of rheumatism a very marked phase of the rheumatic process in the child without the intervention of arthritis to interpret it as rheumatic Therefore it does not do for us to take arthritis as an index of rheumatism

There are other things which come before us so markedly in child's rheumatism To come back to this case which I spoke of and its lessons there were very marked painfulnesses lasting at least for six months and very marked deformities. Twelve months later I had the opportunity of seeing the child again for he has been under my care for a considerable time The characteristic lessons I think, are these that the arthriticism, the arthritic conditions are much less but the wasting conditions are very marked indeed So marked is the wasting of muscles and the deformities which result from the wasting of muscles that I have been able to base some remarks to my clinical clerks and house physicians upon them and to say in some cases—I say it now with plenty of opportunity of correction because I know very well that you will correct me if you think I am not right—that some cases of this form of arthritis are non rheumatic, and that in some the arthritis is in excess of the neuritis and in others the neuritis is in excess of the arthritis This boy has no cardiac lesion nor any approach to one The form of arthritis of which I speak is not rheumatic, according to the best of my knowledge and belief. Sometimes the arthritis is more pronounced than the nerve phenomena, sometimes the nerve phenomena are more severe than the joint phenomena, and it is a question very often of the preponderance of the one or the other In the so-called "rheumatic gout" of children there may be very much destruction and alteration of joints or there may be very little alteration of joints, and yet there may be a great deal of wasting owing to nerve causes I have had some photographs and radiographs taken of this case and they will compare with those which are in the former volume of our Transactions I think the radiographs show that the chief signs are in the feet and that the swellings which were about the joints, as shown by the radiographs, are very much less, whereas the deformity and wasting are still very marked indeed, although less in the hands than formerly

To come, then, to our former topic, the rheumatic heart of childhood, this is essentially a rheumatic phenomenon, and it very often is not to be interpreted by any form of arthritis at all The heart of osteo-arthritis is a very irritable heart, sometimes inclined to quicken, sometimes inclined to be slow, and sometimes to be irregular But it is not associated with any organic disease of rheumatic type

And now you may say that I have been labouring rather to show that the common notion of taking arthritis and painful joints as signs of rheumatism is not a justifiable thing and that we who study disease in children are essentially disposed to combat that usual notion so prevalent amongst the public—and I may say those members of our own profession whose practice does not lie so very much amongst children Rheumatism is not essentially a joint process, it is only adventitiously a joint process

I will now briefly refer to the first group which I have mentioned, of the truly rheumatic heart in children, and I will say that, so far as my own experience goes, it entirely endorses the observations of my friends Dr D B Lees and Dr F J Poynton who have shown that in child rheumatism as well as in the rheumatic fever of adults the heart may be temporarily enlarged I have frequently found that to be the case in the wards and I have demonstrated it I do not think you want any very severe or unusual processes to demonstrate that—your own fingers are the best thing The first point is to find out where the pulsations of the heart are to be felt If they are to be felt outside the normal position, to the left or to the right, you make a note of it. Then I agree with Dr Lees that when you have found the points where the beat is felt (I do not like the term "diffuse beat") —when it is felt at more than one interspace—you can reckon that the ventricle extends at least a finger's breadth outside that, and you may use percussion to determine that enlargement with very great advantage. But when it comes to the question of the mode of percussion I do not think I quite agree with Dr Lees in thinking that the finger of the observer is the very best method I think that it is the best as a percusser but not as a pleximeter, but you must remember that I am a little biased, for I like my little pleximeter best because I think it gives the most accurate results, as did Piorry I was a pupil of Piorry many years ago—he has been dead for some years—and he used to say, and I thought then with a very good show of reason, that the soft cushion of the finger does not give you as good results as something which is rigid and which therefore shows the vibrations better I think that he was right. I agree with Dr Lees in the main and these are only observations, perhaps a little outside the practical If you find by means of the finger the point of extreme pulsation and then apply your finger outside you get very fairly the outline of the enlarged heart—that is to say, one finger s breath away That it is enlarged in rheumatism I entirely agree It may be temporarily enlarged and then in the course of 24 hours it may recover Or it may take several days to recover, in fact, it goes through the phases of an ordinarily enlarged and swollen joint, according to the best of my knowledge and belief That sometimes occurs in pre-existing disease of the heart, and sometimes in a sound heart, and the subjects of that heart have no distressful symptoms or need not have The heart, according to some members of our profession and according to some observers, is dilated Well, I agree that it may be so But why is it dilated? Is it dilated because there is any particular form of myocarditis? I do not think so I am sorry to confess, as this is a society for the study of disease in children, that I know very little, or even nothing, clinically, about myocarditis. We read of myocarditis, but I do not know of any clinical sign by which I could determine that there was myocarditis I do not know even whether in these cases there may be any degeneration as a consequence of such myocarditis I should think not, because the heart resumes its normal size and shape so readily and quickly What do I know about it? The opinion which I recorded many years ago in my 'Lettsomian Lectures" is that the heart is *infiltrated* under such circumstances, and I demonstrated that it is infiltrated Therefore I should say—and I think that Dr Fisher, who has written on this question an exceedingly good paper in THE LANCET,[1] is of my opinion and that Dr Lees and Dr F J Poynton and Dr Payne are also of my opinion—that there is something which enfeebles the heart, but it is not of the nature of the ordinary form of inflammatory trouble or degeneration, it is an infiltration which cripples the heart

If that is so, let us think to what very important points it leads us It is that the dilatation of the heart is not an unusual phenomenon, it is a fairly common phenomenon. If Dr Lees is right—and I think he is—it occurs almost invariably in any form of rheumatic disease of the heart. But the heart enlarges without any particular sign as regards the patient and by and by it gets normal again Well, those observers who hail from Germany tell us that dilatation of the heart is such a fearful thing that it has to be observed by the nurses every hour and tested by the sphygmograph, and the patient s attention must be constantly directed to it But it seems to me that that is very unreasonable, inasmuch as the change is not accompanied by any special signs, and the patient makes a very good recovery in a considerable number of cases, though not in all But even supposing that there is a heart already diseased, the temporary dilatation that accompanies the rheumatic process does not make a great deal of difference unless the disease within the heart increases, and that it very often does, from pericarditis or endocarditis, or both But I do not think we may say that dilatation of the heart, as such, is a thing of the greatest immediate consequence and of the significance which we have been told And I may go further and say that dilatation of the heart, in some cases even of valvular disease, is a very good thing For example, if you find a crippled mitral valve, a regurgitant condition of mitral insufficiency, it is a very good thing to have some dilatation of the left ventricle You would not get compensation unless you had In such a case the left ventricle drives some of the blood back into the left auricle and does not send so much into the aorta, but fails by and by, in the process of time, to send sufficient for the nutritive needs of the organism It must therefore hold more, and to hold more it must be dilated Therefore I do not think that we can agree that dilatation is *always* of the severe and grave significance that some people think. I quite agree that in aortic disease painful conditions occur and that there may be something of distension of a serious kind in that condition, but in the great majority of cases the dilated heart is not of necessity of the significance that some people have made out

So much for polemics I have already said that the heart of rheumatism is a heart that enlarges, and rheumatism in all its forms is a dangerous thing as regards the heart and produces organic disease, but the rheumatic gout or osteo-arthritic form is not productive of any disease of the heart but brings about an over sensitiveness of the nerve mechanism of the heart

The heart of rheumatic pericarditis I have not time to consider now With regard to the heart of rheumatic endocarditis, with increasing valvular disease, we know the extreme significance of that, and the heart of slow and insidious rheumatic endocarditis inducing mitral stenosis This latter I think I should say a few words upon because it has been a subject of very long study with me The disease known as mitral stenosis is a very subtle one—so subtle that, as I have said before, it has been considered to be a form of congenital anomaly It may occur in intra uterine life, it is quite free from symptoms in its origin and progress, and it is generally only when the child is from 7 to 12 years of age that it becomes strongly marked and is detected.

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[1] THE LANCET, June 7th, 1902 p 1594

The smoothness of the funnel shaped mitral valve has sometimes suggested that it is a congenital anomaly but I believe that it is not so The disease I think, is rheumatic and only rheumatic, because I have seen those cases ultimately in the course of time develop true and undoubted rheumatism, though some observers especially French have *thought, from the insidious character of it that it is not* rheumatic *ab origine* but tuberculous. I think that there is no such likelihood I think that it is rheumatic but very gradual in onset and in progress

I have endeavoured to bring before you what my conception of rheumatism with regard to the heart is. That opinion is not worth much only in so far as you endorse the opinions which I give and submit them to that actual study which is the province of this society But I think we should try to persuade our brethren to alter their conceptions of rheumatism and to remember that rheumatism is a very subtle and gradual form of disease that all arthritis is not rheumatic—in fact that there are many other causes of arthritis in both children and adults than rheumatism that heart affections are peculiarly symptomless very often in origin and progress, that the treatment of them must be conducted on rational lines and that anything in the nature of methods *ad captandum* ought not to be applied to them.

Those are the observations I had to make and I am only exceedingly sorry to have taken up so much time in developing them I am only delighted to have done anything at all.

Clinical Remarks

ON

THE CAUSES WHICH PREVENT THE RESTORATION OF NORMAL VALVE FUNCTION IN RHEUMATIC ENDOCARDITIS.

Delivered at the Liverpool Royal Infirmary

BY RICHARD CATON, M D EDIN,
F R.C P LOND,
HONORARY PHYSICIAN TO THE INFIRMARY

GENTLEMEN —You have seen many examples of acute articular rheumatism and you have observed how severe the lesion in the joints may be, how great the swelling the pain, and the effusion and yet in most cases, if the joint has the needful rest and protection from external chill if a suitable diet be given and gentle cholagogues with salicylates are administered you have observed how speedily all these grave symptoms subside or if in any joint they linger you have witnessed their rapid subsidence on the application of one or two small blisters to the adjacent skin the final issue in almost all cases being the restoration of every joint to the normal condition.

But why is it that when the *heart* is attacked in rheumatism a like restoration of the endocardium does not take place? Why when a bruit at the apex has occurred during acute rheumatism does the regurgitation it indicates with accompanying accentuation of the second pulmonary sound not also disappear when the patient rises from his bed cured of his pain and fever? Why is it that if we leave the rheumatic heart to its own course persistent bruit hypertrophy and dilatation—in fact, life-long heart disease with its train of attendant evils—succeed and are sure to mar or to shorten the life of the patient? Why should the course of rheumatic disease be so much more intractable in the heart than in the joints?

The reason undoubtedly is found in the fact that joints can rest; the merciful influence of pain automatically ensures repose for each affected joint. Suppose for a moment that we were to cause an acutely rheumatic knee to be flexed and extended 80 or 100 times per minute during the whole period of the attack is there any probability that resolution would follow? Few of you, I fancy would expect it. Rheumatic inflammation of the valve cusps usually does not cause any pain but whether there be pain or no the toiling heart cannot abate its labours In fact, the joint pain and the general fever augment and accelerate the ventricular effort, thus increasing the peril of the heart. Though the salicyl compounds have, as most people believe no direct beneficial action on valvulitis I think that they have an indirect one of much importance through their power *of allaying the pain and fever which in themselves excite the* heart's action.

You have observed how commencing endocarditis is treated in my wards and those of you who have been able to watch cases for a sufficiently long time have observed that the results are usually favourable. The principle we go upon is to give the heart the greatest amount of rest that is practicable. Pain and fever are subdued as rapidly as possible, absolute quiet is enjoined the patient lies with the head low no excitement is permitted we make him as comfortable as we can and encourage sleep, and a light non stimulating diet is given. There can I think, be little doubt that slow ventricular contraction, low vascular tension—in fact, a minimum of work—is essential if the inflamed and thickening endocardium is to be restored to its normal condition. We also, as you know employ other measures of less importance (1) gentle blistering of those areas of skin which have a special nerve connexion with the heart, thus imitating the effect of a blister over a rheumatic joint and (2) the administration of moderate doses of sodium iodide. I wish to-day to show you certain cases and to tell you of others which I cannot show illustrating the subject of this lecture.

CASE 1.—A man aged 21 years was admitted into the hospital on April 27th 1900 suffering from acute rheumatism and endocarditis His temperature was 102° F his pulse was 98, and there were a loud systolic apical bruit and accentuation of the second pulmonary sound The rheumatism soon subsided and under appropriate treatment all signs of valvulitis also vanished in little over a month I am sorry to say I now made a mistake. Quite in opposition to my ordinary practice and precept I allowed this man to leave his bed. Within two or three days all the signs of endocardial mischief returned the strain to which the heart was thus exposed at too early a period of convalescence caused a recrudescence of the valvulitis. The patient had to return to bed small blisters and iodides were again resorted to These measures, in addition to absolute rest maintained for seven weeks, were followed by a second disappearance of all the symptoms All hard work was interdicted for two months longer after which he returned to the duties of his calling He has now been hard at work for two years He has no dyspnœa, he can climb stairs and carry heavy weights as well as any man he will tell you that he is as strong as he ever was and if you examine his heart you will find that the dulness is only three and a half inches to the left of the middle line the impulse is normal and so are the sounds.

CASE 2.—This man came into the hospital on Feb 22nd with acute rheumatism his temperature being 103° F and his pulse 120 and within a day or two of his admission signs of endocarditis showed themselves. Absolute rest, small blisters, and iodides were prescribed The rheumatism soon left him and within five weeks almost all signs of valvulitis had disappeared At this point unfortunately I went away for a fortnight's rest. The patient felt well and he seized the opportunity of my absence to sit up in bed and to indulge in a degree of activity unsuited to his condition On my return I found that a loud apex bruit with accentuation of the second pulmonary sound were again present The most absolute rest was carried out for eight weeks and again the symptoms vanished and now after some weeks further comparative rest the man's heart appears to be perfectly sound. There are no increase of dulness and no dyspnœa on exertion—of course I do not allow much exertion yet—no bruit and no pulmonary accentuation in fact, to all appearance his heart is as sound as ever it was.

CASE 3.—This woman was admitted into the hospital on Nov 22nd, 1901 with acute rheumatism, severe double pneumonia, and right pleural effusion. She was a weak nervous and excitable girl. Her temperature on admission was 103 7° F her respirations were 40 and her pulse ranged from 112 to 140 but was liable on the least excitement to rise to 160 180 or more. Within three days of admission endocarditis became manifest. The pneumonia was severe and unusually long-continued and a lengthy period elapsed before resolution was complete. All trace of dulness did not subside until the first week of February

Her condition was at times so alarming that it was not always possible to carry out the appropriate treatment for the valvulitis On account of the severe cough and the dyspnœa and the persistent rapid pulse I had little hope of curing the valvulitis, and so the event proved, she recovered from the rheumatism and the pneumonia, but with a heart having five and a half inches of deep transverse dulness and loud systolic and presystolic murmurs She died on April 13th, 1902, from heart disease and purpura Our failure to do any good to the valvulitis was probably due to the impossibility of securing the needful degree of rest for the heart.

CASE 4 —This case is that of a private patient whom I have seen in consultation with Dr W Blair Bell Acute endocarditis had resulted from a severe rheumatic attack which Dr Bell had subdued by appropriate measures before he called me in. We decided to treat the valvulitis by the method named above. The results after some weeks were highly satisfactory Then, unhappily, came a change for the worse and the cardiac symptoms recurred. On inquiry as to the cause it was found that though the patient had adhered to the plan of treatment with strictness, circumstances had arisen causing grave anxiety and much mental perturbation, raising the pulse rate and interfering with sleep It appeared that only by removing the patient to fresh and quite tranquil surroundings could this difficulty be met. The change was made and it was followed by speedy amelioration. The pulse rate fell, all signs of valvulitis are disappearing, and in all probability the patient will regain a sound heart. I recite this history because it indicates the need for mental tranquillity

The first two of these cases illustrate in a somewhat interesting manner the evil effect of too early a return to muscular activity and higher blood pressures during the convalescence from valvulitis, the third shows the disastrous influence of rapid heart action and dyspnœa on coincident valvulitis, the fourth exemplifies the evil result of mental agitation on a subsiding endocarditis even though absolute rest of trunk and limb be maintained, and all illustrate the several causes which, unless the physician carefully neutralise them, ordinarily prevent the recovery of the endocardium from rheumatic disease

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70 CASES OF INGUINAL HERNIA TREATED BY THE KOCHER-BASSINI METHOD,

WITH REMARKS UPON THE TECHNIQUE OF THE OPERATION,

BY J LYNN THOMAS, C B, F R C S ENG,
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I DESCRIBED in the *Bristol Medico Chirurgical Journal* for December, 1898, Kocher's method of dealing with the hernial sac in inguinal and femoral hernia. Professor Kocher's latest method had not been described in the English language at that time, and as I had had the opportunity of seeing it performed at Berne I was induced to publish a description of the method when I had only performed it a few times, chiefly on account of its simplicity, novelty, and the apparently sound principle involved in its conception. The description of Kocher's method is practically summed up in the title of the above paper, which was "The Radical Cure of Reducible Hernia by Invagination and the Lateral Displacement of the Neck of the Sac." Since that time I have performed the operation 70 times by the combined methods (1) of Kocher's treatment of the hernial sac, and (2) Bassini's method of restoring the posterior wall of the inguinal canal

I think the combined method of Kocher and of Bassini is the best for the radical cure of hernia when it can be carried out. The two methods are founded upon an unquestionably sound basis, are easy of execution, and have withstood the test of trial. Kocher's forceps for invaginating the sac and pushing it out through the *entire thickness* of the abdominal wall are very slender, and in cases where the sac is not much thickened they can be protruded through the abdominal wall without the aid of a scalpel, when the sac is very large and thickened one is called upon to facilitate the egress of the invaginated sac by making a small incision upon the projecting forceps and sac In some cases where the sac is very massive I think it is inadvisable to invaginate the sac, but that it is better to ligature it at the neck, to cut the sac off, and to pass the ligature by means of Kocher's sac forceps under the abdominal muscles for about two or three inches and to bring it out through them, hauling up the sac as far as it will go and fixing the ligature to the external oblique or to the semilunar line In one of my 70 cases there was an interstitial hernia and in obliterating the space I placed three rows of buried sutures between Poupart's ligament and the posterior wall of the cavity

Suture material —I believe that non absorbable ligature is the best material for permanency of cure, for the very safety of the patient during vomiting or coughing immediately after an operation depends upon the approximating sutures. Sutures do not cut out their way through tissues they bring together (especially fibrous structures), surely when scar tissue has formed (which, by the way, has a tendency to stretch as well as to contract) the presence of the unyielding silk fibres must be a source of additional strength against stretching to the scar fibres I always use fine silk (No 00) either as a continuous suture or an interrupted suture closely applied with a curved needle of small calibre and with a blunted point, similar to a rug needle or a saddler's stitching needle, according to conditions I consider the ordinary hernia needle too coarse an instrument as it makes too big an opening in the tissue to be sutured together The only advantage that I can see in an absorbable ligature is for cases where the surgeon is worried by suppuration.

Pyrexia in aseptic cases —There was no drainage used except in one case where a large hydrocele was excised at the time of the radical cure. In four cases there was pyrexia to 101° F and in one case the temperature rose to 103° after the operation, but resumed the normal about the fourth or fifth day In most of the cases the rise of the temperature was due either to effused blood or to hydrocele fluid bathing the field of operation, as several hydroceles coexisted with the hernia and were treated simultaneously The temperature was a straight line in all cases except where there was an additional operation for hydrocele or where a hæmatoma formed.

Truss —I always advise patients not to wear a truss after operation, unless in exceptional cases where the abdomen is flabby, thin, or atrophied, and in such cases a good abdominal belt suffices. I operated upon a patient under the care of my friend Dr Arthur E Taylor in February, 1901, a few hours after a hernia became strangulated, and in the following summer the patient played cricket vigorously throughout the season in county matches and is at present quite sound. The wearing of a truss for a number of years has sometimes an injurious effect upon the abdominal wall as well as upon the hernial sac, which becomes firmly adherent to surrounding structures and cannot be properly isolated so that a Kocher's operation may be performed upon it, in such cases I generally close the posterior wall of the inguinal canal and treat its anterior wall by Lucas Championnière's overlapping method. In congenital hernia it has been my experience that it is only occasionally that one can perform the invaginating operation.

Removal of sutures from the skin —It is very important to know the nature of a patient's skin in order to avoid "stitch abscess," which in hernia operations with a hæmatoma following would be a source of considerable risk. Cases of failure of cure that I have seen are those that have suppurated In tender, eczematous, or coarse skins it is advisable to take the skin sutures out at the end of 24 hours I am inclined to think that all suppuration can be prevented by very simple means in this branch of surgery Two of my cases suppurated, the one when I closed the skin with an absorbable ligature and in which I had hoped to dispense with the one dressing which is done when I take out the sutures. Alas, I was disappointed and the absorbable ligature caused me just enough worry to make me determine never to try it again The other case of suppuration followed a case of operation for a strangulated hernia in which I believe I ought to have drained for a day or two instead of closing without drainage.

Dressing —The only dressing used after operation has been six layers of gauze kept on by a wider layer of gauze fixed by collodion. I do not use bandages.

Cardiff

ON SOME CASES OF OPERATION FOR *CHRONIC NON-MALIGNANT DISEASE* OF THE STOMACH.

BY ARTHUR E. BARKER, F.R.C.S. ENG.,
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A REVIEW of a series of more or less similar cases occurring within a given period is always interesting and profitable, and I propose to glance back at a group of non malignant cases of chronic gastric disease treated surgically which have been under my care comparatively recently—all since this time last year. Such a retrospect enables us in the first place to contrast allied affections of the same organ in their causation, symptoms, and effects. In the next place it gives us a good opportunity of examining into the forms of treatment which have been found most effectual. The present series is a fairly complete one of its kind. It includes only those cases of non malignant chronic inflammatory disease of the stomach and duodenum on which I have recently operated, and it includes them all, the series is consecutive. The accompanying short table gives an epitome of the group and enables us in a moment to see the class of affections we have been dealing with and the leading features of each:

Consecutive Operations for Chronic Non-Malignant Disease of the Stomach and Duodenum.

Number of case.	Sex, age and duration of illness	Condition before and after operation.	Result.
1	M., aged 48 years. Illness of six years duration.	Duodenal ulcer with severe hæmorrhage from bowel. Also severe pain after food. Emaciation. Weight before operation, 8 st. 9½ lb. When last seen health was excellent. Weight 10 st.	Recovered.
2	F., aged 48 years. Ill for six years.	Gastric ulcer; "hour-glass" contraction; extreme emaciation. Weight before operation, 6 st. 10 lb. When last seen health was excellent. Weight over 9 st.	*Recovered.*
3	F., aged 66 years. *Ill for* one and a half years.	Pyloric stenosis due to ulcer. *Emaciation; pain.* Weight before operation, 8 st. 12 lb.; some time before was 10 st. 2 lb. When last seen health was excellent; weight had increased.	Recovered
	M., aged 45 years. Ill for three years.	Pyloric stenosis due to chronic ulcer. Pain, vomiting and emaciation. Weight before operation, 9 st. 9 lb. 12 oz.; nine months later weight was 10 st. 16½ lb.	Recovered.
5	F., aged 24 years. Ill for three years.	Bleeding gastric ulcer. No stenosis of the pylorus. Repeated hæmorrhages pain and vomiting. Not any emaciation, but much tenderness over fundus of the stomach. Weight before operation 8 st. 9 lb.	Recovered.
6	M., aged 33 years. Ill for four years.	Pyloric stenosis from ulcer. Pain, *vomiting, tenderness and emaciation.* Weight before *operation,* 9 st. 2 lb.	Recovered.
7	M., aged 47 years. Ill for 15 years.	Pyloric stenosis due to gastric ulcer. Pain, vomiting, great dilatation, *gastric tetany and rigors,* and emaciation. Weight before operation 7 st. 12 lb.	Recovered.
8	F. Ill for 10 years.	Pyloric stenosis from ulcer; scar band. Moderate emaciation pain, vomiting bleeding by bowel, and tenderness over fundus of the stomach.	Recovered.
9	F., aged 35 years. Ill several years	Pyloric stenosis with lump about the pylorus of doubtful nature. Extreme emaciation. Weight before operation 4 st. 3 lb.	Recovered.
10	F., aged 62 years. Illness of 10 years duration.	Pyloric stenosis due to small ulcer. Great exhaustion and emaciation [illegible] vomiting	Recovered

Let us look a little more closely into these points. In the first place, all, with two exceptions, required treatment on account of obstruction to the escape of food from the stomach into the intestine. The two others claimed interference on account of chronic ulcers, in the one case of the stomach and in the other of the duodenum which ulcers were bleeding to a disquieting and perhaps dangerous degree for long periods lasting over years in spite of good treatment. But apart from this symptom there was the danger that at any time either of the ulcers might perforate into the abdominal cavity and lead to disastrous effects.

In the cases of stenosis one showed the effects of a chronic ulcer upon the body of the stomach, contracting it into an "hour-glass" cavity which could not properly be emptied into the duodenum; the others were all instances of con*traction of the pylorus itself* in which either the contraction would be seen in the shape of a puckered scar through the peritoneal covering or felt by the finger pushed into its ring *by invaginating the wall of the stomach (Hahn).*

With the epitome before us it is hardly necessary to describe any case in detail. It will be more profitable *to review* the causation symptoms, and effects practically common to all. All the cases of stenosis began with the usual symptoms of dyspepsia—i.e., discomfort or pain after food, followed sooner or later by vomiting *of undigested matter and* usually by *more or less bleeding.* Then, under restricted dieting and other more direct medical treatment remissions took place and often considerable improvement, so that but little discomfort was felt. But then, in all these cases at least, a return of the trouble occurred on resumption of the ordinary dietary. This was again met by the usual treatment of dyspepsia with the addition in the later cases of washing out of the stomach some hours after food. This last means of relieving the *stomach* of its residuum of *fermenting food has proved* a most valuable *addition to the treatment of those cases* in which either a chronic ulcer was present or the result *of such an ulcer in the form of* a contraction of a part of the stomach or pylorus. And it appears probable, from what we have seen in those and many other cases, that were washing out more frequently employed in the various forms of chronic dyspepsia as a regular treatment we should see less of the evil effects of acute and chronic gastric ulcer. But in the later stages of gastric disease where an ulcer is becoming chronic and is producing *stenosis it can only of course, be regarded* as a valuable palliative and again as a useful preparation for operative treatment. The cases in this list, although several of them were thus treated by lavage for long periods, were so chronic that a permanent cure was not effected in any.

Another symptom was present in *most of the cases*—namely dilatation, more marked, of course, in those who came to us after little or no preliminary treatment than in *those who had been kept on restricted* and suitable diet. It is quite plain that dilatation of the stomach can be more or less prevented by careful diet, so long as there is even a small outlet for the food from the stomach. It is only where the latter is almost absent that the dilatation is extreme. But it must not be forgotten that besides actual organic contraction of the stomach or pylorus the outlet may be contracted by the sphincter action of the pylorus induced by irritation of improper or fermented food with or without an excoriation or ulcer of the ring. In these cases the regular removal of an undigested residuum from the stomach some hours after meals eliminates the source of irritation and gives the *pylorus rest. This is productive* of the most marked immediate benefit and *may even if regularly* carried out, result in a return to nearly normal conditions in the pylorus by removing the irritant regularly and giving the ulcer or *abrasion* complete rest for hours at a time, during which the sphincter is relaxed, for it must never be forgotten that one of the functions of the pylorus is to prevent improper food or ill-digested material from gaining its way into the small intestine. For this reason all semi putrid material in a dilated stomach is prevented by spasm of the sphincter pylori from entering the duodenum.

The dilatation of the stomach in these cases has been estimated in the first place by percussion. This, however is clearly an unsatisfactory method of testing the size of the organ if taken alone. *If the stomach* contains much gas its size is easily demonstrated by percussion. But in many of these cases there was but little gas to a large quantity of fluid and undigested food. I therefore make it a rule in all these cases to test the point of dilatation first by percussion, then by observing how much is drawn off from the organ by syphon, next by filling the stomach again with water until discomfort is produced and measuring the quantity which can now be withdrawn, and finally by inflating the now empty organ with a Higginson's syringe and percussing it out again This can all be done quickly and without much distress while at the same time the washing out is beneficial. In the penultimate case operated on the dilatation when gentle injection of air was used was seen to be extreme and the border of the organ could be distinctly made out through the very thin abdominal walls as a ridge sweeping in a long curve some inches below the umbilicus This method of injection of fluid or air has a further aim It enables us mainly to estimate the muscular power of the stomach—in other words, whether there is hypertrophy of its muscular walls or an atonic condition combined with dilatation. This point is of importance If the fluid is returned with force it indicates, in the first place, that obstruction is probably marked, but that after a gastro enterostomy a rapid return to the normal may be expected But if the fluid in a largely dilated stomach is returned with very little force or has to be syphoned off there may be stagnation in the organ from atony even after such an operation, and it may be better to postpone the latter until, by a course of washings and tonics, the organ is more or less restored to its normal contractility For nothing can be worse for the chances of good union between the stomach and intestine than the stagnation of blood, mucus, bile and swallowed food around the new opening

In the two cases in which gastro-enterostomy was done on account of hæmorrhage there was no dilatation when seen by us The patients had been suffering from vomiting of blood on and off with pain in the one case for three years and in the other for six years, with passage of large quantities of blood by the bowel. Both had pain after food. These symptoms were only partly relieved by treatment in this hospital and elsewhere and always recurred on remission of medical treatment and return to anything like normal diet The fear in these cases was either that the bleeding would prove fatal or that perforation would sooner or later take place unless the stomach was regularly relieved (one was an ulcer in the duodenum) Almost all these cases then had had careful medical treatment before the question of surgical interference was entertained.

The preparation for the latter was the routine one with me. It consisted in the cleansing of the stomach for several days by washing and the administration of only small quantities of sterile fluid food The mouth was at the same time cleansed and carious teeth were extracted. This I hold to be of the utmost importance Concurrently the patients were given 10 grains of carbonate of bismuth three times daily as an intestinal antiseptic and the lower bowels were washed out with enemata. Where great emaciation was present the normal amount of water was given to the tissues by hypodermic instillation of normal saline solution, a pint morning and evening, and to this I have added 5 per cent. of glucose with much benefit Nutrient enemata were also the rule for days before. When by these means the stomach had been cleansed and the forces of the patient recuperated, after thorough antiseptic cleansing of the skin the operation was carried out as rapidly as possible with the exclusion of strong germicide from all contact with the abdominal contents. The operation in all these cases was done without Murphy's button or any appliance of the kind In every case it was the retrocolic variety (v Hacker) The suturing was done in the same way as in my first case 15 years ago—namely, by uniting the serous and muscular coats behind the proposed opening, before the latter was made, and then by opening the gut and stomach and uniting the resulting edges and finishing the continuous suture over the front which had been begun before the viscera had been opened When I published this method 15 years ago I did not know that it would become the classical one, as has been the case The abdominal wound was closed in every case except one by sutures, including all the layers with the skin Oddly enough, in the exception in which buried sutures were used in addition to skin stitches the whole wound yielded on the tenth day after the latter had been removed from a flawless primary intention wound. The same evening the wound quietly gaped during a trifling movement of the patient in bed. Four days later I found the wound widely open on removing the dressings and the omentum and small intestines exposed. The patient, however, was in excellent condition and with a normal temperature. The edges of the wound were covered with lymph and a little fresh blood clot, there was no trace of pus I simply scraped off the lymph, wiped the edges dry, and sutured through the whole thickness of the abdominal wall, removing the old buried sutures at the same time The wound healed as thoroughly as if by first intention and the scar was quite sound when the patient left the hospital.

In the course of operations such as those applied to these cases there are countless small details upon which their success greatly depends but which I should find it very difficult to describe adequately and at the same time briefly They can only be learned by close attention to every step of the procedure. Fortunately, these cases have followed each other so steadily and closely that those who attend our hospital have had every opportunity of becoming familiar with them and I need attempt no detailed description of them.

There remain then, to be considered only some points in regard to the after treatment of these cases of non malignant pyloric stenosis in which posterior gastric enterostomy has been done In the first place, while on the operating table if there were any signs of shock the patient received in the areolar tissue of the arm near the axilla a pint of the saccharo-saline solution This and the maintenance of the body heat by hot-water bags and wrapping in cotton wool was found quite adequate in all to prevent the evil effects of shock which was hardly seen in any, even the most asthenic On being removed to bed the patients were placed on their backs, at first a little inclined to the right. As soon as they wished (generally the second day) they were kept in the semi recumbent position while awake and were laid on their right side for sleep or change of position All this seems to have several advantages. In the first place, whatever fluid is in the stomach, be it bile, blood, or food, and mucus, appears more readily to find its way into the new outlet of the stomach than when the position is directly flat on the back. Then there is less chance of œdema of the lungs when the thorax is semi erect. Again, the occasional change of position with these patients suffering in most cases from the most extreme emaciation, is the surest way of warding off bedsores and securing comfortable sleep But doubtless the most important factor of all is the increase in the capacity of the chest as the abdominal viscera sink downwards in the almost vertical position of the trunk Lung troubles are, as we know, the bane of abdominal operations and without going into all the theories as to their causation it must be admitted that restriction of the free movements of the thorax contribute at all events to their danger

The next point worth noting is that all these patients have been fed from the first by the mouth as well as by the rectum. As soon as it has been clear that chloroform nausea was not present or passing off they have had albumin water with a drachm of brandy at first half an ounce every two hours, then every hour and then double the amount until about the fifth day they were ready for Benger's food, pounded fish, or chicken.

A further matter attended to has been the tendency in many cases to regurgitation of bile into the stomach during the first few days when it may produce a sense of weight and discomfort or induce vomiting This was shown by Carle and Fantino to be almost the rule in such cases, even when patients were almost unconscious of it In almost every one of these cases, then, I have introduced a rubber tube into the stomach during the first 24 hours with a view to relieving the organ of bile with blood and mucus, which is usually there and may be decomposed if left there. And I have been astonished in several cases at the amount of fluid lying stagnant in the organ after operation and also at the amount of relief given. So great is the latter that patients who have once had the tube will assent to it again if they do not actually suggest it. There has been very little need in these cases, as a rule, of washing out the stomach at the same time that the fluids have been syphoned off. But in some cases, especially where there was oozing of blood from the stomach and intestinal wounds, washing out with boric solution or mere normal saline solution has appeared to be beneficial All the wounds have healed blamelessly But in one, as already mentioned, in a man suffering from the most extreme emaciation, the scar opened on the tenth day and had to be re-sutured Not the slightest ill result followed.

As to the results, all have recovered and the change in health in those who have had time to show it has been most remarkable. The patients have all increased in weight and lost all their other symptoms. It is quite clear to me now that in such cases of non malignant stomach disease lasting for years in spite of skilled medical treatment the formation of a short cut between the fundus of the stomach and the upper part of the jejunum offers a very good prospect of complete relief and with a very moderate risk And as the principles underlying these operations are better understood and our technique improves in detail these risks cannot but become less and less to judge by the history of other operations.

30 CASES OF GASTRO ENTEROSTOMY FOR NON-MALIGNANT AFFECTIONS OF THE STOMACH[1]

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THE operation of gastro-enterostomy has so long since passed the region of experiment that at this date it is hardly necessary to enter into the question of its propriety in suitable cases. Of course, the object of the operation is to enable the stomach to empty its contents into the intestine in cases where, from organic or functional causes, that does not occur with sufficient readiness to prevent fermentation, in consequence of which a state of irritation is induced in the mucous membrane of the stomach as well as a general deterioration of health from starvation and the absorption of toxins. Of the utility of the operation in pyloric obstruction simple or malignant, there can of course, be no doubt whatever and it seems to me that much benefit may be obtained in cases where the normal action of the stomach is prevented or at least materially retarded by adhesions either in the region of the pylorus or over the general surface of the organ due in many cases to plastic peritonitis from a perforating gastric ulcer or to pathological changes in the neighbouring viscera. It is probable that in another group of cases due merely to functional disorder where we have dilatation of the organ without obstruction at its outlet, but accompanied by the usual fermentative changes we have in gastro-enterostomy a means of draining the organ and thereby of alleviating the misery which has been found by the physician to be unrelieved by any ordinary method of treatment. No doubt the operation would be most useful and most frequently *practised in those cases where there are marked organic* causes leading to dilatation The establishment of the operation as a useful and trustworthy means of treatment will necessarily depend upon the mortality which accompanies it

I beg leave to bring before this section a group of 30 operations undertaken for the cure of apparently incurable dyspepsia, many of them with evidence of marked pyloric obstruction The patients had been under treatment prior to operation for periods varying from two to 17 years 16 of them with definite history of ulceration At the operation it was found that 18 of these cases presented well marked contraction of the pyloric orifice and in two cases this was so extreme as practically to amount to occlusion, so that it had been found necessary to wash out the stomach two, and occasionally three times a day to render life tolerable and from the history it was evident that little or no material entered the intestinal canal The degree of contraction was estimated by examination from within the stomach. In eight cases the obstruction was due to adhesions the result of peritonitis originating from old tuberculous glands behind the pylorus these adhesions so compressing and kinking it as to interfere with the emptying of the stomach. In three cases the posterior wall of the stomach was found adherent to such an extent as to interfere with its muscular action and in one of these the adhesions were so extensive and their contraction was so considerable that the pylorus was pulled backwards and to the left side so that it simulated a tumour of the splenic flexure of the colon for which, indeed it was mistaken prior to operation. In one case there was marked dilatation of the stomach without any apparent physical cause Many of these patients were in a state of great emaciation from prolonged malnutrition: In three of the cases of external adhesions I had previously operated with only temporary relief after their separation—an experience which seems to be not unusual indeed I find that of seven cases in which I have divided adhesions only one remains permanently benefited so that I am inclined to think that in such cases it is better to put the stomach at rest by the performance of a gastro-enterostomy

The symptoms presented by the individual cases were as usual varied and variable, as was also the amount of dilatation In all the misery and suffering were sufficiently great to render the patients very willing to run the risk of the operation with prospects of relief In those cases where the trouble was located not in the pylorus itself the dilatation was naturally least, and in four of these cases did not indeed exist to any extent, although all the symptoms of an obstructive dyspepsia were present. No doubt the amount of dilatation in many of these cases had been kept in check by regular lavage of the stomach practised in periods varying from two months to three years. In almost all the cases pain was a prominent symptom and indeed in four cases while there had been no vomiting except on very infrequent occasions, the pain was so persistent and intense, and so utterly unrelieved by medicinal treatment, that an exploratory incision was advised and a physical condition was found which warranted the gastro-enterostomy being performed.

As a preliminary to operation careful lavage of the stomach was carried out in all cases for two days before the operation, plain water being used and great care being taken thoroughly to empty the stomach immediately before operation. With all the ordinary antiseptic precautions an incision was made above the umbilicus, in the earlier cases through the middle line but later through the middle of the left rectus muscle. With the exception of four cases all the operations have been that of posterior gastro-enterostomy the anterior being performed in one case by selection and in the *others being rendered necessary by the presence of* extensive posterior adhesions which rendered it impossible to gain access to that surface of the stomach

The usual method of operation has been to withdraw and turn up the omentum and colon guarding these with large, flat, natural sponges wrung out of sterilised saline solution. The posterior wall of the lesser peritoneal bag is opened with a cut from the scissors and this wound is stretched sufficiently to allow a portion of the stomach, preferably near the junction of the pyloric with the middle third to be drawn through, so that the opening may be situated high up—that is towards the lesser curvature A loop of the jejunum, readily found by looking for the termination of the duodenum is then withdrawn and approximated to the selected portion of the stomach and fixed to it by means of hook forceps about two and a half inches apart, so that ample room may be left for the stitching In all cases three rows of continuous sutures were inserted : the first, that to be furthest from the opening being of silk the second of catgut which may absorb in from four to six days and the third next to the lumen of the canal, of fine intestinal silk—the idea of the intervening catgut being to secure a zone of adhesions without the prolonged presence of a foreign body so that the outer retaining suture may be less easily contaminated by sepsis from the necessarily exposed wound of the mucous membrane. *After the first two rows of sutures have been inserted half way round that point where the opening* is to be made they are carefully guarded with sterilised gauze and the jejunum is opened in its long axis opposite to the attachment of the mesentery and a corresponding opening is made in the long axis of the stomach. These openings have generally been about two inches in length. All bleeding points are carefully ligatured and while this is being done plugs of gauze are inserted into both openings to prevent escape of contents which for the most part consist of mucus and bile But rarely has this given rise to any trouble, since the parts can be held up sufficiently to prevent overflow Finally the third row of sutures including all the coats is inserted quite close to the gut wound and thereafter the second and first rows are carried round to where they started The opening in the omentum is then carefully adjusted round the anastomosis and the parts are returned to the abdomen, the abdominal wound being closed in the usual way, preferably by suturing in layers, and in addition by a number of sutures transfixing the entire thickness of the abdominal wall.

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[1] *A paper read before the Surgery Section of the British Medical* Association at Manchester on August 1st 1902.

As to the immediate after effects of the operation, in no case has there been shock of any consequence, and but rarely has the temperature risen to 100° F, and that only during the first 24 hours Sickness, persisting for some days after the operation, has been noted as occurring most frequently in women, and in only two cases has the bilious vomiting persisted beyond the third day, and in the last 12 cases with one exception, there has been no bilious vomiting whatever—a happy result which I am inclined to credit to leaving the jejunum slack by forming the attachment lower down than formerly and probably by placing the opening higher up in the stomach. In one case I performed a double anastomosis, as practised by Mikulicz, but the result was not encouraging As soon as the sickness of anæsthesia passes off the patient is allowed water and barley water freely and as soon as inclined a copious supply of chicken tea and diluted peptonised milk, so that by the fourth day from three to four pints of liquid nourishment are being taken and at the end of eight or 10 days light puddings and pounded meat. In one case there was a threatening of enteritis The patient had been confined to her bed for the greater part of two years and the pylorus was found to be practically occluded, so that little or no nourishment passed from the stomach into the intestine, which was found to be so thin as to render its suture to the enormously hypertrophied stomach wall a matter of great difficulty Within a fortnight, however, by very gradual and careful gradation of feeding, this patient overcame the tendency and is now a vigorous, robust woman Two cases occasionally had bilious vomiting, one after the lapse of three months, the other after one and a half years, but this happened so seldom and gave rise to so little trouble, only occurring in the morning before food had been taken, that the patients practically ignored it.

In regard to the ultimate results of the operation, of these 30 cases of gastro enterostomy for non malignant disease of the stomach I lost one, and that is naturally the most important case of all for our consideration. The post mortem examination showed a condition of things rendering the fatal issue a not improbable one. The patient, a man, aged 54 years, had suffered from his stomach for seven years and for the previous eight months he had used a stomach tube each day to relieve the oppression and flatulent distension His story was that from four to five hours after a meal he had great pain near the pit of the stomach which was relieved often by lying down and by taking more food He rarely vomited and only once was there any trace of blood in the vomited material. Examination showed that the stomach was markedly dilated, passing below the umbilicus No definite tender spots could be felt and there was no tumour or pyloric thickening Hippocratic succussion was manifest but there was no peristaltic wave. A test-meal of one pint of milk, half a pound of boiled fish, and a slice of toast was given, and three and a half hours afterwards it was found that the stomach contained seven and a half ounces of fluid with an intensely sour smell, due to the presence of organic acids, there being an almost complete absence of hydrochloric acid These observations were made by Dr John S McKendrick, who diagnosed the case as one of gastric catarrh, with distinct dilatation, probably atonic in character The patient was put on a special diet, with a tonic containing dilute nitric acid, nux vomica, and pepsin, with, in addition, hyposulphate of soda between meals For a time he improved and gained in weight but the pain returned. When I saw him with Dr McGregor Robertson and Dr McKendrick on Sept 11th, 1901, nothing was found on examination under chloroform suggesting a tumour or pyloric thickening It was determined that laparotomy should be performed and on Sept. 27th operation revealed three adhesion bands passing from the under surface of the liver to the duodenum, tucking it up so as practically to kink the pylorus He obtained great relief from this operation and continued well for some time, being able to eat heartily, so much so that his wife stated that he ate occasionally a whole rabbit for his lunch At the end of the year, however, the pain returned and with it a very great amount of abdominal distension. This pain differed from anything he had had previously, it seemed to be located in the neighbourhood of the left kidney and extended into the iliac fossa. At the urgent request of the patient it was agreed to reopen the abdomen, which was done on Dec 19th, when it was found that the old adhesions had re united, and in addition a mass was found in the posterior wall of the stomach, fixing it posteriorly When the stomach was opened it was found that there was in this mass a circular opening with firm thickened edges and with a deep, crater-like ulcer in the centre of a large mass of tissue An anterior gastro-enterostomy was performed, although with considerable difficulty on account of the extreme flatulent distension of the intestine After the operation everything went well. Although the distension persisted it did not increase, nor did the pulse increase in frequency, remaining as it was prior to operation, between 80 and 90, so that on the third day he expressed himself as remarkably comfortable, and when last seen by me he was reading the morning paper The following day, however, the patient complained of sudden acute pain in the wound, and on my assistant removing the dressings a small protrusion of intestine was found between two stitches about three-quarters of an inch apart. One of these was immediately removed and the intestine was replaced, but the patient died from shock within two hours Post mortem there was found no evidence of peritonitis. The suturing had remained firm and was quite satisfactory, but that which we had supposed at the time of operation to be a large malignant growth extending and breaking down proved to be an unusually large simple ulcer, the whole of the stomach walls being destroyed, for a circular area about two inches in diameter, exposing thereby the inflamed and thickened pancreas, the fibrous tissue of which was evidently being digested, so that only the secreting structures remained This, then, is the only death out of 30 cases, and I feel that while the operation led to the fatal result that result is to be ascribed to the complication which existed and which would have had the same ending had laparotomy been done for any other disease The sutures between which the protrusion took place were not more than three-quarters of an inch apart and transfixed the whole of the abdominal wall. The case is otherwise an extremely interesting one in view of the involvement of the sympathetic plexuses with the consequent peculiar distribution of pain and intestinal paresis

In regard to the ultimate result of the cases it is as yet too early to speak in the more recent ones, though, with the exception of two cases operated upon for very widely diffused adhesions round the stomach, and one case where no organic cause was found for the intense gastric trouble, all the others have proved, on the whole, extremely satisfactory, particularly so in those cases where the patients had previously suffered from marked obstruction in the pylorus itself. In 18 of these cases the patients state that they are as well as ever they were in their lives. Although there may be a natural tendency to exaggerate on their part, there is no doubt that they have been relieved from their distressing symptoms and have materially gained in weight—in one case from five stones 11 pounds to 11 stones within a year after operation Three of the patients state that while there has been improvement they still suffer from pain, though life is now tolerable The remaining nine express themselves as very well indeed, although they have to be careful in their dietary and occasionally suffer from attacks of flatulence

It is not within the scope of the present contribution to compare this operation of gastro enterostomy with other operations for the relief of dilatation, but I believe that in this operation we have a means of relieving a vast amount of suffering, and, what is of equal importance, of returning to the body politic many useful and valuable lives otherwise doomed to suffering and misery, and this with an amount of risk to life much less than is daily undertaken for less serious ailments I therefore beg to add my experience to the brilliant results already published by Mikulicz, Kocher, Robson, Barker, Moynihan, and many surgeons in this and other countries, whose results prove equally the safety, necessity and efficiency of the operation

In comparison with operation for malignant disease of the pylorus it has been my experience that the operation, if done early, is not attended by much more risk than when done in simple cases I have operated in very advanced cancer in four cases with the hope of alleviating the final sufferings but the result has not been encouraging

Glasgow

A CASE OF POST-OPERATIVE HÆMATEMESIS

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THE following case, which I saw with Mr. E. H. Sweet of Uckfield in April of this year and afterwards operated on is, I think, of interest, as the records of similar cases are not numerous.

A spinster aged 53 years had suffered from pelvic pain, menorrhagia, and metrorrhagia for 23 years. On May 6th ether having been administered by Mr. Morris Rigby, the abdomen was opened and the patient was placed in Trendelenberg's position. The pelvis was found to be occupied by an adherent mass consisting of (1) the Fallopian tubes dilated to the size of small intestines and coiled over and amongst the other structures; (2) a left ovarian cyst of the size of an orange and adherent to the anterior surface of the uterus; (3) the right ovary small and atrophied; and (4) the uterus, which was completely retroflexed and presented in its posterior wall a fibroid as large as a cricket ball. These structures were firmly adherent to one another, to the bladder in front, and to the rectum behind. The broad ligaments were indistinguishable and on removing the left tube the ureter on that side was exposed for four inches. After considerable difficulty the pelvis was cleared and flaps of peritoneum were sutured so as to leave a smooth walled cavity. The operation was necessarily a severe one and lasted for two hours. Mr. Sweet kindly and most ably assisted me.

During the first 36 hours after the operation there was considerable abdominal pain and sickness occurred several times. Morphia, to which the patient was accustomed, was administered hypodermically three times in quarter grain doses. Flatus was freely passed and the abdomen was never distended, nor were the abdominal walls fixed. The pulse-rate did not exceed 88 and the highest temperature was 100° F. 36 hours after the operation the patient vomited a large quantity of altered blood (coffee coloured) and a second similar quantity four hours later; the temperature fell to subnormal but the pulse was not affected. Mr. Sweet prescribed a lead and opium pill, and the following day, as the vomiting of blood attended by very severe retching continued, four doses of liquor chloride of adrenalin were administered hourly, the first two doses consisting of 30 minims each and the last two of 10 minims. Mr. Sweet also gave four grains of calomel, followed by two grains of calomel twice at intervals of two hours, producing a good action of the bowels. After this there was no further vomiting of blood although extremely violent retching persisted with the result that the fine silk used for suturing the sheath of the rectus gave way at the upper part of the wound and intestine protruded on the fourth day. Under chloroform the wound was re-closed with silkworm gut sutures. During these four days nutrients were retained, flatus was passed, the bowels acted on the second day after turpentine enema, and on the third after calomel. The pulse rate did not exceed 100, neither did the temperature rise above 100°. The patient then very rapidly picked up and made an excellent recovery thanks to her nurses and medical attendant, and is now perfectly well.

Mr. A. W. Mayo Robson and Mr. B. G. A. Moynihan in their recent work "Diseases of the Stomach and their Surgical Treatment," refer to several cases of post-operative hæmatemesis of which four were fatal. In THE LANCET of Oct. 20th, 1900, p. 1125, three cases were reported and a fair number of others have been published. The operations after which the complication has been noticed have been various, as have been the causes to which the hæmorrhage has been attributed. The view that Mr. Mayo Robson and Mr. Moynihan take, that it is due to a reflex nervous action, would fit in well with the above case, as the severity of the operation and the removal of both ovaries and uterus would no doubt upset, if any operation will, the equilibrium of the sympathetic nervous system.

I would add that this complication is evidently more likely to occur in those whose blood coagulability is below par and it is interesting to note in connexion with Professor Wright's statements with regard to urticaria and weakened power of blood coagulability that this patient has suffered from urticaria off and on since she can remember and that this has greatly improved under treatment by calcium chloride.

Brighton.

METHODS OF UNITING DIVIDED INTESTINE,

WITH SPECIAL REFERENCE TO A NEW BONE BOBBIN FOR THAT PURPOSE.[1]

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METHODS of union are divisible into four main classes: (1) simple suture; (2) suture on moveable forceps; (3) suture on absorbable material, usually decalcified bone; and (4) metallic couplers.

In simple suturing probably Lembert's suture holds the first place, although the principle upon which it is based, the advisability of non perforation of the mucous membrane, is not now so firmly held as it was at the time I first advocated a suture which penetrated the entire wall. A similar method has lately been widely adopted in America. In all cases, even in some of those treated by the fourth method, suturing of some kind is necessary.

Suturing on moveable forceps, as those of Laplace and O'Hara, is easy and rapid, but they have the defect that no protection from the entrance of fæcal matters between the lines of union is afforded by them during the dangerous period immediately after operation. I am not sure that the crushing of the ends produced by their use is directly harmful, since it should be an advantage if these ends, which form an internal flange, afterwards could be removed by necrosis, provided always that such necrosis went no further. Judging by analogy, however, from the recorded results of pressure necrosis produced by Murphy's button, this is not always to be implicitly relied upon.

Metallic couplers, of which Murphy's is the type, have the great advantage of rapidity in application, an advantage which I believe must always render it unlikely that they can be entirely set aside, but so many cases are now to be found in the literature of the subject in which unpleasant later results have occurred that I conceive that they should never be chosen unless the element of time is of the first importance. Progressive necrosis of the gut starting from the line of union and spreading towards some unprotected point, absolute later obstruction, retrograde movements, as backwards into the stomach in gastro-enterostomy, and other incidents of a like kind increase unnecessarily the anxiety of the operator and endanger the final successful result.

There remains the method of suture over some absorbable material. This has great possibilities. Its advantages are that (1) complete and satisfactory suturing is more easily and thoroughly carried out over its resistent surface; (2) it protects the line of union from infective material until such union is complete; (3) it maintains patency and decreases the possibility of post-operative stricture; and (4) when the period of its usefulness is over it disappears. But in order to obtain the best results from it it should possess the following qualities: first, it should be easy of introduction; secondly, it should be perfectly simple and require no elaborate technique; thirdly, it should be resistant and absorbable; fourthly, it should be so made that the purse-string sutures which encircle the ends of the gut should, as they are tightened, approximate these ends by the mere act of tightening; fifthly, when in position it should present the folds of intestine which have to be united by a second line of suture in such a way as to facilitate that suturing; and sixthly, it should be of such a size and shape as to protect the line of suture during the period of plastic union.

Examination of the bone bobbins available at the present time shows that whilst all possess one or other of these characters not one combines them all. The bobbins in use at present are known by the names of the operators who have devised them. They are Jessett's, Allingham's, and Robson's. Jessett's possesses the first, third, fifth, and sixth. It is wanting in the second and fourth. Allingham's possesses the second, third, fourth, and sixth It is without the first and fifth Robson's possesses the first, second, third, and sixth It makes no attempt to supply the fourth and fifth. The bobbins which I bring before your notice attempt to supply them all. It is for others to say as to how far they succeed As will be seen, they present the bevelled conical end which makes Jessett's pattern so easy to introduce, but they are in one piece and do not require the method of fixation to each end of the bowel which he describes[2] In the centre there is the essential portion of Allingham's bobbin, the double inclined plane, tightening over which approximates the bowel ends, whilst the combination of these two produces a short fold in the intestine on either side which is easy to unite by Lembert's or a continuous suture, thus burying the two tied down extremities.

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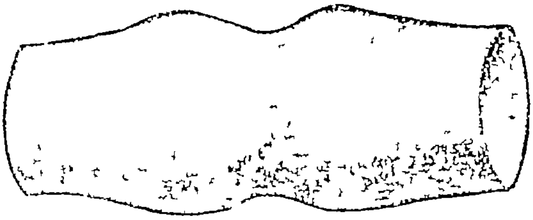
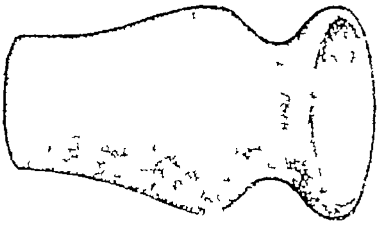
[1] Abstract of a paper communicated to the British Medical Association meeting at Manchester, July, 1902.

FIG 1.



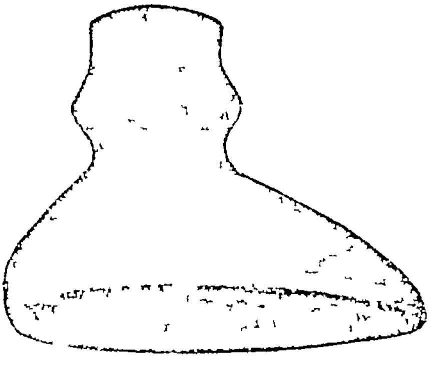
Enterectomy

FIG 2.



Gastro-enterostomy ileo-colostomy

FIG 3.



Pylorectomy

But no one form is the best for all the various operations which are now practised upon the alimentary tract, though all forms should be only modifications of the central idea. I present three, one for ordinary enterorrhaphy, end to end, one for ileo colostomy or gastro-enterostomy, which, as you will notice, is simply the first tube with the end which projects into the colon truncated and its opening widely flared. But the protecting ridge and the inclined plane behind this are still retained. The last form is one for use in pylorectomy In this one end is still more widely spread out, so as still more to protect the part which experience has shown is the most likely to leak—viz., that at the junction of the vertical with the circular line of suture in the stomach The method of use is obvious These bobbins have been very well made, and decalcified for me by Messrs Allen and Hanbury of Wigmore street, London

Manchester

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[2] Surgical Diseases of the Stomach and Intestines p 266

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

REFLEX MOVEMENT OF THE AURICLE OF THE EAR.

BY E DONALDSON, L.R.C P, L R C S IREL.,
SURGEON TO LONDONDERRY EYE, EAR, AND THROAT HOSPITAL.

A NUMBER of skin reflexes have been described, but I am not aware that amongst them a reflex movement of the auricle has been included My attention was drawn to this subject by the case of a man, aged 54 years, who came under observation on May 14th, 1902, on account of suppuration in the right middle ear with polypus The discharge commenced in the ear from some unknown cause when he was eight years of age and lasted until he was 25 He had no trouble from this time till the beginning of April, 1902, when the discharge again appeared and a good deal of pain followed. The polypus was removed by means of a snare. He was very deaf in this ear, not being able to hear either a loud voice close to the ear or a watch on contact. As part of the treatment I insufflated into the meatus some powdered boric acid through an ear speculum without holding the auricle At each puff the auricle was observed to move distinctly forwards to the extent of about one eighth of an inch, afterwards at different sittings I had a good number of opportunities of observing this reaction, and I found that I could produce it by blowing air from a small indiarubber bag into the auricle in the neighbourhood of the external meatus Usually the first puff gave the best result. The movement of the auricle would sometimes not occur after three or four puffs rapidly following one another At no sitting did I fail to get the reaction In making the observations I was careful to exclude voluntary movement, and movement that was only a part of a more general scalp movement. The patient was requested to prevent the reflex from taking place but he could not do so, and he was unable to produce the movement voluntarily He was quite conscious of the auricle moving to the air stimulus and said that he felt it "jumping" The left ear was normal and its auricle when blown into moved very slightly in a backward direction. Since I first noticed this reaction I have tried on several patients what movement of the auricle could be produced by blowing air from a small indiarubber bag into the auricle In many cases no movement was observed. I have found, however, that a slight upward, backward, or forward movement is not at all uncommon

It is remarkable that a puff of air is the stimulus capable of producing this reflex. It is well known that reflexes of different parts require their own peculiar stimuli—e.g, contraction of the iris is brought about by the stimulus of light, the plantar reflex by tickling, &c The appropriate stimulus in the reflex now under consideration is found to consist of puffs of air Is it possible to give any reason for this? Air rushing into the auricle and external meatus makes a noise and interferes with the hearing of other sounds and possibly may bring in with it foreign bodies Birds have no auricles and are not incommoded by the rushing of air into their external ears during their flight. It is said that in long-eared bats the auricle "is so constructed as to prevent air from rushing in while flying"[1] These considerations appear to me to go some way towards explaining why the auricle is more sensitive to puffs of air than to other stimuli

Londonderry

A CASE OF COMPOUND DISLOCATION OF THE HEAD OF THE HUMERUS INTO THE AXILLA

BY WALTER H. BROWN, F R.C S IREL, M R C S ENG

THE patient, a boy, 16 years of age, was admitted into Leeds General Infirmary with the head of his left humerus forced from its position and driven through the skin of the axilla so that it was fully exposed externally The accident was caused by his sleeve being caught in revolving machinery (a turning lathe) There was no fracture of the shaft of the humerus, but the great tuberosity had been torn off and so had all the muscular attachments together with the capsular ligament. Ether having been administered, the wound was enlarged and the dislocation was reduced, gauze drainage being used The radial pulse could not be felt at first but returned in 48 hours Sensation was not interfered with. Some slight suppuration of the edges of the wound followed, owing to skin infection. The limb was kept at rest by a cradle of Gooch splint and passive movements were commenced as soon as the wound healed. I have never met with a case like this before nor can I find any recorded in the English surgical treatises at my disposal but the condition is mentioned in a German work on fractures and dislocations, and the treatment there indicated is the same that I adopted. There is a good prospect of the patient recovering a useful limb From the rarity of the accident it deserves, I think, to be recorded.

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[1] Quoted by Burnett in his Treatise on the Ear, p 29

The notes of the case were taken by the house surgeon, Mr R N Butterworth.

Leeds

AN UNUSUAL FRACTURE OF THE SUPERIOR MAXILLA.

By FRANKLIN COX, L.R.C.P LOND, M R.C S. ENG.

THE following case is of sufficient rarity to be interesting On July 16th, 1902, a man aged 38 years, was watching a game of quoits. Unfortunately for him he crossed the green between the two quoit beds just as a player was delivering his quoit weighing 9 lb and it struck him in the face, knocking him down. On examination the left superior maxilla was found to be fractured—the line of cleavage running along the roof of the mouth in the line of the intermaxillary suture, the two middle incisor teeth being almost out and the mucous membrane torn for one and a quarter inches in the line of fracture. Upwards it ran obliquely to a point about a quarter of an inch above and external to the left ala of the nose and then descended in a downward and outward direction to a point between the second upper bicuspid and the left first upper molar This could be made out by grasping the alveolar margin of the left superior maxilla with the forefinger and thumb when the V shaped piece of bone could be distinctly felt to move and when pulled gently forwards the broken margins could be distinctly felt. The skin over the fracture was not lacerated so much as one would have thought probable, but there was a deep wound laying the bone bare and extending from the middle line of the upper lip about a quarter of an inch below the nose upwards and outwards to the left for about one and a half inches. This wound has healed and the patient is doing well There was never any concussion of the brain.

Radstock Somersetshire

VACCINATION RETURNS.—At the meeting of the Exeter board of guardians held on August 12th it was reported that 431 births were registered during the last six months of 1901 and that of these children 304 had been successfully vaccinated, 11 were provided with exemption certificates 48 died unvaccinated 34 were provided with medical certificates of postponement, 17 had been removed from the district, and 17 were unaccounted for.—At the meeting of the Stonehouse (Devon) board of guardians held on August 14th it was reported that 238 births were registered during the year ended Dec 31st, 1901 and that of these children 200 were successfully vaccinated 18 died unvaccinated, five were provided with medical certificates of postponement, two were provided with exemption certificates 10 had been removed from the district, and three remained unvaccinated.—At the meeting of the Thornbury (Gloucestershire) district council held on August 1st it was reported that 299 births were registered during the six months ended Dec. 31st last, and that of these children 171 were successfully vaccinated and 15 were provided with exemption certificates.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus Morb.*, lib iv Procemium.

BRISTOL ROYAL INFIRMARY

A CASE OF PYLORECTOMY

(Under the care of Mr ARTHUR W PRICHARD)

PYLORECTOMY is an operation of somewhat limited applicability for as it is chiefly performed for malignant disease of the pylorus, it is only suitable for those cases in which the disease is not extensive. The mortality from the operation has much lessened of recent years. In Professor Mayo Robson's tables,[1] containing all the recorded cases (572 in number) to that date the mortality was 30 per cent. but statistics limited to more recent cases give a much more favourable result Kocher in 57 cases had only five deaths—i.e. less than 9 per cent.

A domestic servant, aged 27 years was admitted into a medical ward at the Bristol Royal Infirmary on March 21st last complaining of indigestion She had had symptoms for nine years of pain in the stomach after eating and for the last three years there had been occasional vomiting with pain chiefly in the back. For three months before admission she had been much worse, vomiting two or three times a day and not always after food The vomiting was copious and gave her great relief She occasionally found a streak of blood but never in any quantity She thought that she had lost flesh considerably in the three months. The abdomen had been very tender and her nights disturbed. On admission she was a somewhat thin intelligent young woman with a decidedly tuberculous appearance but healthy in all respects except as regarded her digestive organs The appetite was bad and the tongue was very red and not coated Vomiting occurred frequently and often large quantities of fluid were brought up (once three and a half pints of clear brownish fluid) On examining the abdomen a hard tumour of about the size of a hen's egg was noticed in the middle line between the ensiform cartilage and the umbilicus which moved with respiration. A curved ridge could be traced on the surface of the abdomen passing up from the tumour to the costal margin There was a distinct depression below the ensiform cartilage 10 days after admission the patient was given to drink five half pints of weak boric lotion. The tumour moved to the right nearly under the eleventh rib the curved ridge descended to about half an inch above the umbilicus and there was dulness on percussion down to about two inches above the pubis. She subsequently vomited seven half pints and the tumour was again found in the middle line, the dulness below the umbilicus disappearing

Pyloric obstruction was diagnosed and efficient relief by medical means not being thought possible the patient was transferred to the surgical floor and as she was willing to submit to anything that would give her a chance of recovery Mr Prichard proposed to open the abdomen, thinking that a gastro-jejunostomy would probably be the operation best for her Accordingly on April 8th under ether he made an incision in the middle line above the umbilicus and at once came down upon the stomach, which was dilated A hard tumour of the size of a duck's egg was felt occupying the pylorus and adjacent end of the stomach It was moveable and it was possible to lift it up out of the abdominal wound without much stretching There were large glands in the greater and lesser omentum. An opening was made in the stomach well free of the growth and it was felt that the pylorus was narrowed and very hard and would not admit the finger It was then decided to remove the tumour instead of doing a gastro-jejunostomy The duodenum was clamped between two pairs of Swain's clamps well beyond the growth and the bowel was divided between them. The divided pylorus was pulled over to the left and first the greater and then the lesser omentum were ligatured off in sections up to the point where the stomach was free from disease This seemed to be about a quarter of the length of the stomach from the pyloric end A Smith's clamp was then put across the stomach about its centre and the stomach was divided well to the cardiac side of the growth The width at the part divided was between three and four inches The cut edges of the stomach were sutured together, beginning from above, sewing the mucous coat with un interrupted suture first and then the muscular and peritoneal coats afterwards Having dealt with the upper two inches Mr Prichard began from below and sutured in the same way the lower inch, this left an aperture of about one inch in diameter to correspond in size to the cut end of the duodenum This cut end of the duodenum was then brought in contact with the opening left in the stomach and by a continuous stitch the peritoneal coats of each were united posteriorly A continuous stitch was then taken the whole way round, dealing with the mucous membrane only, commencing at the back part. This stitch brought the mucous membrane of the duodenum in continuity with that of the stomach all round The peritoneal coats at the top and bottom and in front were then sewn together, the stitch being continuous with that which had been put in the peritoneal coat behind Many vessels had to be tied from time to time in the wall of the stomach and bowel and elsewhere The parietal incision was closed in the usual way with silkworm gut All the other sutures were of silk.

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[1] THE LANCET March 24th 1900 p [illegible]

The patient became a good deal collapsed about the middle of the operation, which lasted two hours, and two pints of saline solution were injected into a vein in the arm by Dr E H E. Stack with much benefit On getting back to bed a rectal injection of one ounce of brandy in five ounces of water was given About two hours after the operation fluids were commenced by the mouth (one drachm of brandy in half an ounce of water every hour, and one drachm of Carnrick's liquid peptonoids in half an ounce of water every four hours) Nutrient enemata of brandy, bovinine, the yelk of an egg, and peptonised milk every four hours were given, and a hypodermic injection of a quarter of a grain of morphia at night She had a comfortable night and retained all the nourishment given by the mouth and rectum. She passed urine and flatus, there was no vomiting, and the pulse was fairly good (100) On April 10th (two days after the operation) the nourishment by the mouth was increased, amounting to one ounce of fluid every hour, water gruel and albumin water being added On the next day 30 ounces were given by the mouth in 24 hours, the bulk of the nutrient enemata was reduced, and the brandy was diminished She improved every day, raw meat juice and chicken broth being added. The wound was dressed on the fifth day and was satisfactory Bread crumbs were given in the chicken broth on the ninth day, and on the tenth day all the stitches were taken out, the wound being healed She had sweetbread for dinner on the fourteenth day and on the 28th chicken and bananas Except for one day when she was sick her convalescence was uninterrupted This upset seemed to be simply a bilious attack. She now says that she feels better than she has done for years

Remarks by Mr PRICHARD —As to the nature of the growth there is some little doubt The section was so white and hard that it presented all the characteristics of scirrhous carcinoma, moreover, the glands in the immediate neighbourhood were enlarged and hard and the mucous membrane was ulcerated over the growth But the microscope does not corroborate this It is not scirrhus or epithelioma. Is it simply inflammatory or fibrous thickening of a scar of a healed ulcer or is it tuberculous? The patient's appearance favours the last opinion, but nothing was found to prove it. In conclusion, I must say that I do not take the credit of the success of this case all to myself The patient was very well nursed and was of a very placid and hopeful spirit, but above all I have to thank Mr H. F Mole, our house surgeon not only for his ready help at the time of the operation, but for his unceasing care in the regulation of the dietary afterwards To him I believe the patient in no small measure owes her life.

HERTFORD INFIRMARY

A CASE OF SPINAL MENINGO-MYELOCELE, OPERATION IN AN INFANT AGED 13 DAYS, RECOVERY

(Under the care of Mr R. ODELL.)

IN cases that admit of it removal of the meningocele by operation is the most satisfactory method of treatment of spina bifida, for Morton's method, though very well suited for pre-antiseptic days, cannot be looked upon as a satisfactory method except for certain pure spinal meningoceles. The very youthful age of the patient in the case recorded below renders it especially noteworthy The commencement of sloughing of the skin made the operation imperative.

A female child was admitted into the Hertford Infirmary on May 17th, 1902, with a central swelling in the lower lumbar region of the spinal column, it was of the size of an egg, had existed since birth, and was gradually increasing in size. The skin over it was thin, bluish red, and was commencing to slough centrally It was non pulsatile, the base of the tumour was surrounded by a ring of bone There was fluctuation and pressure caused some diminution in bulk but did not affect the condition of the fontanelles There was some incontinence of urine and fæces; the anus was patulous and the mucous membrane was slightly protruded. There was no evident loss of power in the legs and no trophic changes were present. The weight of the infant on admission was seven and a half pounds At the operation the child was placed in the prone position, with the hips elevated and the head lowered No anæsthetic was given. An incision two and a half inches long was made somewhat to the left of the middle line - The cord was found adherent to the sac wall and was carefully dissected off and returned into the spinal canal. The flaps of the membranes were brought together over it and were sutured with fine silk The sloughing portion of the skin was removed and the remainder was brought together and joined by silk. A firm aseptic pad was used as a dressing. About an ounce of cerebro-spinal fluid was lost during the operation There was some collapse on the evening of the operation and two normal saline injections were made in the flank with satisfactory results The wound progressed favourably, the child gained one and a half pounds in weight during the two following weeks and two inches in circumference at the umbilicus, and the mother stated that there was increasing control over the sphincters On July 26th there was a perfectly sound cicatrix and no recurrence of the tumour had taken place

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Reviews and Notices of Books.

Psychology, Normal and Morbid By CHARLES A. MERCIER, M B, M R.C P Lond, F R.C S. Eng London Swan Sonnenschein and Co Limited. 1901 Pp 518 + xiii. Price 15s

DR. MERCIER has produced a work which is notable equally for matter and for style. The master of a facile pen, he has prepared himself for the task which he has undertaken by wide and critical reading, with the result that his book presents both a theory which is his own and a synopsis (not the less intelligible and instructive for being informal) of the best work that has been done before his time Of his own work Dr. Mercier writes in his preface with conspicuous modesty that he has thought it better to publish the book "as it is, with all its faults," than to extend a delay in the course of preparation which threatened to be indefinite in duration Of the conscientious labour by which he has sought to harmonise the whole and to incorporate in the chapters first written the emendations and developments which occurred to his mind as the work progressed there are many indications, chief among which is, we may remark, the high degree of coherence which he has actually given to a very discursive work. Probably no writer who has set himself to work out an elaborate argument ever felt wholly satisfied with the whole result of his labour, the most have far less ground for such satisfaction than has our present author

The subject of which he treats is psychology in the older sense of the term—approached, that is to say from the subjective side. The morbid in the title is perhaps suggestive of the clinical aspect of mental disease, with which this work has very little to do. In fact, the morbid conditions which are treated here are regarded in the light of normal conditions working inharmoniously and no attempt is made to connect lesions with manifestations of mental alienation. The work is a serious effort to illustrate that most obscure of all regions of research in which one-half of the data are supplied by facts of consciousness and the other half by facts of observation. To correlate the one class of facts with the other involves the clearest as well as the deepest thinking and the thanks of all medical men are due to those few writers whom aptitude and education have fitted to extend the dominion of thought over this inhospitable region of philosophy To Dr. Mercier a notable rank among such writers is due, for he adds to the copious knowledge to which we have referred a power of close and accurate reasoning and a facility in the statement of abstract propositions which are hard to find in combination.

The nature of the subject and the dimensions of Dr Mercier's book make it impossible to review his work save in the most general way and in a general sense it is not necessary to add to what we have already written since such criticism as we should have to offer would not affect the estimate which the reader will have already formed of the unusual merit of this book. There is, however one point of sufficient importance, although not capital, to call for mention in this connexion. Dr Mercier in discussing the relations of ideas to one another builds largely upon the analogy of mathematics and in particular of the rule of three. The value of this analogy cannot be denied but we suspect that our author over-estimates it, and whatever may be thought of its merit as a guide through the intricacies of related thought we are clear that he relies too much upon it as a form of expression. Much that he writes is rendered more difficult without becoming the less obscure by being cast into the formula a b in the various and complicated forms in which this expression recurs *passim* throughout the work. *That is our single depreciatory* remark

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Small pox How it is Spread and how it may be Prevented
By JAMES WALLACE, M.A. M.D Glasg London H. J Glaisher 1902. Pp. 69 Price 2s 6d. net.

IT is frequently remarked as a matter for regret that the valuable material contained in the report of the Royal Commission on Vaccination with its several appendices should be hidden away in more or less inaccessible blue books. Dr Wallace's work which is based on the inquiry which Dr T D Savill held on behalf of the Commission into the epidemic of small pox at Warrington in 1891—92, is therefore very welcome at the present time, when anything concerning small pox is of special interest. This inquiry was of especial value for several reasons. In the first place Warrington was in 1772—73, in pre-vaccination times, the scene of an outbreak of small pox the like of which has not been known since the introduction of vaccination. The opening chapter of Dr Wallace's book treats of that epidemic. At that date the mortality was 12 out of every 29 persons attacked, and 26 4 per 1000 persons living, as compared with 0 6 per 1000 in the vaccinated *population during* the epidemic of 1893 93 The causes origin, development, and decline of the epidemic in 1892-93 are then narrated. The brief outline of the beginning of this outbreak is extremely instructive proving the necessity of (1) early recognition of the disease by medical men and (2) ample accommodation in isolation hospitals. The relations of small pox and vaccination are next discussed and statistics are freely quoted demonstrating respectively (1) the power of vaccination to protect from small pox (2) its efficacy in modifying the disease and (3) the duration of the protective power of vaccination Under this last heading the statistics illustrate the variation both in the severity of the disease and in the case-mortality according to the age of the patient and their vaccinated condition. The following chapter naturally passes to the consideration of the influence of revaccination An interesting fact elicited by the Warrington inquiry was that the protection afforded by revaccination and that afforded by a previous attack of small pox respectively are in general terms almost equally efficient. Dr Wallace puts this somewhat strongly when he says that revaccination affords more protection against small pox than a previous attack of the disease does As regards the duration of the power of revaccination it is interesting to note that of all the revaccinated persons in Warrington not one of them contracted small pox who had *been revaccinated a shorter period than seven years* prior to the date when he contracted the disease. The influence of revaccination is further shown by the rapid diminution of the disease starting 14 days after revaccination had been extensively performed in the principal works" of the town. In view of the growing importance of this subject and inasmuch as there is strong evidence (as shown in Dr Savill's report) to prove that the protective power of infant vaccination is largely lost after the age of 10 or 12 years it would be well if Dr Wallace in his next edition were to take statistics also from other sources—from Germany, for instance, where not only vaccination but revaccination is compulsory and where rumour says that small pox is being stamped out in consequence. The closing chapters of the book discuss the diagnosis of small pox, the methods of procedure in preventing it spread and the effects of social and sanitary conditions on the disease Particular mention is made of the fact that the inquiry into the epidemic at Warrington conclusively proved that the spread of the disease, which at first sight seemed to be due to aerial convection could, if sufficient pains were taken in the investigation, be shown to be due in all cases to direct or mediate contagion. This is peculiarly interesting since another observer of the same epidemic had previously come to the opposite conclusion.

Dr Wallace's little book should be in the hands of every busy practitioner and every intelligent layman who desires facts as distinct from theories concerning small pox in a small compass concisely and clearly stated. It is well printed and bound and the chief points are rendered easy of reference by paragraph headings in conspicuous black type that readily catch the eye and remain in the memory It is by the issue of such books as these that that section of the public which approaches these questions with an unprejudiced mind can be enlightened on so many points upon which enlightenment is needed.

Public Health and Preventive Medicine By C J LEWIS M D D Sc. (Public Health) Edin and ANDREW BALFOUR, M D B.Sc. (Public Health) Edin D P H Camb. Edinburgh William Green and Sons. 1901 Royal 8vo. Pp 6.8.

THIS is an ambitious and very comprehensive work which has, in our view fallen a little short of the ideal which the authors set before themselves It is nevertheless a work of a high order of merit and worthy of attention But the ground which the authors have endeavoured to traverse cannot well be properly covered even in a volume of this size and the concentration which has more particularly in certain directions, been attempted has, we fear, deprived some of the subjects of much of the interest which naturally attaches to them. Although this is our general impression there is much to commend in the work which, by the way, contains numerous and excellent plates, both coloured and plain.

The arrangement of the work is original. There are five sections. The first 124 pages deal with Medicine in Relation to Public Health, and the remaining four sections are devoted successively to General Sanitation, Sanitary Engineering and Building Construction, Vital Statistics, and Sanitary Administration and Sanitary Law. It is in the treatment of the first section that the authors have taken what is practically a new departure. In the description of each of the communicable diseases its bacteriology receives prominent and fairly full consideration, which has tended to accentuate the difficulty of dealing adequately with all the subjects which the authors have decided to embrace in their treatise. It has, too, led to a lamentable curtailment of what may be called the epidemiological aspects of the several diseases, and it is this which is, in our opinion, the weakest side of the work. This is more particularly the case seeing that the book is written, according to the authors' preface, primarily for those about to take the diploma of public health. It is essential in a text-book to maintain, as far as possible, the interest of the student and to furnish him with facts which he will easily retain in his memory. The many outbreaks of enteric fever which have been so well investigated are read even with avidity by the student, but in the book before us there is but scanty reference to any of them, and none are dwelt upon in at all a readable fashion. A similar remark applies to many of the other diseases treated of. For instance, small pox, concerning which every student of public health should be well posted, is disposed of in under two pages, and in the case of plague the bubonic type is dwelt upon fairly fully, but the pneumonic and septic types are passed over lightly. But for this relegation of the epidemiological aspects of the several diseases to a relative obscurity the matter is excellent, and the coloured plates of bacteria and parasites are some of the best that we have seen. If the student can master all the details he need have no fear of his examiner, but the tax on his attention and memory will be a severe one.

The diseases of occupation and alimentation are very concisely dealt with, although the matter takes too much the form of a notebook—an elaborate and well arranged notebook be it understood—to form easy reading. The section on General Sanitation comprises meteorology, climate, air, soil, disinfection, preventive inoculation, school hygiene, &c., and much of it is very good. But vaccination ought to have been more fully dealt with and it seems a little out of date in these days of general vaccination with glycerinated calf lymph to point out that "arm to-arm vaccination requires great care in the selection of vaccinifers." Only a few lines are devoted to preventive inoculation other than vaccination. The section on Sanitary Engineering and Building Construction embraces a somewhat heterogeneous collection of subjects, such as ventilation, warming, water supply and sewage disposal, and in connexion with this latter subject less space might well have been devoted to chemical methods and more to biological. The section on Vital Statistics is well written, although we are rather surprised to find the seasonal prevalence of infectious diseases under this heading. The principles of Sanitary Administration are admirably described and infinite pains have been taken to make the exposition of sanitary law complete and helpful. To this latter subject a large portion of the volume has been devoted and we cannot help thinking that the authors would have been well advised had they expanded the section on Medicine and relegated Sanitary Law to another volume. The fact is, a system of three volumes might well have been devoted to the subjects which the authors have attempted to compress into one volume.

This book, although, in our opinion, not perfectly fitted for students of public health, will be most helpful to medical officers of health and others who, being familiar with the general principles of the science, are anxious to refresh their memories and to bring their knowledge up to date. In this sense we wish the volume the success that it thoroughly deserves.

LIBRARY TABLE.

Epitome of the Synthetic Philosophy of Herbert Spencer. By F. Howard Collins. With a Preface by Herbert Spencer. Fifth edition. London: Williams and Norgate. 1901. Pp. 692. Price 21*s.*—This work, which is well known already, as the appearance of a fifth edition would alone suffice to prove, has been enlarged for the purpose of the present publication by the inclusion in the work of references to Mr. Spencer's now revised editions of the "Principles of Biology" and "First Principles." It serves the full purpose of a synopsis, such as it purports to be, of Mr. Spencer's system of philosophy and has been produced chiefly by the process of cutting off illustrative matter. In this way the voluminous works of the principal author have been collected into the manageable compass of this volume and made accessible to readers to whom time is wanting for the more extended reading necessary to make acquaintance with the originals. Such digesting work in reference to original matter of the character of Mr. Spencer's philosophy is of high value, and performed as it has been performed by Mr. Collins it fully merits the public appreciation which it has unequivocally received.

The Health Officer's Pocket Book. By E. F. Willoughby, M.D. Lond. Second edition, revised and enlarged. London: Crosby Lockwood and Son. 1902. Price 10*s.* 6*d.* net.—This is the second edition of an eminently scientific little volume of 424 pages and of such dimensions (6½ × 4 × 1⅛ inches) that, unlike many so-called pocket-books, it may conveniently be carried about. The book is already well known to medical officers of health, as the first edition appeared in 1892 and it is therefore unnecessary to dwell in detail upon its contents. As Dr. Willoughby states in the preface to the first edition, the medical officer of health and the sanitary inspector are frequently called upon to give impromptu advice when they are out of reach of the books kept in the public offices, and it is to them that this collection of 'facts, figures, and formulæ" will strongly appeal. The data are collected with a due regard to the frailty of the human memory, and not only will many of them be found useful when the medical officer of health is away from home, but the tables of logarithms and the mathematical data generally will prove helpful in the compilation of annual reports and in the calculation of dietaries. In a word, the volume is well fitted both for a pocket- and a desk-book. In the second edition much of the volume has been rewritten and the whole book has been revised and brought up to date. Part I. treats of practical hygiene, and Part II. deals concisely with sanitary law, embracing in abbreviated form the Public Health (London) Act, 1891, and the Public Health Act, 1872, together with notes on these two Acts. There is also a "comparative view of health Acts" in which the corresponding sections of the two principal Acts are arranged in parallel columns. There is, moreover, a capital summary of other Acts relating to the public health, including the Factory and Workshops Act, 1901. The appendices embrace useful information and there is a good index. In Appendix B it would have been better had the new statistical tables of the Local Government Board been introduced rather than that the old Tables A and B should have been retained. But we can cordially commend the volume as one which will be found most useful to the officers of sanitary authorities.

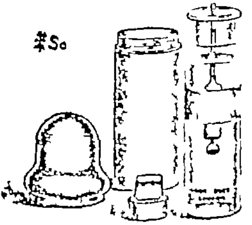
Health, Speech, and Song: a Practical Guide to Voice Production. By JUTTA BELL-RANSKE. With 18 Illustrations. London: Swan Sonnenschein and Co., Limited; New York: E. P. Dutton and Co. 1902. Pp. 159. Price 4s. 6d.—Mrs. Bell Ranske attacks the problem of so-called voice production in a methodical way, dividing the analysis of the component parts into the vocal organ, the motor elements or breath, and the resonator. The vocal organ is considered as an element. This is a little difficult to grasp and the wording of this chapter leads us to the opinion that the author herself found it as difficult of expression. We must own that it fails to convey any lucid impression to us. Here is one sentence which shows the knowledge on which some of the statements are based:

The vocal cords lie stretched across the larynx, fastened in front where the shoulders meet in their angle, and at the back to two small pyramidal muscles (the arytenoidei) which are fixed on the upper ring of the windpipe. The false cords are said to act in contrary motion with the true, which is a phrase also hard to comprehend. And when we are gravely informed that the only muscle that remains to be mentioned is the epiglottis it is obvious that knowledge is necessary in order to describe the anatomy of the vocal organs. The various ideas of the so-termed schools are described in detail as the "Larynx School," the "Pharynx School," and the "Resonance School." Undoubtedly Mrs. Bell Ranske has a keen appreciation of the great necessity of efficient natural respiration and of the great importance of chest development, while the importance attached to a proper carriage and deportment generally is extremely practical. But in the advice to singers Mrs. Bell Ranske appears to be unable to express intelligibly what she wishes to say.

New Inventions

A URINE SPECIMEN BOTTLE.

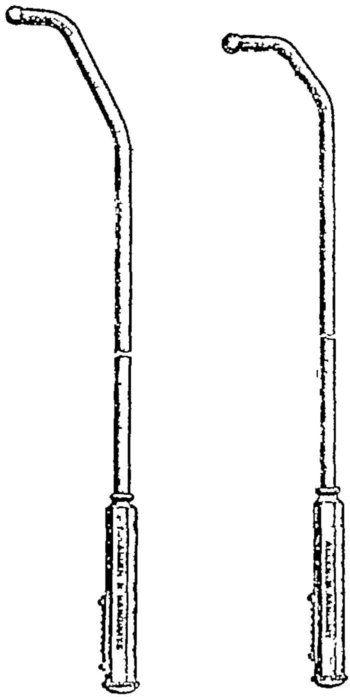
MOST practitioners must have suffered at one time or another from leakage from bottles containing specimens of urine which they have been taking home to test, and many must have found strange and unwonted substances in specimens sent them in bottles provided by their patients owing to the bottles having contained medicine and being used without being efficiently washed. To obviate these *contretemps* I have had some urine bottles made for me by Messrs. Down Bros., one or two of which I carry with me in my bag on my rounds, and use for taking home any specimen of urine I may wish to test. They are two-ounce stoppered bottles with a wide mouth, the mouth being wide enough to admit an ordinary urinometer. Each bottle is provided with a place for writing the name of the patient and the date, and they are inclosed in boxwood cases so that there is no danger of any leakage. I find them much appreciated by patients, especially those whose urine has to be examined at regular intervals, and they have been a very great convenience in my own work.



Ryde. H. CARTER THORP, M.A., M.B., B.C. Cantab.

TWO USEFUL BLADDER SOUNDS.

I CANNOT find that the adaptation of the useful bi-coudée catheter bend has been applied to sounds and this seems a little remarkable. These sounds are, of course, intended chiefly for prostatic cases, although not exclusively. Every one knows the difficulty of using and the deficiencies of ordinary sounds in many cases. The beaks of these sounds are at right angles to the shafts and this, together with their shape otherwise, renders them capable of extending over, and searching behind, the enlarged lobes. The chief advantage, however, is the ease with which I find them to pass. Both sounds are flattened at the convexity and flattened and narrowed at their beaks from side to side, these improvements rendering them easy to pass over enlarged middle and between approximated, lateral prostatic lobes. The sounds are made by Messrs. Allen and Hanburys, copies of some I made myself a considerable time ago.



Finsbury-pavement, E.C. JAMES MACMUNN.

PLYMOUTH BOROUGH ASYLUM.—At the meeting of the Plymouth borough council held on August 11th tenders were accepted for the extension of the Plymouth Borough Asylum at a cost of £35,967.

CRUELTY TO LIONS.—The Royal Society for the Prevention of Cruelty to Animals recently obtained at Dorchester the first conviction under the Wild Animals in Captivity Act, 1900, in regard to lions. The defendants were the proprietors of a travelling menagerie and were charged with causing cruelty to a lion and lioness by insufficiently feeding them. One of the defendants admitted that they had had a difficulty in getting food for the lions but he denied that they suffered in consequence. His brother gave a performance as usual, putting his head into the mouth of one of the lions, and if it had been starving it would have attacked him. Each of the defendants was fined £1.

THE LANCET.

LONDON SATURDAY, AUGUST 23, 1902

ne Surgery of Chronic Dyspepsia

IN the present number of THE LANCET appear two papers which serve to show very clearly the immense benefit which surgery may afford in certain cases of chronic dyspepsia where the symptoms make life unbearable. One paper is by Dr T KENNEDY DALZIEL, professor of surgery in Anderson's College, Glasgow, on 30 Cases of Gastro-enterostomy for Non malignant Affections of the Stomach, and the other is by Mr A. E BARKER, surgeon to University College Hospital, on Some Cases of Operation for Chronic Non malignant Disease of the Stomach

Chronic dyspepsia has from time immemorial been one of the greatest opprobria of medicine. Judicious medicinal and dietetic treatment relieves many of the cases, but there are still many remaining in which all ordinary treatment fails to do any permanent good. The immediate danger to life is small—for here we are not speaking of malignant disease—but existence is a burden Unless the greatest care is devoted to the diet discomfort and pain will torment the patient for hours after a meal and often relief will only be obtained when the stomach rejects its contents. Sometimes the vomiting may be profuse, many pints being brought up The food, whether ejected or retained, fails to nourish Emaciation, often extreme, naturally follows The sufferer, worn out with pain and weakened by lack of food, falls at length into such a state that death itself comes as a relief Even when the symptoms are not so extreme they are sufficient to interfere with ordinary life. The patient is able to devote himself to only a very limited extent to his work He cannot forget his dyspepsia, his mind is centred in his stomach, his diet, his beverages, his symptoms occupy his whole attention and he has none to devote to the ordinary concerns of life Every medical man can testify to the correctness of this picture. Fortunately, such extreme cases are not very common, but instances of a milder type are often met with, and everyone must acknowledge how little relief is to be expected from drugs There are doubtless some of these cases of disease which are functional in origin and in which the most minute examination of the stomach and abdominal viscera after death cannot reveal any lesion, but these form the exception, for in the majority of cases a necropsy will show some definite structural change to which may reasonably be attributed all the symptoms For many years a connexion between these chronic dyspepsias and some definite organic disease of the stomach was hardly suspected. They were not cases likely to be detained in hospitals for any length of time and therefore would but rarely come to a necropsy, for post mortem examinations are very exceptional outside hospitals But it came gradually to be recognised that in many cases some definite structural change could be found, and now it may confidently be laid down that in the vast majority of cases of severe chronic dyspepsia the disease is not merely functional but has an organic basis. The conditions discovered on examination are very various, but it is remarkable that a large proportion of them result from the healing of simple gastric ulcers As the ulcer heals it contracts and so may lead to constriction of the pylorus, if it be situated near that orifice. On this constriction follows the whole train of symptoms associated with dilatation of the stomach Should the ulcer be placed more nearly in the centre of the viscus its cicatrisation may lead to a mesial narrowing so as to produce the "hour glass" stomach. Again, as a gastric ulcer extends in depth it may form adhesions to surrounding viscera. When the ulcer has healed these adhesions remain and may produce tractions on the stomach itself or on neighbouring organs, or obstruction of the duodenum. These are the chief lesions discoverable, but many variations and combinations of them may be found producing great variety in the details of the symptoms In some of the cases described in Dr DALZIEL'S paper adhesions were the result of peritonitis originating from old tuberculous glands behind the pylorus, and these adhesions prevented the emptying of the stomach. Sometimes, again, the gastric muscular movements may be interfered with by firm broad adhesions

For all these cases medicine is of little avail A carefully restricted diet and the administration of gastric sedatives and antiseptics may lead to some remission of the symptoms or even to great improvement The relief is, however, but temporary and a return of all the discomfort and pain follows at once on a return to ordinary diet In cases where there is gastric dilatation great relief is often experienced from washing out the stomach regularly, and this "lavage," as it is called, is by no means so unpleasant to the patient as might be expected—in fact, it is frequently asked for, as the patient recognises the good it does Lavage is useful, too, even when no dilatation of the stomach is present, for it removes from that organ the undigested decomposing residue of the last meal. Lavage, however, is at the best but a palliative, and operative interference is needed to produce permanent results. Of all the operative methods of treatment for these cases there is one the results of which are more satisfactory than those of any other This is gastro-enterostomy, the lateral attachment of the upper part of the jejunum to the stomach Its mode of action is two-fold. In the first place it enables the stomach to empty itself completely and easily, so that accumulation and decomposition of the contents are no longer possible. This is the way in which so much benefit is obtained from it in cases of non malignant pyloric stenosis There is yet another method by which gastro-enterostomy does good it affords physiological rest to the stomach, and this is of vital importance in cases where that organ has been incessantly irritated for months or years. The operation is best preceded by lavage of the stomach for several days to render it as free from micro-organisms as possible

What are the results? For on the excellence of the results depends the justifiability of the whole operation First as to the mortality In capable hands this is exceedingly low—probably not over 3 per cent. Secondly, as to the effect on the symptoms. The relief in most cases is immediate, great and permanent. The emaciation rapidly disappears, the dyspepsia vanishes, and ordinary food can be taken with impunity. Of course, so completely successful a result is not obtained in every case but the benefit is nearly always striking. Care must be used in the selection of cases suitable for operation, for only harm can result from indiscriminate laparotomy. The symptoms must be of sufficient severity and duration to justify having recourse to an operation which, however carefully and intelligently performed, cannot be free from risk. But in suitable cases the results are worthy of an age of surgical progress, as will be at once obvious from reading the two contributions to our columns which have prompted these words.

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Hospital Abuse.

AT the recent annual meeting of the British Medical Association Dr. ALFRED COX of Gateshead and Mr. J. T. J. MORRISON of Birmingham both called attention to the fact that in some towns it was the working-class vote that would predominate in the management of hospitals. There is no reason why working men should not contribute their share to the public charities, but that is not the way in which they view their subscriptions to hospitals. They have been accustomed to subscribe to friendly societies, to medical aid clubs, to slate clubs, to trades unions, and other such institutions. In each and every case the money they give comes back to them in hard cash or in services rendered, and further they generally have a vote in the management of the funds which they thus raise. Consequently they naturally imagine that if they support the hospitals they should not only have a vote in the management of the hospitals but that the hospitals are bound to render them services in exchange for the money subscribed. The workmen do not give to the hospitals as an act of charity but they pay so as to wipe out the charitable aspect of the institution. They propose to purchase, as it were, a right of entry to the hospital and a right to be treated not as the recipients of charity, but as provident people who have insured themselves against the risks of sickness or accidents. This is the feeling that undoubtedly prevails though it has not yet been formally inscribed in any document, agreement, or covenant.

Our Special Commissioner in the series of articles on Hospital Abuse gave a very full account some five years ago of the growth and development of the Birmingham Hospital Saturday Fund.[1] At that time it was estimated that 75 per cent. of the workmen of Birmingham subscribed to this Fund and they raised about £15,000 in the year. Now we are told that they subscribe £18,000 and therefore, perhaps more than three-fourths of the working classes are at present involved in the movement. As most of the money is raised by means of penny weekly subscriptions this would mean that there are some 83,000 subscribers. The total population of Birmingham, including women and children, is set down at 478,113, therefore it is safe to say that the vast majority of the working men are subscribers. Besides, they also subscribe several thousands of pounds direct to various hospitals obtaining tickets in exchange, and this is done over and above their subscriptions to the Hospital Saturday Fund. Taking the total annual revenue of the hospitals in Birmingham as about £41,000, if the working-classes were to withdraw their support the hospitals would at once be bankrupt. They know this and they feel that they are masters of the situation. This is all the more the case as with the increase of working-class support there has been a decrease in the amount of subscriptions received from the wealthier classes. Though less accentuated than at Birmingham, the same state of affairs is noted in other towns. Our Commissioner pointed out that out of an income from all sources of £10,921 received by the Leicester Infirmary the donations from the working-classes amounted to £3187.[2] At Leeds the workmen's subscriptions represented about one-fourth of the total income of the hospitals,[3] and now Dr. ALFRED COX states that in the North of England, notably at Gateshead, the workmen subscribe such large sums that not only do they conceive that they are paying for the treatment they receive but maintain that they have a right to govern the hospitals, the move being directly towards the municipal ownership of the institutions. In dealing with Birmingham our Commissioner pointed out that if the majority voluntarily taxed themselves they would soon demand that the minority should be coerced into paying their share of the required contributions. Thus the subscription would be converted into a tax and the private funds would be replaced by the municipal administrations which would manage the general hospitals as they already manage the hospitals for the treatment of the insane and for the isolation of infectious cases. This represents, of course, the extreme outcome of the present situation, but unless the hospitals should revert to the old system and take measures to obtain the bulk of their financial support *from the* wealthy and well-to-do classes it is the obvious issue.

The question has now entered into a vicious circle and every step taken only aggravates the difficulty. The more the workmen give the less do the other classes give. The more the workmen give the more general does the abuse of hospitals become, because giving such large sums in the aggregate they do not see that they are not contributing their just quota and are not really paying for service rendered. The more hospital abuse prevails the more disinclined will the well-to-do classes be to subscribe. Practitioners in the poorer districts of the large towns say that it does not pay them to buy surgical instruments for the *minor* as well as the more serious surgical cases now all gravitate towards the hospitals. Why should, for example, the parents, relations, or private friends of young practitioners subscribe to hospitals when these institutions are so palpably injuring the prospects of those in whom they take an interest? The knowledge is spread that the money of the charitable subscribers is being misapplied and the amount given therefore decreases. But this only leads the managers of hospitals to rely more and more on the working-classes and therefore they refrain from making inquiries when cases of abuse are signalised lest subsidies that have now become valuable should be withdrawn. For the Coventry Hospital the working classes gave £300 more in 1896 than in 1895, the other classes £123 less, the country parishes £10 18s. less, and the legacies were £70 less. The working men subscribed more than a third of the total receipts and insisted on having 45 working men governors appointed.[4] It is true that the agitation against hospital abuse has led to a few reforms here and there but such sporadic attempts will not meet the case. Also, even if they are successful they will assuredly reduce the amount subscribed by the working-men who thoroughly believe in their legal right, having paid their pence, to hospital treatment in all circumstances. They do not see that the medical work of the hospitals is done by medical men gratuitously because they are charitable institutions, and for no other reason whatever. At paying hospitals the fees to be paid are not the pennies which the patients feel like giving but the sums which are considered to represent the value of the services rendered. All honour to the working classes for giving as much as they can, but they must not give a penny and expect to obtain a pound in return as their inalienable right. This is a view which ought to be brought strongly before the public.

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[1] THE LANCET, Sept. 18th, 1897, p. 745.

[2] THE LANCET, May 15th, 1897, p. 1374.

[3] THE LANCET, Feb. 13th, 1897, p. 463.

A Ministry of Public Health

IN the development of any new social force there comes a time when the channel which in the first instance afforded a sufficient outlet for its energy is no longer adequate, and if the outlet be not enlarged by those who are in a position to recognise its insufficiency events resembling volcanic eruptions are likely to take place. At the present moment there are many thoughtful and moderate men, having at heart the advancement of preventive science and the improvement of the sanitary environment under which a large portion of the community lives and works, who feel that the hour is at hand when the channel by which the public health service of this country found expression a quarter of a century ago might usefully be expanded—that, indeed, such expansion is necessary and has been shown to be necessary by circumstances of an eruptive nature.

Those who chance to have read the remarks of the famous Dr. W. FARR in the supplement to the thirty-fifth annual report of the Registrar-General, and who will take the trouble to contrast the existing administrative machinery with that which obtained in 1875, will see that the programme therein outlined by the great statistician has in the interval been largely realised. We have now a medical officer of health for every sanitary area and in this sense Dr. FARR'S ideal is attained, but only a small proportion of such officers are as well qualified as could be wished, either in a scientific or administrative sense, for the duties which the State expects them to perform, and the pay is frequently altogether ludicrous. But, this notwithstanding, the strides made in sanitary science in every conceivable direction have been those of a giant, and it is not too much to say that the spirit of preventive medicine now permeates every branch of the public service and is an enormous force making towards the more wholesome living of all classes. But while this is so there has not been in the public health world that gathering together of the loose ends of work, or that concentration of the available energy, which is essential if the potential forces are to be employed with the greatest efficiency. The expansion and welding together of the empire and the general spread of scientific knowledge have outstripped in this country our machinery for the maintenance of public health. There is, it is true, an excellent nucleus for a broad and vigorous public health service for England and Wales, but, viewed in relation to the needs of the empire, the nucleus must have larger possibilities if it is to serve as an adequate centre for future development. The Medical Department of the Local Government Board is, in effect, the central health department of the country, but the Medical Department finds Parliamentary and public expression only through that somewhat heterogeneous collection of sub-departments known as the Local Government Board, of which it is but a branch. If we apply the usually accepted standard of value, that of status and pecuniary emolument, it must, we fear, be inferred that the Board does not set an over-high value upon its public health work. This is the more regrettable because, although there is perhaps scope for initiative on the part of the Board in matters appertaining to preventive medicine, the inquiries conducted by the inspectors of the Medical Department are conducted with a thoroughness and impartiality which merit and possess the confidence of the country. Were this department expanded and were the Board clothed by Parliament with greater powers for initiative action but little fault could be found with the nucleus of the Public Health Service. But the developments of recent years require, we think, that preventive medicine should bulk more largely in the aggregate of the Board's work and that the President for the time being of that Board should feel that he alone is responsible to Parliament and to the country for the health of the people. And this brings us to a question which is now frequently asked and which will soon be ripe for answer. Is not a further expansion desirable? Ought there not to be a Ministry of Public Health? It would seem reasonable that the public health duties, which are at the present time scattered over several Government offices, should be focussed in one department and that all matters affecting the health of the empire should, in so far as the central health authority is concerned, be dealt with in one department. Such an office should be the public health and statistical bureau of the empire, where uniformity in statistical methods and the nomenclature of disease should be arranged and where the public health material should be digested and turned to the best account. This is, we are fully aware, a somewhat ambitious scheme, but the aspirations of the empire are in no direction characterised by undue humility, and expansion in the furtherance of knowledge and the improvement of the public health are surely among the elementary duties which devolve upon us in consequence of our greatness.

Those who are opposed to the creation of what we have spoken of as a Ministry of Public Health base their very reasonable objection upon the belief that it is better for the cause of public health that the functions relating thereto should be exercised by a large department having a Minister of Cabinet rank as its mouthpiece than by a small office having no such advantage. We cordially agree with this, but it seems to us that a department having for its work the programme which we have here delineated might well have a Cabinet Minister at its head. This question of the formation of a Ministry of Public Health is likely to receive the attention at an early date of one or more societies concerned with the administrative side of preventive medicine, and it is for this reason that we set forth certain points for consideration There is no doubt that the public health service of the country cannot cope with the demands laid upon it by modern scientific knowledge a position which is bound to get worse. Sooner or later a big piece of constructive work will have to be done and the right man should be found to do it It would be worse than useless were the matter to be taken up by persons open to the charge of personal aggrandisement, while only those who understand public health questions, their difficulty delicacy and importance can realize that our present condition is not perfect. But the moment is opportune in many ways for the consideration of the whole matter The blessing of peace has been given to us while the lessons of the war point straight to the necessity of an efficient and up-to-date public health service. It would be idle to suggest that so radical and immediate a change as the formation of a Ministry of Public Health should be made with a member of the Government of Cabinet rank at its head. We do not expect such an innovation but we do expect that the new Government, doubtless starting with keenness on its work, should give the question of the public health of the country its best attention. And we believe that the most practical way of displaying knowledge of the present position and of the future to be provided for would be to consider seriously the formation of a bureau of public health

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[4] THE LANCET, April 17th, 1897, p. 1118.

Annotations.

"Ne quid nimis."

TUBE RAILWAYS

WE publish in another column an article upon tube railways which we commend to the notice of our readers. The limitations of the article are definite, for we make little attempt to go outside our province and to deal with the construction of tube railways while our remarks on engineering problems of every kind are conspicuously absent. We have simply considered the tube railways now in construction in London and in great probability shortly to be constructed in most overcrowded capitals as a departure in social life which must have many more or less medical bearings. It is possible that some of our readers will in the near future be asked by their patients such questions as the following Are the tube railways safe from accident—as safe, that is as any railway can ever be made? Supposing the precautions taken to be adequate are the proper means provided for minimising disaster? Are the tubes properly ventilated? Will the vibration caused by the trains be so great as to constitute serious annoyance to the inmates of houses on the route? Questions like these cannot be positively answered for it must be remembered that many points will not be made clear until the trains are actually running All that comment and criticism can do at the present moment is to urge the necessity that rigid precautions should be observed to obviate the tubes becoming a source of danger or annoyance, and that advantage should be taken of past unfortunate experiences. There can be no doubt, we think, that in London at any rate some such development in passenger traffic as we are now witnessing is urgently called for The schemes for the construction of deep-level railways now on paper or receiving Parliamentary sanction or actually nearing constructive completion demand we think the general approval if not the admiration in detail of all who live in, or work in, or are interested in the welfare and business position of London and this latter section may be taken without exaggeration to imply all the citizens of our empire and all the trading classes of the world. The danger to health and life and limb in our overcrowded metropolis with its terribly congested traffic are very real and are increasing by leaps and bounds It has become necessary that means should be provided whereby persons living at a distance from the business centre of the world can reach that centre at the expense of the minimum of time and trouble. Yet it is obvious that the easier the passage is made from the circumference to the centre the more congested the centre will become unless the increased traffic has new routes made for it. Such routes can only be placed above or below the existing routes, and it is well known that overhead railways are subject to the gravest disadvantages. Of underground railways two are possible the shallow and the deep. There is much to be said for the shallow railways and the London County Council is known to favour them, but the difficulty of construction is very great, the inconvenience caused during the work is incalculable and the expense is proportionately high This brings us to deep railways as the preferable solution for a problem that exists and grows daily in London at any rate, harder to answer Against deep railways it has been urged that their ventilation is faulty and that the damage that they do to structures upon their route by altering the drainage and formation of the soil cannot be estimated. We think that this is a pessimistic view based upon conditions which experience will not allow to recur The ventilation of the new tube railways is to be much more thorough than any previous scheme has provided for and the promoters of one and all the lines are awake to the gravity of asking the public to pass long spells of time in grossly vitiated atmosphere. There is evidence that the precautions that are to be taken in the new tube railways for doing away with vibration are also very sound and thorough while there seems no reason to suppose that any important settlements will take place if the tubes are constructed entirely in the deep-lying clay Of course the gravel bed above that clay must be pierced at the stations for the admission of passengers but every care known to the engineer having been taken to obliterate the space between the gravel and those shafts the wholesale injury to buildings on the route which has been so generally anticipated ought not to occur It will not occur unless some of the most experienced engineers in the country are wofully out in their calculation On the whole we think that we are in a position to assure our readers that the vast network of tube railways soon to be crossing and recrossing each other in the clay below London will not subject the public health to the strain that has been suggested, while the improved facilities for travelling ought to lessen the overcrowding which is now such a terrible source of disease in many quarters of the metropolis

COUNTY COUNCILS AND CONSUMPTION

THE attention paid by county councils to the treatment of consumption is a hopeful sign Both the Lancashire and the

Cheshire councils are moving in the matter At the meeting of the former on August 7th Sir John Hibbert moved the adoption of the report of the special committee appointed to consider the best method of appropriating the sum of £10,000 voted out of the county fund to commemorate the King's coronation. The committee unanimously recommended that it should be devoted to the establishment of an institution for the treatment of cases of consumption arising in the administrative county Sir William Houldsworth, while agreeing, doubted the possibility of doing much with so small a sum, and suggested that it might be possible to come to some arrangement with the hospital which Mr Crossley is providing for Manchester and Salford in Delamere Forest. After some discussion Sir John Hibbert agreed that the matter should be postponed At the meeting of the Cheshire county council held on the same date Mr W Hodgson drew attention to the same subject and spoke of the "magnificent sanatorium in Delamere Forest" provided by the munificence of Mr Crossley He thought, however, that the Cheshire council might be able "to do a sufficient thing, probably at somewhat less cost, and spreading the cost over the whole county it would not be much for each authority" The public health committee of the council had thought that nothing could be done unless notification were compulsory, but on inquiry at the Local Government Board this was found to be an error The report of the committee to the effect that it was desirable for a sanatorium or sanatoriums to be established in the county was approved and it was agreed to send it to the local authorities together with the gist of the letter from the Local Government Board. With regard to Sir William Houldsworth's suggestion as to negotiating with the Delamere hospital it should be remembered that the Liverpool sanatorium is not much more than half a mile away and it does not seem desirable to bring too many of these institutions to the same locality Lancashire has many most salubrious sites quite as good as that of Delamere

SOME ADVANTAGES OF A RAINY SEASON

The summer of 1902 so far has been horrible It is the more unfortunate that it has been so as it was the year set apart for great national rejoicings To the majority it may be a source of satisfaction that grumbling is justifiable, and he who can cast about for and find a few redeeming features in regard to the excessively unpropitious weather which we are experiencing proves the possession of virtuous content. One fact may prove a solatium, and that is that it was impossible to run away from the weather by leaving England, for equally bad, and in some cases a good deal worse, weather has been the rule apparently over the whole world Certainly in many places where highly favourable weather so often obtains the conditions have been worse than those prevailing in the British Isles Italy, for example, has been visited with snowstorms and a cold season has been recorded which for its bitterness appears to be without precedent. Other countries reported to be commonly blessed with sunny skies have shared the same experience In this fact, perhaps, may lie a crumb of consolation, but it is small. Greater consolation surely may be found in the fact that in London, at any rate, and in many other big manufacturing towns the almost torrential rain which has been experienced during the last few days has provided us with a wonderfully clean and clear air The freshness and transparency of the air of London are well known effects of a sharp rainstorm. The continual bombardment of the air by millions of pure water drops exerts a mechanical effect, a physical effect, and a chemical effect, all of which play a part in a hygienic purpose. There is the mechanical effect of removing suspended particles—dirt, dust, smoke, micro organisms—and carrying them to earth, there is the physical effect of a difference of electric potential being relieved, removing a stress responsible perhaps for headache and a depressed feeling, and finally, there is a very important chemical effect by which the air is freshened There is no doubt that the rapid passage of water drops through air exerts a bracing effect upon it, which is probably due to the formation of peroxide of hydrogen which gives invigorating properties to the air, and, as is well known, will easily destroy unseen impurities These interesting facts, though affording, perhaps, feeble consolation to those who have gone to seaside and other places where the air is naturally pure, are probably of the greatest moment to those busy workers compelled to remain in the industrial hives of the towns, for by abundant rain a close, grimy, stifling atmosphere is thoroughly washed and freed from all impurities and made healthy, bracing, and bright.

MENTAL DISORDERS OF CHILDREN

Professor F X. Dercum of Philadelphia has contributed to the *Philadelphia Medical Journal* of July 19th and 26th last an important paper on the mental disorders of children in which an attempt is made to reduce to order from a condition of something like chaos this complicated and somewhat neglected subject and to point out some of the natural characteristics and affinities of the groups of nervous affections concerned Childhood is taken as embracing the period from birth to puberty It is pointed out that idiocy and imbecility are met with in children, but that insanity as ordinarily understood is rare The following four classes of idiots are recognised—viz, first, idiots with morphological anomalies of cranial, facial, and bodily formation, but without gross destruction of parts of the brain—e g, those of the microcephalic and "Mongolian" types, secondly, idiots with gross cerebral lesions resulting in paralysis and contractures—e.g, many epileptic, paralytic, syphilitic, and traumatic cases of idiocy, thirdly, cretins, and, fourthly, amaurotic idiots belonging to the "family" type With this last form of idiocy several children of one family are affected As a rule, adds Professor Dercum, nothing special is noted in patients of the last class until the child is about six months old, when arrest and deterioration of development supervene in association with progressive blindness and death follows shortly after This affection is essentially progressive, and destructive changes have been described as present in the nerve cells of the cerebral cortex, basal ganglia, and spinal cord The last two forms of idiocy enumerated above are, says Professor Dercum, distinctive forms which bear no relation to the first two forms or to each other Children, it is pointed out, suffer quite frequently from delirium and mental confusion and occasionally also from stupor These three forms of mental disturbance constitute another group of the mental affections of childhood. Such disturbances may occur as the result of febrile disease, shock, injury, fear, or prolonged excitement. Vivid hallucinations are developed and the child appears to be in a condition of unreasoning fright or terror Melancholia, mania, and progressive systematised delusions like those of paranoia form a third group of affections They are met with rarely in childhood, probably because of the incompletely developed condition of the brain and ego before adolescence Insanity may be foreshadowed in childhood but is seldom developed until after puberty Suicide in children is very rare as an outcome of melancholia. Some children exhibit neurasthenic symptoms in the form of *abnormal fears*, *painful indecision*, and *strong impulses* to destructive and criminal acts Such symptoms, vague at first, may prove to be the prodromata of a serious form of mental degeneration coming on in after years—viz., dementia præcox. At the approach of puberty such children are liable to exhibit periods of great exaltation and depression of spirits or of intellectual precocity and promise Within a few months or in one or two years, however signs of mental dulness and deterioration will appear If concomitant physical disturbances such as insomnia and cephalalgia, loss of appetite and feeble circulation are present there is danger of threatened mental breakdown and dementia. The most potent favouring cause of insanity in these cases is the presence of an hereditary taint. The case will then probably develop into one or other form of dementia præcox, which constitutes another group of the mental affections of childhood or youth Among the neurasthenic group of symptoms Professor Dercum also includes incorrigible tendencies to vagabondage and prostitution in young persons of both sexes. It is important, *concludes Professor* Dercum, that all neurasthenic symptoms should be diagnosed and treated early Children with finer intellectual endowments than their fellows require especial care when suffering from such symptoms, and their treatment should consist mainly in rest from work or study out-of door living and occupation, massage and hydro-therapeutics, a generous diet, and the administration of tonics and laxatives to correct anæmia and to prevent the accumulation of auto-intoxication products in the bowel In cases with a tendency to stupor good results have sometimes followed thyroid medication

THE PISTOL AGAIN

WE have not referred to this subject recently but the newspapers on Monday August 18th, contained details of no less than three revolver tragedies which so forcibly illustrate the dangers caused by the unrestricted sale and carrying of firearms that we desire to call special attention to them The first case is that of the gentleman who was shot in Gloucestershire by a friend with whom he was bicycling after which the murderer travelled to London and committed suicide at a hotel. Two deaths are thus recorded with regard to which the unrestricted carrying of the revolver is the important point for the position of the parties suggests that the mere cheapness of firearms was not a fact which influenced them. This points *to the desirability of* a licence for carrying pistols being issued upon terms implying some publicity and more inquiry into the character of the applicant than is the case with a gun licence. In this instance it will be observed two pistols played their part, for the murderer left the first at the scene of his crime but had no difficulty in surreptitiously borrowing another from his brother on returning to London It would be difficult to suggest that revolvers are necessary articles which these gentlemen lawfully carried for some useful purpose. In the second case to which we call attention a man at Coventry employed in the cycle trade called at a house where his wife was employed as a nurse in order to persuade her to resume cohabitation with him. This she refused to do, so he proceeded to shoot her inflicting a severe wound while he followed his attempt at murder by killing himself We ask if there is any reason why a man such as this should be able to buy a pistol for 5s without any questions being asked as to his identity his character or his intentions? In the third case, which was reported in the evening newspapers upon the day mentioned, a ship's cook was charged at the Thames Police court with attempting to murder a flower girl who had refused to marry him with causing bodily harm to two other flower girls, and with attempting to commit suicide. The prisoner according to the evidence given, shot the first girl after calling her towards him pursued the others as they ran away firing several shots at them of which two took effect, while the others apparently spent themselves in the public street without happening to do any harm and then so we gather a miss fire prevented the final tragedy As these cases are all still the subject of inquiry we add no more with regard to them except to express a wish that juries should realise in all cases the unnecessary ease with which firearms can be bought and the danger thus inflicted on the community Juries presentments are not perhaps very effective in promoting legislation but they play their part in calling attention to scandals and have some influence on public, if not on official opinion Three deaths and four woundings make a long list to be recorded in a single day and no doubt many such cases do not find their way into the London newspapers, to which alone upon this occasion we have referred

THE DISTRIBUTION OF PLAGUE

A TELEGRAM from the *Governor of the Mauritius*, received at the Colonial Office on August 16th states that for the week ending August 15th there was 1 case of bubonic plague and no death. As regards Egypt a Reuter's telegram from Cairo, dated August 17th states that the total number of cases since April 7th is 279 of which 156 have ended fatally As regards Hong kong a telegram from the officer administering the Government received at the Colonial Office on August 19th states that for the week ending August 16th there were 12 cases of plague and 12 deaths.

THE BRITISH PHARMACEUTICAL CONFERENCE AT DUNDEE

A VERY successful meeting of the British Pharmaceutical Conference was held in Dundee during last week. The proceedings commenced by an address from the President, Mr G C Druce, M A. F L S which was delivered on Tuesday evening August 12th, before a large gathering in the Dundee University College. On the last occasion of the visit of the members of the British Pharmaceutical Conference to Dundee, which was in 1867 the late Professor Bentley was elected President, and he chose for his address the subject of botany considered practically and scientifically as an aid to the pharmacist. Since that time the business of the pharmacist has like most other businesses felt the pressure of increasing competition, and nowadays it is but few pharmacists who have the opportunity of devoting any time to the study of systematic botany however much that study may be calculated to enlighten him as to the medicinal properties of plants To the modern pharmacist unless such study be a hobby it would mean the absorption of so much time which he could otherwise devote to the subjects—to mention one chemistry—which more closely concern the practical side of his vocation The President of the Pharmaceutical Conference this year on the occasion of its thirty ninth annual meeting like the President of the last meeting held in Dundee in 1867 is an earnest student of systematic botany and it might have been expected therefore that he would endorse much that the late Professor Bentley had to say on the previous occasion, and such was the case He described the progress of Scottish botany mentioning the work of botanists in Scotland and in alluding to the Scottish flora stated that Scotland has practically three-fourths of the plants known to grow in the British Isles. He concluded with some remarks emphasising the intellectual value and physical gain which the student of field botany might derive from a study of botany in the field. Such a study was not demanded for examinational purposes but it developed the powers of observation stimulating the faculty of exploration and was thus calculated to lighten to some extent the gloom of ignorance which enshroud some of Nature's problems" At the business section of the meeting a series of excellent papers were read and discussed.

Amongst the more important were those [illegible] official preparations, tasteless cascara preparations, alcoholic extracts, the preparation of galenicals, and other subjects of obvious practical concern to the pharmacist. Altogether, a very useful number of papers was read before the conference, followed by instructive discussion, and the year-book of the conference in which these proceedings will be published promises to be not less interesting than any of those of previous years.

THE PREVALENCE OF SMALL-POX

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned. On Saturday, August 16th, there were 6 fresh cases, on Sunday, the 17th, there were 3 fresh cases, on Monday, the 18th, there were 3 fresh cases, on Tuesday, the 19th, there were 2 fresh cases, and on Wednesday, the 20th, there were 2 fresh cases.

THE USE OF NARCOTICS IN THE TREATMENT OF INSOMNIA IN THE EARLY STAGES OF INSANITY

DR. HENRY RAYNER has published a paper on this important subject in the July number of the *Journal of Mental Science* The fact that deprivation of sleep produces more distress and a more speedy fatal termination than deprivation of food is proof of the predominant need of sleep by the brain and body In cases of insomnia of some duration there is, says Dr Rayner, a general disorder of nutrition, and this is nowhere more marked than in cases of incipient or threatened insanity in which wasting rapidly follows upon insomnia. The drugs generally used in procuring sleep, such as morphia, chloral, and sulphonal, adds Dr Rayner, have an injurious effect on the nutrition of the body, and their dosage has to be increased to secure sleep if the drug has to be used for protracted periods. Such disadvantages, however, can be avoided by using prolonged baths and gentle massage as a sedative and hypnotic measure, as they not only induce sleep but improve bodily nutrition by promoting elimination of waste products. Narcotics, it is also argued, depress the cardiac, vaso-motor, and respiratory centres The beneficial effects of narcotics, however, appear to be undoubted, but these effects are regarded by Dr Rayner as being obtained at the expense of the brain, the nutrition and repair of which get slowly impaired by the use of narcotics. "My individual experience has led me gradually to discard the use of narcotics altogether in narcotic dosage, and to use them only at rare intervals in the hypnotic form and then only in the form of bromide or alcohol' Dr Rayner points out that many practitioners are too prone to use morphia or opium when insomnia exists and that the temporary benefit which follows as regards the restoration of sleep is often neutralised by the injurious after-effects resulting from the use of this drug In the discussion which followed the reading of the communication at a general meeting of the Medico-Psychological Association in London, Dr G Fielding Blandford stated that the use of hypnotics was often imperative in the insomnia of early or threatened mental disorder, and that the benefit was very great and material. Paraldehyde had in his experience always proved a safe and excellent hypnotic Dr G H. Savage emphasised the importance of procuring sleep in such cases if the threatened mental breakdown was to be averted, and stated that opiates and hypnotics were absolutely necessary Hydrotherapy also was a valuable aid to procuring sleep in restless and agitated patients, and where mental distress was extreme he had seen the best results follow the administration of large doses of narcotics. Dr Fletcher Beach concurred in the view that hypnotics, especially sulphonal, were beneficial in cases

sleep

CHOLERA IN EGYPT

A REUTER'S telegram, dated August 17th, states that the total number of cases of cholera existing in Egypt at that date was 381. In Cairo on August 16th there were 32 cases with 23 deaths, at Alexandria 1 case was notified. The total number of cases since July 15th has been 2016, of which 1509 have proved fatal.

THE PREVENTION OF ENTERIC FEVER IN ARMIES

IT will be remembered that when Dr Leigh Canney put forward his scheme for safeguarding an army against enteric fever by ensuring that troops engaged on field service should be supplied with boiled water we strongly urged that his plan, instead of being simply talked about, should be practically tried. We are very glad to learn, therefore, that the War Office authorities have determined on doing this an that all the necessary apparatus and equipment for ster lising water will be made available for the purpose, wh an opportunity occurs for the experiment There c be very little doubt, as far as the prevalence of epider typhoid fever of armies is concerned, about the part playe by contaminated water Sudden and severe outbreaks of enteric fever are often neither more nor less than examples of wholesale water poisoning

A TESTICULAR CYST CONTAINING ACARI

IN the August number of the *Quarterly Medical Journal* Mr R. J Pye-Smith of Sheffield describes what is believed to be a unique case In July, 1899, he was consulted by a medical man, aged 34 years, who several years previously had spent a short time in India and whilst there had on one occasion been catheterised for retention of urine during an attack of fever The patient was now suffering from a cyst of the right testicle which he had first noticed six years before, and it had gradually increased in size, more rapidly during the last year It caused but little inconvenience and no pain or other appreciable symptoms. Mr Pye-Smith punctured the sac with a trocar and cannula and drew of two and a quarter ounces of a watery, fairly opalescer fluid. This fluid was examined microscopically by Dr (Monro Hector who found that it contained, in addition many spermatozoa (still active but not very vigorous), nun rous living acari varying from 0 15 to 0 30 millimetre length and about 0 10 millimetre broad, he estimated t there were about 800 acari in the total contents of the cyst. On the advice of Mr A. D Michael, F Z S, the specimens were submitted to Dr E Trouessart of Paris who examined them and published an illustrated description of the acarus in the *Archives de Parasitologie*, No 3, 1902. He recognised it as new to naturalists (this department of the fauna of India has been very little studied) and he has classified it as a sarcoptide of the sub family tyroglyphinæ, nearly related to histiogaster carpio (Kramer), but a new variety, he therefore proposed to call it "histiogaster spermaticus." The measurements just given show that it is decidedly smaller than the ordinary itch insect which is itself so minute as to be barely visible to the naked eye. The itch insect also has its length and breadth nearly equal, whereas the outline of the new acarus is distinctly elongated. To account for its presence in the cyst Dr Trouessart suggests that an egg bearing female was adhering to the catheter which the patient had passed in India, that she attached herself to the urethral mucous membrane, entered one of the ejaculator ducts, and followed the vas deferens till she reached th epididymis, where she probably commenced to lay her egg and the infarct thus produced caused the rupture of the mucous membrane and the formation of the cyst.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE

AN office has been opened at Madrid to secure accommodation for members who propose to attend the Fourteenth International Congress of Medicine which will be held next April. Applications should be made direct to the secretary Bureau des Logements, Faculté de Médecine, Madrid Intending visitors to Madrid should not delay too long in making application, as it seems probable that the housing accommodation will be strained to the uttermost during the congress week.

SPOTTED FEVER OF THE ROCKY MOUNTAINS

AN interesting account of this disease is given by Wilson and Chowning in a report to the Montana State Board of Health[1] The disease occurs in a very limited tract of country in the Bitter Root Mountains and is characterised by rigors, high temperature, and the recurrence of a macular rash, at first rose-coloured and discrete but afterwards purplish and nearly confluent. The rash commences on the second to the fifth day about the wrists, ankles and back, but afterwards extends all over the body The disease lasts for two weeks and then begins to subside by lysis and convalescence commences about the end of the fourth week. The disease only occurs in the spring and has a mortality of from 70 to 80 per cent. No bacterial form could be isolated but there are present in the blood protozoan parasites not unlike the pyrosoma bigeminum of Texas fever The disease is not contagious, but in all cases examined there were small wounds of the skin said to have been caused by the bites of ticks, which are numerous in the locality and appear in the spring as soon as the snow melts. It is suggested therefore, that this remarkable disease is due to a protozoan parasite, infection with which is occasioned by the bite of a tick

AMAUROTIC FAMILY IDIOCY

AMAUROTIC family idiocy is a rare condition which has been observed in Jewish children. It was first described in 1871 by Mr Waren Tay since then about 68 cases have been recorded. In the *New York Medical Journal* of July 12th Dr A. Hymanson has published the following case A male infant whose parents were Russian Jews appeared normal until the eighth month when he ceased to take any interest in his surroundings. He would not raise his head and made purposeless movements of the limbs The head was large, measuring 19 inches in circumference. The fontanelles were prominent and widely open but at the age of 10 months they were gradually closing At the age of 15 months he could not hold his head up it was usually thrown backwards. He was very anæmic, his muscles daily became weaker and more flabby and spontaneous movements gradually ceased. He had a vacant look and seemed to see light but did not recognise his parents. He seemed to be deaf but became frightened when anyone knocked at the door During sleep the eyes and mouth were wide open. The pupils were slightly contracted and did not react to light. The fundi showed changes exactly similar to those described by Mr Waren Tay Corresponding to the macula lutea of each eye was a large bluish-white spot about twice the size of the optic disc. At its centre was a brownish red circular dot. The optic discs were in a state of grey atrophy and the calibre of the vessels was markedly reduced. The child died at the age of 19 months Two weeks before death there was great anorexia. He was much emaciated could hardly move his limbs and had gluteal bed sores The temperature was subnormal 97.5° to 98° F A necropsy was refused. Of the 68 recorded cases 40 are known to have been fatal the result in the others is unknown. The family predisposition is shown by the fact that 28 cases occurred in 18 families. 30 cases were observed in America, 11 in England, 14 in Germany and the remainder in other countries The necropsies have not shown any abnormality in the form or structure of the cerebral convolutions. Thus the etiology and pathology are unknown. The chief clinical features are idiocy weakness of all the muscles terminating in paralysis, gradual loss of sight, characteristic changes in the macula lutea, marasmus and death at the end of the second year

LEUCOCYTE CHARTS IN PNEUMONIA

IT has been known for a long time that the leucocytes in the blood are increased in pneumonia, and Dr J T Hewetson of Birmingham, writing in the August number of the *Birmingham Medical Review* recommends the use of charts or graphic curves showing the daily variations in their number as an important element in the diagnosis and prognosis of the disease. He holds that the information obtained by stained blood films is of less value in pneumonia than that derived from quantitative estimation of the leucocytes. He gives illustrations of charts containing three curves showing simultaneously for each day the highest pulse-rate and temperature and the degree of leucocytosis once he adds a fourth line—namely a respiration curve. The curves are not superposed but are kept quite apart, one above another with the same vertical lines for all. The leucocytosis scale has 5000 per cubic millimetre as the starting point and usually ascends by steps of 5000 with an upward limit of 30 000 but in one case the scale ascends by steps of 10 000 to an upper limit of 80 000. In moderately severe and uncomplicated pneumonia there is a rapid diminution in the number of the leucocytes after the crisis the average proportion per cubic millimetre being once more established. In severe pneumonia the leucocyte numeral is maintained for several days after the crisis and the fall to normal is gradual. As a diagnostic means in the early stage of pneumonia before the appearance of physical signs the presence of leucocytosis would exclude typhoid fever malaria, and influenza. *The leucocytosis of pneumonia is due entirely to* an increase of the polynuclear finely granular oxyphiles it usually rises steadily day by day reaching a maximum about the period of the crisis.

WE have received a copy of the Transactions of the British Congress on Tuberculosis held in London in July 1901 The Transactions make four large volumes, of which Volume II. containing the Transactions in the State Section, edited by Dr H. T Bulstrode, and Volume III containing the Transactions in the Medical Section edited by Sir Hugh Beevor and Dr Hector Mackenzie and in the Pathological Section edited by Dr J J Perkin. are the largest and most important. The Transactions are of great interest and will receive detailed consideration.

IT has been decided to hold the next meeting of the International Otological Congress at Bordeaux in 1904, instead of in 1903, as originally arranged on account of the International Medical Congress at Madrid being fixed for next April.

A CHARTER has been granted by His Majesty the King to the British Academy—a body formed for the promotion of historical philosophical and philological study The names of the 49 first Fellows of the British Academy include most of our best known scholars in the three departments of learning specified. Pure literature is not recognised in the new corporation, while that division of natural philosophy which is usually termed "natural science" will continue to supply the Royal Society with illustrious names

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[1] Journal of the American Medical Association, July 19th 1902, p. 131.

THE *London Gazette* of August 15th contains the official announcement of the dignity of knighthood being conferred upon the Honourable Henry Normand MacLaurin, LL D, M D Edin, M.A., Chancellor of the University of Sydney and Member of the Legislative Council of the State of New South Wales, and upon Mr John Logan Campbell, M D, late Mayor of Auckland, in the Colony of New Zealand

Mr Norman Hay Forbes, F R C S Edin, has been appointed a Knight of Grace of the Order of St. John of Jerusalem in England

THE Duke of Bedford has promised an annual subscription of £1000 per annum for three years to the Cancer Research Fund.

Dr W S Playfair's many friends will be glad to learn that he is now entirely restored to health

Looking Back.

FROM

THE LANCET, *SATURDAY, AUGUST 21,* 1824

PHARMACEUTICAL CHEMISTRY

Hydrocyanic Acid

In a former number, we announced to our readers the test which M DUBLANC, of Paris, had discovered, for detecting the presence of acetate of morphine The test which this gentleman proposed is the tincture of galls, made with pure alcohol, but we have stated the objections which exist to this substance being used for that purpose, and have shown that iodine is far superior, either to the tincture of galls or ammonia, for detecting the presence of morphine, or any of its preparations We intend at present to allude to some experiments which have lately been made, by M LASSAIGNE, with a view of ascertaining the presence of hydrocyanic acid in animals which have been poisoned by this substance The test which is usually made use of for this purpose is the sulphate of iron, and the manner in which the experiment is conducted is as follows a little potash is put into the liquid which is supposed to contain some of the acid, and then some persulphate of iron, dissolved in water, is poured into this, when a beautiful blue colour manifests itself if there is any acid present The intensity of the colour varies according to the respective quantities of water and acid, and if there is but a slight quantity of the latter, some hours frequently elapse from the experiment before the blue colour is to be seen But M LASSAIGNE, in his experiments, tried another test, with which it is possible to detect twice as small a quantity of the acid as with the sulphate of iron M LASSAIGNE'S method is as follows some potash is to be put into the liquid supposed to contain the acid, so as to slightly alkalize it, to this a few drops of a solution of sulphate of copper are added, and then sufficient hydrochloric acid to re dissolve the excess of oxide of copper which has been precipitated by alkali, the liquid instantly assumes a milky appearance, more or less intense according to the hydrocyanic acid which it contains. A solution of nitrate of silver is also a very delicate test for discovering, in distilled water, the existence of the hydrocyanic acid, but as the product which is obtained possesses properties which are common to it and the chlorate of silver with which it may be confounded the copper is to be preferred The acid which M LASSAIGNE employed was the pure hydrocyanic acid, prepared according to GAY LUSSAC'S method, and which was mixed with five times its weight of water, in order to prevent its too speedy decomposition

From M LASSAIGNE'S researches it appears,

I. That it is possible to detect in a distilled liquid hydrocyanic acid in the proportion of a $\frac{1}{10000}$ or $\frac{1}{20000}$ of the weight of the water

II. That in the poisoning of animals by this acid, it is possible at the end of eighteen or forty eight hours, and even a longer time, to detect, by the processes mentioned above, the presence of this terrible poison

III That it is always in the viscera, where this substance has been first injected, that traces of it are to be found.

IV That in the head, spinal marrow, and heart, not the slightest quantity can be found, whilst in these organs the smell is so strong as to create a suspicion of its presence

ROWTON HOUSES, LIMITED

ANOTHER of those splendidly equipped buildings which have earned the name of "poor man's hotels" has just been opened at Fieldgate street, Whitechapel, London, E This is the fifth building of its kind and so excellently were the details of construction of the first Rowton House thought out that except as regards size not one of the buildings differs materially from any other

The present house is, however, larger than any of its predecessors, the first of which was opened at Vauxhall in 1893 with 475 cubicles, the second at King's Cross in 1895 with 677 cubicles, the third at Newington Butts in 1897 with 805 cubicles, the fourth at Hammersmith with 800 cubicles The fifth, the present building, has 816 cubicles

A full description of two of the Rowton houses will be found in previous issues of THE LANCET[1] and it is unnecessary to describe the new Rowton House in detail except as regards a few features In our report on the Rowton House in King's Cross road we called attention to the danger from infection of having one room only for the sorting of clean and the reception of dirty linen, while one lift carried both kinds of linen This serious defect in an otherwise perfectly arranged and admirably managed building has now been rectified and at the new Rowton House at Whitechapel not only are there distinct rooms for dirty and clean linen respectively, but separate lifts supply each room. Another matter on which Lord Rowton and his directors are to be congratulated is the provision of an open air lounge for the use of their tenants This is a most desirable addition to the building and is on a level with, and easily accessible from, the reading room On the opening day this lounge was decorated with flowers and plants of various kinds and it is to be hoped that these will become a permanent feature of this open air auxiliary to the reading room and building The sanitary arrangements show that the greatest care has been exercised in regard to the health of the inmates and the means of escape in case of fire are ample, though there is little risk of a serious fire occurring in one of these houses as they are practically fireproof From an artistic point of view the reading room is especially noteworthy, a large portion of the wall space being occupied by a series of panels emblematic of the Seasons These have been painted and presented to Rowton House by Mr H F Strachey Altogether the single working man of the poorer class in the East-End of London is to be congratulated upon a "home" where for 6*d* a night he can obtain a good bed in wholesome surroundings and good food at a very cheap rate, besides being surrounded with comforts which no other place of a similar kind, so far as we know, possesses But we must not forget that it is to Lord Rowton and his company that we owe this practical contribution to the solution of a difficult problem. The work which they have already done will not be forgotten, but practical and important as that work has been there is yet something still to be done —we mean the erection of a Rowton House for women We quite appreciate the difficulties of management of such a house, but a decent lodging house for women on the lines of Rowton Houses for men is a necessity Those who have so successfully planned and carried out Rowton Houses for men could we have no doubt, do the same for the other sex, at any rate, we hope that they will try

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[1] Report of THE LANCET Special Sanitary Commission on Private Action in Respect of Common Lodging houses THE LANCET, April 29th 1893 p 1017 and March 28th 1896, p 867

THE
BRITISH MEDICAL ASSOCIATION

MEETING AT MANCHESTER.

THE SECTIONS

MEDICINE.

FRIDAY AUGUST 1ST

THE sitting opened with

Demonstrations of Clinical Apparatus

Dr **JAMES MACKENZIE** (Burnley) demonstrated his Clinical Polygraph and Phlebograph. The sphygmograph, he remarked in the great majority of cases only took cognisance of the action of the left ventricle during a portion of the cardiac cycle. In order to get evidence of the action of the other chambers of the heart various methods had been devised. The clinical polygraph was intended to register on the same paper and at the same time as the radial pulse was registered, other movements due to the circulation or respiration. It consisted of an ordinary tambour attached to a sphygmograph in such a manner that the point of the lever of the tambour lay immediately above the lever of the sphygmograph. The tambour was connected by means of an elastic tube to a shallow open cup. This cup or receiver" was placed over any pulsating part and the movements were conveyed by the tube to the tambour A modification of the receiver was employed to register the movements of the lever Illustrations of its usefulness were given, and a case was cited illustrating how this method of observation recorded the action of the four chambers of the heart in a patient suffering from influenza, with a slow, irregular pulse. The facts noted in this case were that however irregular the action of the heart the ventricles always contracted together and the auricles always contracted together The ventricular movements were frequently slow and irregular while the auricular movements were faster and only rarely irregular It was pointed out that this peculiar discordance in the action of the chambers of the heart corresponded to the action of the heart chambers in digitalis poisoning and the suggestion was made that the influenza poison affected the heart like digitalis and not by means of the vagus nerve as was commonly assumed

Dr. **GEORGE HERSCHELL** (London) demonstrated the Tallquist Hæmoglobin Scale. The instrument consisted of a lithographed scale of tints. A drop of blood being placed upon a piece of white blotting paper it was compared with these and the colour which it matched showed the percentage of hæmoglobin. According to Cabot and Professor Sterling the error was so slight that it might safely be used for clinical purposes. The scales were supplied by Down Brothers, St. Thomas street E C.

Dr **DAVID DRUMMOND** (Newcastle) remarked that he was sure that the simplicity of the Tallquist hæmoglobin scale would make it a thoroughly useful test in the hands of the practitioner He wished to draw attention to the employment of the drop test, depending on the same principles as the hæmoglobin test, in detecting bile in the urine. For a long time he had been in the habit of using it in the wards and its extreme simplicity must commend it. A drop of urine containing bile on white blotting paper left a stain or disc that was almost characteristic, as the colouring matter was confined to the centre the periphery being practically colour free, whereas in the concentrated urine of dark colour the colour was shaded off gradually to the edge of the wet disc.

Dr **HERSCHELL** also exhibited an Apparatus for the Inflation of the Stomach with Air for the Detection of Gastric Atony and Dilatation of the Stomach. This procedure, he said was of great use in the differential diagnosis of gastroptosis and dilatation of the stomach and for the recognition of tumours of the stomach. He pointed out that the method of inflation by means of an effervescing powder as recommended by Professor T Clifford Allbutt, was obsolete among physicians who devoted their attention specially to disorders of the stomach The stomach in different patients varied considerably in size whereas the amount of gas disengaged from the bicarbonate of sodium was constant and thus efficient results could not be obtained. The apparatus shown consisted of a parolein atomiser connected to a Turck's double stomach tube. If the small tube was kept open and the air introduced through the other tube sufficient inflation of the stomach was produced without the possibility of over-distending that viscus. Moreover the visible cloud of atomised parolein enabled them to see that air was escaping and that the apparatus was working properly In practice the addition of menthol to the parolein conduced to the comfort of the patient during the operation There were in his (Dr Herschell's) view three degrees of gastric atony or motor insufficiency of the stomach. 1. Loss of *tonicity* in which the stomach was able to empty itself at the proper time but could not contract on its contents and allowed splashing to be elicited during the digestive period Most of the cases said to be dilated stomach by those who did not use the modern methods belonged to this class. Many of these cases were latent and showed no symptoms for a considerable time, but sooner or later they passed into the clinical period 2. Cases where the stomach could not empty itself before the next meal though it did so during the night. These cases, which he called stagnation myasthenia,' were on the borderland of dilatation. 3. True dilatation or retention myasthenia—i e. cases in which the stomach could not empty itself during the night and contained food residues at all times A stomach could only in his opinion, be said to be dilated when it contained food residues before breakfast, and no one had a right to diagnose dilated stomach unless he had examined the stomach before breakfast for food residues The neglect to do this made most of the literature on the subject fallacious. Cases in which no food residues were present before breakfast might be cases of atony (or more properly myasthenia gastrica with or without stagnation) but they ought not to be diagnosed as gastric dilatation unless there was definite retention of food.

Dr I **WALKER HALL** (Manchester) demonstrated his Purinometer an instrument employed for the clinical estimation of purin bodies in the urine

Dr J **DIXON MANN** (Manchester) congratulated Dr Walker Hall on the applicability of this process. So many of the methods were only available in a laboratory but this one was so simple that it could be readily employed at the bedside or in the consulting room.

Dr F J **POYNTON** (London) and Dr **ALEXANDER PAINE** (London) contributed a paper entitled

Observations upon Certain Forms of Arthritis

illustrated by lantern slides drawings and macroscopic preparations. The observations of the authors were chiefly confined to the rheumatic, rheumatoid, and septic types of arthritis. They commenced with an allusion to the isolation of a diplococcus from the throat of a man suffering from rheumatic angina, and the reproduction of rheumatic manifestations including polyarthritis by intravenous inoculation of this diplococcus into rabbits. The researches of Fritz Meyer and Loeffler were commented upon. As a result of a clinical pathological, and experimental study of rheumatic arthritis the authors had concluded (1) that the primary seat of deposit of the rheumatic micro-organism was in the synovial tissues (2) that the endothelium served as a barrier to its escape into the joint cavity and (3) that there was active phagocytosis both in the synovial tissues and also in the articular exudations when the diplococci did escape the endothelial barrier and reach the cavity of the joint. They thought it highly important to recognise that the escape of the micro-organism into the joint cavities was a vital and not a passive process and since rheumatic arthritis was such a transitory manifestation it was to be expected that the cultures would be often negative. In severe cases the diplococci were present in the exudation clinging to the fibrinous strands, and the endothelium was in such cases more or less destroyed In chronic rheumatic arthritis of long duration there occurred a perivascular fibrosis around the small blood vessels The contraction of this fibrous tissue diminished the lumen of these blood vessels and thus impaired the nutrition of the synovial tissues. They believed that this perivascular fibrosis explained to some extent the intractable nature of these forms of arthritis and their slow reaction to treatment. A very interesting type of arthritis had been especially described by Dr G F Still as occurring in childhood. It was characterised by much periarticular thickening The lymphatic gland and spleen were enlarged and the pericardium might be adherent. There was doubt as to how such cases should be classified whether as rheumatic, rheumatoid or as a special disease They had investigated one such case under the care of Dr F Parkes Weber during life with negative results, but there was, in spite of that, little doubt of their bacterial origin The observations of Dr Poynton and Dr Paine upon rheumatoid arthritis were limited to four particular points (1) whether or not there was a specific disease which could be called rheumatoid arthritis, (2) the production of rheumatoid arthritis by intravenous inoculation of a diplococcus, (3) the relation of the nervous to the arthritic phenomena, and (4) the relation of rheumatic fever to rheumatoid arthritis. Amongst all the uncertainty that surrounded the study of rheumatoid arthritis it seemed clear that many different infections might produce a rheumatoid arthritis Whether there was in addition to these a special disease still required elucidation It was also undoubted that various micro organisms injected into the blood stream might produce a rheumatoid arthritis, as they had demonstrated in January, 1902. Whether the nervous phenomena and the arthritis were the joint result of some peculiar poison acting upon both these tissues, or whether the arthritis was in reality neurotrophic, were questions which had to be approached at present with an unbiased mind, and they thought that the former view would prove to be the correct one. Rheumatoid arthritis following repeated attacks of rheumatic arthritis they thought might be the result of an intensified local virulence of the rheumatic infection and not due to a secondary infection This seemed probable to them because they had found that both simple and malignant endocarditis might result from inoculation with the diplococcus of rheumatic fever, and rheumatoid arthritis in rheumatic subjects appeared to them as the parallel in the joints to malignant endocarditis in the heart Upon two occasions they had isolated the pneumococcus from suppurative arthritis complicating pneumonia, which gave additional support to the writings of Leroux and of Dr Cave, Dr Nathan Raw, and Dr G R Murray of England. In the study of suppurative arthritis it had seemed best to abandon the use of the term "pus" and "septic," for these words were often used so loosely as to convey but little real information. Examples were given to illustrate that a detailed description of the exudations in arthritis was preferable to the use of these terms "pus" and "septic" Finally, the influence that was exerted upon methods of treatment by the recognition of a bacterial agent in many forms of arthritis was commented upon and exemplified by allusions to Menzer's specific rheumatic serum. The importance of prophylactics for the community and the individual, the necessity for a varied treatment based upon bacteriological inoculations, and the possibilities of surgical interference were also referred to

Dr **David Drummond** read a paper entitled,

Some Practical Remarks on the Diagnosis of Heart Disease

Brief reference was made to functional murmurs, and the point was insisted upon that a murmur did not necessarily indicate an organic lesion. The following phases of cardiac diagnosis were then discussed—the heart of alcoholism, of syphilis, and of kidney disease, cardiac dilatation, and mitral stenosis Great stress was laid upon the gravity of the prognosis in the case of a heart poisoned by alcohol, and the features of acute and chronic intoxication were considered. Dr Drummond urged that alcoholic excesses should be regarded as a common cause of valvular disease, affecting especially the mitral valves and producing thickening and regurgitation. Reasons were advanced for allocating to syphilis a prominent place in the pathology of heart disease, and it was claimed that the syphilitic heart should take its place beside the rheumatic and other well recognised forms of cardiac mischief the subject being illustrated by a detailed account of the clinical features of syphilitic aortic regurgitation In discussing the diagnosis of the renal heart stress was laid upon evidence of hypertrophy of the left ventricle with reduplication of the first sound. This led up to remarks upon cardiac dilatation, the diagnosis of which was discussed, and the following aphorism was advanced "Given obvious cardiac weakness, as shown by breathlessness dropsy, weak pulse of low tension, further weakened by exertion sufficient to embarrass, with great cardiac enlargement and systolic bruit either indistinct or absent, there is gross cardiac dilatation." Allusion was made to the diagnostic value of musical murmurs and a further communication on the subject was promised The paper terminated with a detailed description of the signs of mitral stenosis It was urged that in view of the fact that the characteristic murmur of mitral stenosis was so often absent the patient should be examined when lying on the left side and it was claimed that this manœuvre often brought into prominence the presystolic murmur

Dr F M **Sandwith** (Cairo) read a paper entitled

The Earliest Known Physician,

and exhibited a photograph of a portrait-fresco from his tomb[1] In his interesting "Medical History from the Earliest Times[2]" Dr E T Withington had given a frontispiece sketch and a short mention of the tomb of Sokhit-ni onkh who was the earliest physician in the world's history so far revealed Having in this way heard of the venerable colleague who lived some 5500 years ago Dr Sandwith thought it would interest many in the medical profession of the present day if he could re-discover his tomb, especially as he soon found that modern translators of the hieroglyphic text differed somewhat from the authorities quoted by Dr Withington. The tomb itself, the ruin of which still existed, was situated at Sakkarah, the necropolis (now mostly in ruins) of the mighty city of Memphis which flourished about B C 4000 and later, a few miles south of the present position of Cairo Dr Sandwith then described the tomb as "an oblong mastaba, 60 feet by 28 feet, quite plain, excepting for a well dug through the masonry The sarcophagus chamber is roughly hewn out of the limestone rock which forms the plateau of Sakkarah The name Sokhit-ni onkh signifies 'the man who is possessed of life,' and it must be remembered that the ancient Egyptians thought life and death were individual beings who could, if necessary, be eaten and swallowed. They also believed that every sick man was possessed by the spirit of a dead man or woman Who so likely, therefore, as the priest to be able to drive out the usurping spirit, which must be done before it was worth while to make any attempt at healing the sufferer's body which had been damaged by the occupation of the intruding spirit? In those days there were no physicians outside the priesthood, though bone-setters probably practised from the earliest times Sokhit-ni onkh was certainly a physician as well as a priest, because all the other titles after his name are only honorary ones given to every chieftain of high rank about the Court. His title as physician is *sennu*, which signifies wisdom or knowledge After the ordinary formulæ experts can read on the posts of the *Ka* or soul door the following sentences On the right, Pharaoh Sahura of the Fifth Dynasty is indicated as saying, 'His Majesty says to the chief physician Sokhit-ni onkh, Strength to thy nose, thou whose steps towards the West are beloved by the Gods and honourable old age as for a trusty and well beloved servant' The first words are an ordinary salutation to the living or the dead and are equivalent to wishing a cool breeze from the north, or air to breathe, from the Mediterranean The trusty servant refers to one who devoted himself during life to the king and after death to a god The physician then writes 'I worship the great King and I pray every god for Sahura, for he knows me and mine. Thus every wish from the mouth of His Majesty is realised for me, for the god (Anubis) has granted him to excel in medical affairs, because of the great veneration that he has for him more than for every other god Oh! you who love Ra, pray to every god for Sahura, who confers these benefits on me, for I am his trusty servant. I never do any one any harm.' In these last lines the physician requests all those who in the future will read his tombstone to add in their prayers the name of the son of Ra. On the left door-post the physician tells us what the King has done for him. The chief physician Sokhit-ni-onkh says of His Majesty 'It is thy double, oh friend of Ra, who hast divinely decreed to give me a stone door for this tomb in the cemetery' 'His Majesty [he further relates] ordered that two stone stelæ for doors should be brought from Tourah and that they should be erected in the interior of two niches of the Khaourri Sahura building [vision of the crown of Sahura] The chief taskmaster of two gangs of artisans [carpenters and sculptors] from the sacred workshops provided skilled labourers to execute the work. His Majesty was every day at the workyard seeing that religious decoration was carried out the whole day long His Majesty made them execute blue sculptured hieroglyphics of lapis lazuli.' It is clear from this that this Pharaoh profited by an expedition sent to the quarries of Tourah on the other side of the Nile to procure an extra stela which he gave to his physician, and allowed this to be erected while he was himself superintending the funeral chapel attached to his own future tomb There are other cases of a similar honour having been conferred by a Pharaoh on one of his favourites but I have not been able to hear of any other instance of the recipient being a physician. According to Petrie[2] the Fifth Dynasty started by tradition from a high priest of Heliopolis near Cairo and claimed divine descent from Ra. In earlier dynasties kings are always Horus kings or belonging to Horus and Set united, but in the Fifth Dynasty the king was first called 'Son of Ra. Sahura reigned for 13 years (3693–3680 B.C.) and his pyramid is believed to be the north one at Abusir—a few miles to the south of the great pyramids of Ghizeh. The most important event of his reign was his campaign in Sinai against the native tribes where he carved a rock tablet to commemorate his victory over the Menthu. The Fifth Dynasty is known to all travellers in Egypt by the Tomb of Tih and the Pyramid of Unas both at Sakkarah. The period was marked by its priestly character for religious foundations and fine tombs were considered more important than foreign wars or building great monuments and the earliest dated papyri come from this dynasty Dr Sandwith concluded by remarking that he did not pretend himself to any profound knowledge of Egyptology but he had had the good fortune of sitting at the feet of M Maspero who kindly allowed the photograph of the tomb to be taken. He was also greatly indebted to Mr Quibell who had supplied him with two photographs and other willing help On the stela, Dr Sandwith explained the physician stood with a sceptre in one hand and a wand in the other sometimes alone sometimes with his wife standing behind him. His name was always written plainly above his head but the wife's name had in every case been carefully erased which Dr Sandwith feared must mean that their revered predecessor was more fortunate at Court than in his home life.

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[1] A copy of the photograph is obtainable at cost price from the Autotype Company, New Oxford street

[2] London: Scientific Press 1894

Dr HARRY CAMPBELL (London) read a paper on

Overlooked Forms of Graves's Disease

It was pointed out that Graves's disease was apt to pass unrecognised in its earlier phases and that it might remain in an immature stage for months or years, gradually subsiding or taking on further development in consequence of some acute illness fright, the climacteric, or other stress. When exophthalmos and pronounced thyroid enlargement were absent the disease was frequently overlooked. Extreme nervousness hand tremor and tachycardia, especially if occurring in a young woman should always lead to a search being made for other symptoms of the malady If these symptoms were lasting and not merely due to temporary excitement the diagnosis was almost certain, while it might be regarded as placed beyond doubt if emaciation, pigmentation of the skin, and profuse perspiration were likewise present. The most striking clinical feature of the disease was intense nervous agitation. The symptoms of Graves's disease were due to the presence in the blood owing to the occurrence of certain morbid changes in the thyroid gland of an excess of normal thyroid secretion or of perverted secretion, the effect of which was to cause the vital fire to flare up as it were exciting the tissues to a rabid katabolism and increasing the output of carbonic acid, urea, and other excreta. Such being the case, the question arose whether cases allied to Graves's disease might not occur owing not to an actual morbid condition of the thyroid gland, but to a mere physiological hyper activity of it. That the activity of this gland varied in different individuals there could be no doubt. Those with a congenitally sluggish thyroid were by nature phlegmatic, while those more actively disposed owed the circumstance to the possession of a more active thyroid. In like manner the same individual might differ at different times in respect of thyroidal activity and it might be believed that the gland might sometimes become so active as to induce a condition of thyroidism Several of the symptoms of the climacteric in woman might, as Dr H. Willoughby Gardner had suggested be explained in this way and many other cases suggested a similar explanation. It was necessary to remember however that such cases were not instance of true Graves's disease, in which the thyroid gland was not merely hyper active but was the seat of a profound organic change.

Dr D J CHOWRY MUTHU (Wells) read a paper entitled

Some Observations on the Results of the Treatment of 100 Cases of Pulmonary Tuberculosis treated by the Open air Method

There was a tendency in the present day he said to exaggerate the significance of the tubercle bacillus, but in his belief the soil was the more important factor—namely the causes which tended to weaken the resisting powers of the body—heredity alcoholic habits poverty unhealthy environment (such as overcrowding and defective ventilation) influenza, pleurisy pneumonia, overwork, worry anxiety and undue fatigue. Physical and mental strain tended to exhaust the nervous energy and to lower the vitality as much as anything He had met with three cases in which wives had nursed their tuberculous husbands all through their fatal illnesses but had escaped. No amount of exposure to infection would produce tuberculosis as long as the vital powers remained strong In 55 per cent. of his cases fever disappeared within six weeks. The usual method of taking the temperature was quite satisfactory He had found the rectal method neither trustworthy nor necessary After discussing the other symptoms and the physical signs the *rationale* of the open air treatment was discussed. As regarded the results achieved, out of 100 patients in all stages of the disease who had come under treatment in 28 the disease was actively arrested 40 were greatly benefited, and 11 were slightly benefited. The conclusions which Dr Chowry Muthu arrived at were (1) that the science of open air treatment was not yet perfect (2) that it was beneficial in the treatment of other diseases besides tuberculosis, and (3) that it was an important means of educating the people in healthy living

Dr A. MANTLE (Halifax) read a paper on the Vaso-motor Disturbances of the Stomach and Bowel

STATE MEDICINE.

FRIDAY, AUGUST 1ST

Mr C H. TATTERSALL (Salford) read a paper on

The Recent Outbreak of Arsenical Poisoning

which had been traced to the use of contaminated sugar in the manufacture of beer He stated that it was the custom of many English brewers to introduce artificial sugar into the mash tin in order to impart the necessary brightness to the beer The quantity employed varied from 6 per cent. in the case of the best kinds of beer to some 25 per cent. in the cheaper qualities. The sugar they used was either invertin prepared by treating cane sugar with sulphuric acid, or glucose, prepared by acting upon starch by sulphuric acid. Many firms required a guarantee that the acid which they purchased for this purpose was free from arsenic, but from March 1900 to November of the same year the acid supplied to one large factory had been manufactured from arsenical pyrites. The beer in the preparation of which this contaminated acid had been used was first put on the market in June 1900 the discriminating portion of the general public soon noted the ill effects following it consumption, and as a result drank less beer and it was the marked falling off in the returns that first attracted the attention of the brewers and also of the Customs department and led to the suspicion that something was wrong About the same time the marked increase in the number of cases of what appeared to be alcoholism and alcoholic peripheral neuritis led Dr E. S Reynolds the visiting physician to the Crumpsall workhouse hospital to investigate the matter thoroughly and as the result of his investigations to describe them as cases of arsenical poisoning Analyses of the beer supplies followed, and as the result of the analyses various amounts of arsenic were detected in many samples of beer and Mr Tattersall personally was of opinion that the recorded quantitative determinations all erred on the side of being too small the largest amount found was 1 5 grains per gallon. The marked influence which this outbreak of arsenical poisoning had exercised on the birth rate was also a point of great interest Allowing for the time that the contaminated beer was in circulation and the period of gestation the birth rate of Salford showed a decrease over the corresponding year of 4 2 per 1000 equivalent to 842 births. He deplored the fact that in spite of the number of deaths and the still greater number of individuals more or less severely injured the result of the consumption of the contaminated beer there was no system of notification which would have enabled the local public health authority to take steps to deal adequately with the outbreak, and he would suggest that some public department—for example, the Local Government Department—should be empowered to exercise a control over food stuffs generally and to seize and to summarily deal with such when that course appeared necessary in the interests of the public health.

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[2] History of Egypt p 69 London 1899

In the absence of Professor SHERIDAN DELÉPINE (Manchester) photographic reproductions of his standards for the quantitative estimation of the arsenic in beer were exhibited

Professor J DIXON MANN (Manchester) then briefly recounted the various methods employed in the detection of arsenic in beer and its quantitative estimation and explained the process which he himself employed He quite agreed with Mr Tattersall that greater powers should be given to the public health authorities to deal with obviously injurious food stuffs, especially in such cases as were not provided for by the Sale of Food and Drugs Act.

Dr A. P LUFF (London), in the course of a few remarks, paid a highly appreciative tribute to the valuable and accurate work done by the Manchester scientists in the elucidation of the causes, &c, of the recent outbreak, especially by such workers as Sheridan Delépine, Dixon Mann, and Reynolds.

Dr E S REYNOLDS (Manchester) stated that cases of arsenical poisoning under the form of peripheral neuritis existed 20 years ago and were probably due to the arsenic now shown to be present in malt and that the recent outbreak due to excessively contaminated glucose should only be regarded as an incident—an incident, however, which provided the key to the situation Dr Reynolds also showed a remarkably fine series of lantern slides portraying the various chemical appearances observed during the outbreak.

Dr REGINALD A FARRAR (London), in a communication on

Plague as a Soil Infection,

stated his thesis as follows "Outbreaks of bubonic plague are dependent on the infection of soil with a specific microbe conveyed in the excreta of rats or other animals that have suffered from the disease Except in pneumonic cases, infection is generally the result of a direct inoculation from the soil Personal communication is a factor of relatively small importance in the spread of bubonic plague"

After a few remarks from the PRESIDENT, to which Dr FARRAR replied,

Dr J MILSON RHODES (Didsbury) communicated a paper on

Infant Mortality,

in which he referred to the Registrar General's report for the year 1900 (the last issued), which stated that of 927,062 children born no less than 142,012 were dead before they had reached one year of age. Sanitation had doubtless made enormous progress during the last half century, with the result that the general death rate had decreased from 22 0 to 18 2 per 1000, but that reduction did not apply to infants in the slightest degree The mortality to day was as high as it was 50 years ago—viz, 154—and in the year which he had quoted (1900) it was the highest on record—viz., 163 The variations in the death rates of various counties were very great. It was evident that the mortality was not due to climate, for counties in the same division showed very great variations—e g, the mortality of infants in Nottinghamshire was twice as great as that of Rutlandshire. Another fact that an inspection of the Registrar General's return brought out very strongly was that illiteracy amongst women and a high rate of infant mortality were very commonly found together, and he quoted statistics to show that in only one of 12 counties where the mortality was the lowest did the number of illiterates exceed 30 per 1000 In the case of the 12 highest in only three cases was it under, and in four cases it exceeded, 40 per 1000 Another fact that the table disclosed was that the counties with the highest mortality were those where the people were employed in mining or manufacturing The census returns showed that Nottinghamshire, Staffordshire, Warwickshire, and Lancashire, four counties having the highest infant death rate, were all counties where a very large number of women of the child bearing age were employed in weaving pottery, &c., and therefore employed in the great majority of cases away from their homes during the day, handing the so-called care of their little ones over to day baby farmers Bad as Lancashire was as a whole, Manchester was still worse, for the mortality in that city amounted to 198 per 1000 Cheetham, where the lowest rate of mortality was found associated with the lowest rate of illegitimacy, was a district largely occupied by Jews, and the fact that most Jewish women suckled their children no doubt played an important part in the reduction of the mortality On turning to the statistics of illegitimate children, the mortality was two or three times as great as in the case of the legitimate Taking the whole County Palatine, out of 268 infants of this class 91 died—that is, 33 per cent. Dr J Niven's report gave the proportion of deaths of illegitimate infants in the whole of Manchester as 46 per cent, in Ancoats the mortality rose as high as 60, and in Crumpsall 66 per cent. The principal causes of the high infant mortality were diarrhœa (38 per cent.) and bronchitis and broncho-pneumonia (17 per cent.) England was behind other countries in infant life protection. The so-called Infant Life Protection Act, 1897, provided that "all persons undertaking the care of *more than one infant* under the age of five in hire apart from their parents, or a single infant adopted for a lump sum not exceeding £20, shall notify the authorities" Miss Zanetti, the inspector to the local authority in Manchester, found that some of the worst houses got rid of one child so as to be out of the reach of the Act, and the clause that inspection should only take place where a child was adopted for a sum *less* than £20 was absurd. The International Congress for the Protection of Children, the Poor law Unions' Association, and the Central Poor-law Conferences, had all carried resolutions by at least two to one desiring the extension of the Act to all single child cases The Act was at present worse than nothing, for it made the public believe that security for these little ones existed where there was none. Such extension of the Act would, he felt sure, result in a reduction of the infant mortality, as it had done in France, and properly educated inspectors would be able to reach those having the care of the infants Inspection and education should travel together, and for this work he had no hesitation in saying that ladies were thoroughly competent. Who the administrative authority should be was another question. Personally he thought it a great mistake to make the guardians the responsible authority It would be more convenient for the district councils to be the registering, and the county councils the inspecting, authorities Dr Rhodes then moved the following —

> That the provisions of the Infant Life Protection Act should be extended to all single cases

This having been seconded was put to the meeting and carried

Dr MEREDITH YOUNG (Stockport) read a paper on

Further Control of Common Lodging houses

In urging the necessity for further control of common lodging houses he stated that the existing law was insufficient for the proper regulation of common lodging houses and their keepers. Once a registered common lodging house always a registered common lodging house, was a maxim which held good unless there were three convictions obtained against the keeper Any person might claim registration as the keeper if he produced his certificate of character signed by three small ratepayers, and unless the keeper were convicted three times of offences against the Public Health Act (Common Lodging house Provisions) He might be convicted of any other offences and might be utterly unsuitable for his office without running the risk of losing it. Apart from the obtaining of three convictions under the Public Health Act 1875, the local authority had no power under the general law to withhold the registration of any house as a common lodging house, provided that it had been inspected and approved by their officers, and provided that the keeper submitted his certificate of character in proper form It was only rarely that proceedings could be taken under the Housing of the Working Classes Acts, for a house might be quite unfit for use as a common lodging house long before it became unfit for human habitation. Again, there was no provision in the Public Health Acts for the licensing and registration of premises as common lodging houses for a short period of time. This was frequently necessary owing to a temporary influx of workers when some such work as railway construction, &c, was in hand. Another important point was that nothing appeared in the Public Health Acts or in the model by laws of the Local Government Board enabling local authorities to require means of escape in case of fire to be provided in common lodging houses. The Local Government Board memorandum on the requirements of common lodging houses entirely omitted this. Several cases had occurred recently where the absence of fire escape provision resulted in loss of life. In some of the larger common lodging houses used by males the want of urinal accommodation was often the cause of indecency and nuisance This again, was a matter unprovided for by legislation or in the Local Government Board memorandum, and surely in many cases the general decency and orderliness of common lodging houses was a matter requiring stringent measures for its improvement. All these improvements might be readily enforced by a simple legal enactment to the effect that all common lodging houses should be subject to an annual revision of their licences in the same way as slaughter houses under the Public Health Acts Amendment Act of 1890 licensed victuallers premises, music-halls, theatres, game-dealers and the like The experience in Stockport had been that the strict enforcement or special measures for securing better sanitation, better decency, and orderliness, and greater security against loss of life and property had been an easy matter when once the lever of annual registration was placed in the hands of the sanitary committee, while it was obvious that no hardship was entailed upon the good and well kept houses by such a measure

Dr F J H **COUTTS** (Blackpool) stated that the Blackpool council already possessed such powers as were suggested by Dr Young—viz. annual registration by the council, with the option when the licence was refused of appeal to the magistrates, and it was found that with the necessity for annual renewal of their licences before them common lodging house keepers were quite amenable to the suggestions of the local inspectors and willing to make such reasonable alterations and improvements as might be considered necessary

The proceedings then terminated with a hearty vote of thanks to the President and secretaries of the section.

PSYCHOLOGICAL MEDICINE.

FRIDAY AUGUST 1ST

Dr F W **MOTT** (London) opened a discussion on

Syphilis as a Cause of Insanity

The poison of syphilis he said, was remarkable for its persistency its potency and its prevalence. Owing to social conditions they could not regard syphilis as preventable, but the time had come when serious efforts should be made to diminish its prevalence. Syphilis acted in many ways as a cause of insanity During the secondary stage the anæmia and toxæmia which it produced acted as exciting causes of insanity in predisposed subjects, but over dosage with mercury was also a possible factor in some cases. Syphilitic brain disease consisted of inflammation of the supporting tissues of the brain and appeared in the form of basal meningitis gummata, arteritis and periarteritis. The worst forms of brain syphilis were those which occurred within the first four years after infection. Such cases usually ran a rapid course and were intractable to treatment Those forms of the disease in which there was a combination of endarteritis with gummatous meningitis simulated very closely general paralysis. The symptoms very often began with transitory aphasia, word blindness, and word-deafness, the paralyses which followed were coarse, and ocular paralysis was very common. Severe nocturnal headache occurred and attacks of exaltation and depression together with epileptiform fits were present, simulating general paralysis The disease was amenable to treatment by drugs and the symptoms in great measure coincided with the post mortem findings. The relation of general paralysis to syphilis was now an established fact of great importance The action of syphilis in producing general paralysis was limited to the brain of the civilised man for in savage races syphilis might be and often was common while general paralysis was rare The factors which in civilised life favoured the development of neurasthenia were capable, in cooperation with syphilis of producing general paralysis. Acquired or congenital syphilis was equally potent to cause general paralysis. General paralysis was pathologically a process of degeneration of the nervous system allied to tabes dorsalis a disease which was itself an outcome of syphilis. The Argyll Robertson pupil was one of the most characteristic signs observed in both affections. The occurrence of syphilitic infections could by careful investigation be traced in from 70 to 80 per cent. of cases of general paralysis. The symptoms of general paralysis however began to be apparent only several years after infection the average interval being 15 years. General paralysis was unknown where syphilis was unknown and was rare in the rural districts of Ireland and Sweden. It was also rare among priests, Quakers and women of the upper classes. General paralytics were immune to syphilitic inoculation. A number of statistical data were cited by Dr Mott from different observers and it was shown that the most recent observations concurred in assigning the first place among the etiological factors to syphilis. Juvenile general paralysis was almost invariably found to be a result of congenital syphilis and in 20 per cent. of the cases observed it was found that the fathers of the patients had had general paralysis. Dr Mott concluded by adopting for the purposes of raising a discussion, the thesis "No syphilis, no general paralysis."

Dr **JUDSON S BURY** (Manchester) said that congenital syphilis produced in infants a typical form of dementia described by him 20 years ago. He believed that general paralysis was largely but not exclusively due to syphilis

Dr J **WIGLESWORTH** (Rainhill Asylum) said that gross cerebral lesions due to syphilis, such as gummata and basal meningitis were not in his experience such common causes of mental disease as might be expected. The records of necropsies at Rainhill Asylum gave somewhat less than 1 per cent. of such cases. In the present state of their knowledge it would be going too far to take up the position of "No syphilis, no general paralysis." Many cases of juvenile general paralysis showed definite stigmata of congenital syphilis but many also showed no such stigmata, and he was inclined to regard some of these cases as having their origin in a vice of nutrition of the germ plasma caused by the action of the syphilitic poison. A similar vice of nutrition might give rise to idiocy in the offspring of syphilitic parents.

Dr G E. **SHUTTLEWORTH** (Richmond) stated that in his experience there was a very small proportion of idiots presenting actual stigmata of congenital syphilis not much exceeding 2 per cent. But considering the difficulty of obtaining correct family histories in such cases he was inclined to think that inherited syphilis played a larger part in the production of idiocy He had described in 1888 three or four cases of "syphilitic idiocy" which subsequently were placed under the name of "juvenile general paralysis."

Dr **FLETCHER BEACH** (Kingston) said that his experience coincided with that of Dr Shuttleworth as to the influence which syphilis played in the production of idiocy

Dr **OSCAR WOODS** (Cork) said that syphilis was very uncommon in the agricultural districts of Ireland and patients drawn from the same areas and admitted to the asylum under his care during the past 25 years very seldom had general paralysis. When general paralysis was present however a history of antecedent syphilis could be traced very frequently Even in large towns in Ireland such as Dublin and Belfast, general paralysis was uncommon

Dr **ROBERT JONES** (Claybury Asylum) agreed that syphilis was an important factor in general paralysis but could not accept the dictum "No syphilis no general paralysis." He looked upon overstrain rather than work as a factor in the production of the disease and pointed out that in persons whose nervous tissues had been devitalised by the syphilitic poison the physiological crises of life favoured the development of mental breakdown. The potency of the virus being so universally recognised the time had come, thought Dr Jones, when it would assist in the prevention of insanity and other diseases if some action could be taken by the legislature or by other means to prevent or to restrict the transmission of syphilis

Dr W **LLOYD ANDRIEZEN** (London) said that the offspring of syphilitic parents tended to develop various cerebral disorders and defects—idiocy imbecility epilepsy congenital weak mindedness and juvenile general paralysis—which were attributable to malnutrition of the germ or sperm cell or the embryo. Syphilitic encephalopathy was the result of recent syphilitic infection and was [illegible] by vascular change (endo- and periarteritis) and diffuse gummatous and round cell proliferation in the cerebral meninges from the direct action of the virus He could not positively assert whether the degenerative change in the cortical nerve cells and cranial nerves at this stage were primary or secondary to the above mentioned changes Small thromboses occurred in the affected vessels, especially in those supplying the basal ganglia. Hence resulted the stasis and inequality of the pupils ptosis, optic neuritis, trigeminal neuralgias, intense headache, and cephalic paræsthesiæ Attacks of vertigo and transitory loss of speech and paralysis occurred Such lesions and symptoms were syphilitic and many of them responded well to treatment with mercury and the iodides In patients with a predisposition to insanity, acute mental confusion, hallucinatory excitement, stupor, or agitated melancholia resulted Cases of the above description were absent in asylums but were met with in practice The symptoms developed at periods varying from two or three months to three or four years after infection Some of these cases were complicated with alcoholic or drug habits He preferred the title "syphilitic encephalopathy" to the term 'pseudo paresis" for such cases. That antecedent syphilis could be traced in from 70 to 80 per cent. of cases of general paralysis was true, but the etiology was a highly complex one, as alcoholic or sexual excess could be traced in many cases, the patients being persons of strong physique of ardent temperament, and of powerful animal and sexual appetites Tendencies to chronic renal disease and arterio sclerosis were also present, and in the parentage there were frequent histories of cerebral hæmorrhage thrombosis, and gross brain disease The form of heredity was a "congestive" or neuro vascular one and vesanic heredity occupied a place of secondary importance In one fifth of the cases of general paralysis there was no syphilis He had seen one case of malarial origin of general paralysis and on the whole was inclined to believe in a neurotic predisposition to general paralysis, probably inherited, and to regard syphilis as the main exciting cause, and alcohol, sexual excess, and overstrain as minor exciting causes capable of producing general paralysis without the assistance of syphilis

Mr C S MORRISON (Hereford) described cases of lead encephalopathy with all the classical symptoms of general paralysis

Dr E S REYNOLDS (Manchester) opposed the thesis, "No syphilis, no general paralysis," as unscientific and not in accordance with facts

Dr MAURICE CRAIG (London) supported the view that syphilis was the most important cause of general paralysis

Dr L. ALEXANDER (Hanwell) said that 88 per cent. of cases of general paralysis admitted into Hanwell Asylum were syphilitic.

Dr MOTT then briefly replied

Before the close of the meeting of this section a motion was unanimously passed to the following effect —

> That the Section of Psychological Medicine thinks it ought to point out that general paralysis a very grave and frequent form of brain disease, is largely due to syphilis and is therefore preventable We therefore the members strongly recommend that greater efforts should be made to arrest the transmission of syphilis and to stamp it out and we further urge that the attention of the legislature and of public bodies should be called to this important matter

PHYSIOLOGY AND ANATOMY

THURSDAY, JULY 31ST

Dr J S EDKINS (London) opened a discussion on

Intestinal Secretion and the Action of Drugs thereon.

He suggested two main points for discussion (1) the evidence of secretion of the so-called succus entericus , and (2) the functions of the normal intestinal epithelium. With regard to the succus entericus the more critically the evidence of its existence was examined the more doubtful did it become , thus, considering the histological evidence, the epithelium of Lieberkühn's glands or follicles was continuous with, and similar in structure to, that of the villi, and was different from that of the other digestive glands, the so-called Paneth cells with granules being only cells with mucigen granules Again considering the experimental evidence—viz , that of the Thiry Vella fistula and the effect of nerve stimulation—the results obtained by different observers were widely divergent, and the effect of cutting and stimulating the nerves was very difficult to separate from these of interference with blood supply which was very liable to occur during the operation Again, the chemical nature of the fluid obtained, which had a marked but variable alkalinity, and contained albumins, globulins, albumoses, and urea, suggested that it was of catarrhal origin, and Pregel in some experiments on a loop of lamb's gut admitted the existence of catarrh at the ends of the loop Dr Edkins was of opinion that all the so-called secretion or succus entericus was of catarrhal origin, the mucous membrane more or less denuded of its epithelium allowing the escape of lymph It was certain that the fluid always contained solid masses which on microscopical examination were found to consist of epithelium and masses of leucocytes Tubby and Manning in their case found the gut wall to present all the signs of chronic inflammation and Dr Edkins regarded the succus entericus obtained in experiments as the product of a chronic or "gleety" catarrh of the mucous membrane Considering the second question, that of the functions of the intestinal epithelium, it was certain that the epithelium could pass materials from the gut lumen into the blood vessels and effect changes in them in their passage, and recent work tended to show that the epithelium might produce some secretion which passed into the blood and stimulated the secretion of pancreatic juice, but the only evidence of the epithelium forming a substance to pass into the lumen was the existence of enterokinase, which was able to act on the inert pancreatic secretion and thus to develop its proteolytic properties, and it seemed possible that after all the conversion might be entirely due to leucocytes and not to the epithelium With regard to the action of drugs on the secretion of the succus entericus Edkins and Horder had studied the action of magnesium sulphate solution on an isolated loop, and taking a 10 per cent. solution had found an increase in the quantity of succus entericus amounting to as much as 70 per cent. and a very considerable increase in the suspended matter (large masses of leucocytes), and on subsequent histological examination of the gut denudation of the tips of the villi , they therefore explained the action of cathartics as due to the action on the epithelium, which was very sensitive to many reagents, allowing the lymph to flow freely outwards A further purgative effect was due to the peristalsis excited by absorption

Professor G N STEWART said that he agreed that the direct evidence of secretion was very scanty, but inquired as to the validity of the ' tapeworm " argument—that intestinal parasites could live in an isolated loop Since they were very sensitive to change in their medium it had been supposed that no very marked alteration of the normal conditions could exist in such a loop

Professor W STIRLING (Manchester) drew attention to the histological differences between the Lieberkühn's follicles of the small and large intestine and especially to the greater number of goblet cells in the latter He further cited the view of some French observers that the Peyer's patches being large collections of leucocytes might be of importance in liberating the enterokinase

Dr W E DIXON said that he had found on injecting purgatives into a loop as in Morot's experiments that if an irritant purgative were used there were signs of marked inflammation, whilst if purgative salts were used there was no inflammation but a marked increase of fluid, but far more than could be accounted for by osmosis

Professor W H THOMPSON (Belfast) suggested that it was possible that some condition for secretion had been hitherto overlooked and cited Pawlow's experiments on pancreatic secretion as an example of this

Dr EDKINS, in reply, stated that his position was a purely negative one and that he did not deny the existence of a normal intestinal secretion but affirmed that at present there was no evidence of it.

Dr LOUIS QUERTON read a paper on

Phenomènes Electriques qui accompagnent l'Oxydation de de l'Acide Oxalique produite par la Lumière,

showing that the action of light on solutions of oxalic acid was accompanied by the evolution of an electric current which could be demonstrated by a galvanometer and that this action could be augmented or delayed by certain other chemical reagents

Professor STEWART read a paper on

The Action of certain Hæmolytic Agents on Nucleated Blood Corpuscles,

in which he stated that mammalian red blood corpuscles presented certain properties which at first sight appeared to be vital phenomena and yet were certainly of physical origin—e g selective absorption. Thus, ammonium chloride was taken up by the corpuscles, while sodium chloride was not, and this happened in formaldehyde hardened corpuscles as well as in living ones In this research he showed that similar phenomena were found in the nucleated corpuscles of amphibia, birds, fœtal mammals and the corpuscles of bone marrow Of especial interest were the observations on the corpuscles of Necturus a tailed amphibian with very large corpuscles Many laking agents were investigated especially santonin bile-salts, ether and amyl alcohol. It had been suggested that many such reagents acted by rendering the corpuscles more permeable and thus practically placing the corpuscles in the same osmotic relations as if they were in distilled water—that was acting by a process of water laking Professor Stewart believed this to occur in some cases but in others—e.g sodium taurocholate—there was no entrance of water and yet hæmolysis occurred.

Dr F W EDRIDGE-GREEN (London) read a paper on

The Origin of a Visual Impulse

His view of the origin of visual impulses was that light falling upon the retina liberated visual purple from the rods and this being acted on by light stimulated chemically the cones and an impulse was transmitted along the visual path to the brain and received by a light perceptive centre which did not appreciate colour but simply light and shade Colour perception was due to a special centre separate from the visual centre but closely connected with it, a colour being simply a point of difference capable of being perceived by this centre

Dr W RAMSDEN (Oxford) described

Some New Properties of Urea (with Demonstrations)

Solutions of urea had a very marked action on proteids thus a solution of proteid to which urea was added did not coagulate on heating The coagula formed when solutions of native proteids were heated dissolved on the addition of urea solution gelatin was very readily dissolved by it. A dead frog placed in saturated urea solution soon became translucent and shortly fell to pieces Connective tissue was readily dissolved and this property would probably be useful for histological purposes. The myelin sheath of nerve was rapidly altered and presented similar appearances to those of degeneration. Urea converted native egg white into a jelly Dr Ramsden at first supposed that urea in these reactions was active as a base but further experiments negatived this view—for example, urea was equally active on proteid in acid solution Dr Ramsden considered that it might act by rendering the proteid more sensitive to the action of any acid or alkali present. He had prepared crystalline compounds of urea with proteids and palmitic acid.

FRIDAY AUGUST 1ST

Professor C S. SHERRINGTON (Liverpool) and Dr A. S. F GRÜNBAUM (Liverpool) opened a discussion on

The Motor Cortex as Exemplified in the Anthropoid Apes

in which they brought forward the result of their investigations on 13 chimpanzees two orangs, and one gorilla. They first described the technique of their experiments Stimulation was effected by Sherrington's unipolar method a large flat electrode being placed on the foot of the same side and a fine platinum wire with a small knob used for stimulation of the cortex, the arachnoid being opened and the fluid allowed to escape. The strength of current required was about the same as that for the cat and for the rhesus monkey The convolutions in the anthropoid approach the human type, but there was great liability to individual variation and frequent asymmetry which prevented them from being of great use as physiological landmarks Of greater utility were the genua of the Rolandic fissure, the lower genu marking the situation of neck and arm centres, the upper the body trunk or cruro-abdominal areas. On the mesial aspect the leg area extended for some distance, thus from below upwards the order was face neck, arm body and leg A most important point brought to light in these researches was that the excitable motor region, though extending deeply into the Rolandic or central sulcus did not extend on to the free surface of the post-central convolution, and this was in opposition to the results of previous observers The movements obtained from the different areas were broadly as follows in the face area eye, eyelid, nose, jaw vocal cords mastication and also movements of the mouth and tongue in the arm area shoulder elbow wrist, fingers and thumb in the leg area toes, ankle, knee, hip, in each case from above downwards. Movements of the anus were obtained by stimulation just at the border between the external and mesial surfaces of the hemisphere. A further difference from the results of other observers on the anthropoids was the ease with which epileptiform convulsions were obtained from the cortex. They had further studied the results of ablation of parts of the cortex and found that marked paralysis occurred from even a small lesion but that this was recovered from, and they had also observed almost complete recovery after double extirpation of the arm area. Professor Sherrington had also investigated the direct pyramidal tract in anthropoids and found that in the chimpanzee a ventral pyramidal tract occurred as in man, and like that of man was of very variable individual character

Dr CAMPBELL read a paper on the

Histological Features of the Regions of the Cortex in Anthropoids with Special Reference to the Varieties of Medullated Fibres and their Topographical Relations in the Cortex.

He found special characters in the motor region—viz. (1) the possession of a well marked zone layer or tangential field, (2) a supra radiary field and (3) a radiary zone of great depth and richness in nerve fibres or of great fibre-wealth" further there were large ganglion cells or cells of Betz in this region. These histological results were in complete accord with the experimental results of Professor Sherrington and Dr Grünbaum as the motor type of structure was bounded posteriorly by the fissure of Rolando and did not extend into the post-central convolution.

Professor SYMINGTON (Belfast) Dr W PAGE MAY (London) Professor W H. THOMPSON (Belfast), and Professor ARTHUR ROBINSON (London) joined in the discussion which followed.

Professor R. G ANDERSON read a paper on Occipital Condyles, illustrated by specimens and lantern slides

Professor SYMINGTON described the Topographical Relations of the Optic Radiation and illustrated his remarks by lantern slide photographs of sections of the human brain.

PATHOLOGY

FRIDAY AUGUST 1ST

Professor D J HAMILTON (Aberdeen) opened a discussion on

The Relationship between Human and Bovine Tuberculosis

His own experiments were still in progress and he was not at liberty to publish them at present. He reviewed at length the work done by various investigators on this subject and drew attention to the remarkable results of Koch and Schultz. Those results were uniform, and as they stood they justified the conclusions drawn from them which were recorded at the British Congress on Tuberculosis. These investigators failed to inoculate the calf with human tubercle bacillus by any means but they succeeded in producing tuberculosis from cultures of bovine tubercle and they concluded that the cow was immune to human but not to bovine tuberculosis. Professor Hamilton did not entirely agree with the reading of these experiments. In one of the inhalation experiments local infection had occurred in the lungs. Another observer had got similar results in pigs general tuberculosis having been produced by feeding these animals on human tuberculous sputum The speaker considered that there should be some common understanding on what was to be considered successful inoculation and what not. If it were agreed that a tuberculous growth at the seat of inoculation should not be considered successful inoculation then the majority of cases of human tuberculous infection must be looked upon as not inoculable, for here there was as a rule, only a local growth at the point of inoculation—e.g the lungs If extensive tuberculous lymphadenitis was produced in animals by inoculation this must be accepted as a successful inoculation on a new host. Probably in these animals the human bacillus had not yet become acclimatised to its surroundings. Experiments by other observers showed that the local infection from human tubercle produced in a calf was capable of producing general tuberculosis when transferred to another calf The human tubercle bacillus developed slowly in the calf at first, but in time produced general tuberculosis Chauveau had described numerous tubercles in the lungs of a calf by inhalation from human tubercle. This was at variance with the experience of other observers who found the mesenteric glands especially affected. He remarked upon the experiments of Professor Delépine Arloing had injected emulsion of human tubercle bacilli into the jugular vein of goats, calves sheep, asses rabbits, and guinea pigs The inoculation was positive in *all* cases without exception Young animals were more sensitive to the bacilli, the goat was more resistant than the calf or the sheep The bovine bacillus excited, as a rule, more acute and widespread disease than did the human, but the latter gained in virulence by inoculation from one calf to another Variation in the microscopical appearances were meaningless and mere differences in form or virulence were a poor basis on which to found a classification of species The human bacillus itself varied greatly in virulence from time to time. The question was not whether a given culture could be transferred, but whether any human tubercle bacilli could be transferred to another host without intervening conditions Professor Hamilton regretted that Koch and Schultz had not used tuberculous glands in their experiments

Professor SHERIDAN DELÉPINE (Manchester) congratulated Professor Hamilton on his admirable summing up of the position The experiments of Koch were so contradictory to general opinion and to the experiments of other observers that even his great name was not sufficient to weigh down the balance on his side. It must be recognised that different animals were not equally susceptible to organisms. He agreed with all that Professor Hamilton had said Personally he had been able to produce in the calf true tuberculosis from human bacilli and from this he got tubercle bacilli which were still more virulent. The virulence of the human bacillus was variable and in his own experiments he used a combination of tuberculous sputa from different sources

Dr T SHENNAN (Edinburgh) said that another criticism of Koch's work was that the bacillus tended to increase in virulence in passing through a series of animals of the same species and lost its virulence when transferred to an animal of another species The susceptibility of man was different from that of other animals Koch started his work from statistics, but Dr Shennan thought this was a mistake. In Germany cooked milk was used, in this country the milk was uncooked and open to all infection. It would therefore be expected if infection were carried by milk that it would be more common in this country, but, on the other hand bovine tuberculosis was less common here. Statistics had been compiled in the Edinburgh Children's Hospital and in the Great Ormond street Hospital in London to estimate the relative frequency of respiratory and intestinal tuberculosis, and others had been made in Birmingham and in Germany The results were similar in Edinburgh and London but were different in the other centres He referred to the investigations of Dr Bush of Philadelphia on the geographical distribution of tubercle in regard to meat and milk. He agreed with Professor Hamilton in regard to the personal equation of individual resistance. He then detailed three peculiar cases of tuberculosis, in one of which there were plaques in the peritoneum which he thought resembled bovine tuberculosis.

Professor NORTHRUP (New York) discussed the point of entrance of the tubercle bacillus He had studied this subject for 12 years at the Foundling Hospital at New York, and the material extended over 3000 post-mortem examinations in which there was 1 per cent of infants under three years in which the primary seat of tubercle was abdominal The oldest process was in the lymph nodes of the mesentery, and if this represented the primary source then the infants of New York were exposed to very small danger from milk.

Mr W HODGSON (Crewe) related an experiment in which a healthy cow was fed on human tuberculous lymphatic glands in a trench for six weeks. At the post-mortem examination the oldest tuberculous disease was found in the lungs and the most recent in the intestinal tract This showed that although the bacilli were taken in through the stomach they would proceed to the most suitable nidus before developing

Dr R MAGUIRE (London) pointed out a possible fallacy in these cases The inoculation might have been produced by inhalation during feeding on the tuberculous material.

Professor HAMILTON, in reply, said that he had seen the plaques described by Dr Shennan several times in the human subject, they were very common in the cow but the similarity of appearances was of little importance. The point of entrance of the bacillus was, as Professor Northrup had insisted, very important. In a large proportion of cases there was no lesion of the intestine, but in practically all cases the abdominal glands were enlarged and cheesy, while the lungs escaped in most experiments. Subcutaneous injection of bacilli produced pulmonary tuberculosis almost invariably His experience had taught him that the bacillus might not affect the point of inoculation but go elsewhere There was no hard and fast line

OPHTHALMOLOGY

FRIDAY, AUGUST 1ST

Dr JAMES TAYLOR (London) opened a discussion on

The Rarer Forms of Atrophy of the Optic Nerve

He began by thanking the officers of the section for the honour they had done him in inviting him to open this discussion and for their choice of a subject of interest both to physicians and surgeons and one on which they might give and receive mutual help and instruction He excluded from discussion, except for purposes of comparison, atrophy following neuritis the result of intracranial growth and atrophy (primary) resulting from tabes or general paralysis. At the same time he emphasised the importance of recognising the frequent occurrence of optic atrophy in general paralysis, he had made post-mortem examinations on several cases of general paralysis in which the mental symptoms had been present only a short time, although the patients had been blind in some instances for a considerable number of years It was also to be recognised that optic atrophy was not an uncommon result in the neuro retinitis occurring in Bright's disease and also in cases of glaucoma and of injuries to the optic nerve He referred first to the large class of cases of optic atrophy associated with disseminated sclerosis. These, he believed, were in most cases the result of a neuritis usually retro-bulbar in position, but in some cases obvious on account of redness and slight swelling of the disc. In some cases a central scotoma for colours was present, the pallor in these cases was slightly different from that in tabetic cases and the vessels were not so small. One very striking difference, also, was that in the vast majority of cases of optic atrophy in tabes the visual impairment went gradually but surely on to complete blindness, he had never in the numerous cases of disseminated sclerosis which he had observed seen complete blindness occur Indeed, one was often surprised at the very fair vision which coexisted with extreme pallor of the discs Dr Taylor next referred to cases of toxic amblyopia and the atrophy which frequently accompanied it, he referred to the small quantity of tobacco which might cause amblyopia if sugar be present in the urine and to one patient who had been attended for 20 years and had never used tobacco but who had glycosuria and central scotoma. He asked what was the factor which in some cases of toxic amblyopia prevented recovery and was the atrophy in these cases likely to be a progressive one? He next referred to cases of optic atrophy not preceded by neuritis, occurring as a result of pressure at the chiasma and referred to the frequency with which such cases came under observation with one eye already blind, while the other had the temporal "field" blind Dr Taylor also referred to a case of optic atrophy which he had seen occur in a case of ordinary left hemiplegia in which there was no hemianopsia, and to the likelihood that these cases were not uncommon He also referred to two cases of optic atrophy in young men the reason for which was obscure

Mr W T HOLMES SPICER (London) said that atrophy arising in disseminated sclerosis, though not always associated with much defect of vision, mostly began with a central scotoma which often became absolute, so that there was a resultant grave impairment of vision, though this rarely progressed to absolute loss of peripheral vision Many cases remained in this condition for years, he thought that the cause lay in islands of sclerosis in the optic nerve itself He could not agree to the doubts which Dr Taylor had thrown on the frequency of toxic atrophies. Difficulty often arose from the deceit of the patient This, again, accounted for much failure of treatment in such cases In diabetes he had no doubt that central scotoma occurred, yet this might be greatly exaggerated by the incidence of tobacco Many scattered and obscure cases, especially in young people, he thought to be connected with hereditary causes—Leber's disease. An anatomical explanation had been given for such cases in congenital deficiency of the walls of the optic foramen and contiguity of the nerve with the nasal sinuses He felt that this could not explain all

Dr EMRYS JONES (Manchester) said that he had noted a rare case of optic atrophy associated with dropping of fluid from the nose

Dr C O HAWTHORNE (London) had seen cases where blindness in one and loss of the temporal field in the other had occurred after erysipelas of the blind side, it was supposed that *the transference of the affection from one side to* the other was due to some sympathetic connexion. He had grave doubts as to the certainty of diagnosis of optic atrophy based upon the appearances of the optic discs alone and in the absence of other signs in vision and visual fields.

Dr A. BRONNER (Bradford) quite agreed with Dr Taylor that in many cases diagnosed as tobacco amblyopia the impaired vision was due to other causes many were due to commencing central retinal and choroidal changes which disappeared on the use of iodide of potassium It was important in all cases of optic atrophy to take out the field of vision for colours as well as for white by so doing very early changes could be noted

Dr G NEWTON PITT (London) believed that the relative frequency of central scotoma in disseminated sclerosis in cases published in England was small it was much higher on the continent. The pathological material available was very small indeed, which somewhat vitiated conclusions. He agreed that it was not justifiable to diagnose optic atrophy from disc colour alone there must also be diminution of the vision and field

Dr S LODGE (Bradford) noted the occasional occurrence of such cases with scotomata and contraction of fields in quite young people from 16 to 30 years of age. In two of these he had been able to obtain histories of toxic trade connexions and in others a record of like cases in other members of the family

Mr J HERBERT PARSONS (London) called attention to a tendency to put the lesions in all these cases in the optic nerve itself In many of them it was probably in the retina. The evidence in favour of this in the case of toxic amblyopias was increasing rapidly Attention was especially directed to the work of Birch Hirschfeld on the subject

Dr J G CLEGG thought that many of the cases of quite white discs with excellent vision were those of early tabes.

Mr N BISHOP HARMAN (London) said that he had for some time been unable to accept the current views of the pathology of optic atrophy in retro-bulbar neuritis &c., he believed it to be based upon an inaccurate appreciation of the ascertained facts of the development of the nervous connexions of the eye and of the theory of the neuron. The retina was known to arise as an outgrowth from the brain within this outgrowth nerve-cells gave rise to axons which grew centrally to make connexion with parts of the brain different from the site of origin of the evagination Thus the trophic centres for the optic nerve-fibres were the ganglion cells of the retina from which they were out growths the case was parallel with the relation of a posterior root ganglion cell to its central axon passing into the cord Thus degeneration of the optic fibres should be in the vast majority of cases ascending only, and they should look in cases of optic atrophy first to the retina for evidence of *damage. He believed that a rational classification could be* arrived at as follows 1. Primary damage in disease of the ganglion cells (*a*) from anæmia due to spasm of the retinal vessels from drugs as quinine, reflexly from cold and to general anæmia succeeding severe hæmorrhages febrile diseases, &c. and (*b*) from poisoning of the ganglion cells by drugs tobacco and lead, a view directly supported in the antidote of tobacco blindness strychnine, which was agreed to act directly upon nerve-cells. In all these cases the changes at the disc would be proportionate to the number of cells damaged, in cases of great loss of ganglion cells it was probable that the rapid destruction and swelling of the myelin sheaths of the degenerating fibres at the lamina cribrosa produced a mechanical choked disc. 2. Cases of damage to the optic nerve by contiguity of diseased structures or in general nerve changes producing islands of fibroid exaggeration and followed by obvious atrophy of the disc. Here ascending degeneration should be the earlier result, with a later degeneration of the axon segment next the trophic ganglion cell from disuse, a process the more easy owing to the special myelin sheathing of the optic nerve fibres.

Dr A. MCGILLIVRAY (Dundee) asked Mr Harman how he could explain undoubted optic atrophy following section of the nerve in fracture of the optic foramen if he believed only in ascending degeneration.

Mr HARMAN said that in these cases there was nothing to show that *the damage* was limited to the actual point of injury, exudation was just as certainly to be found within and around the optic sheath even to the disc which would explain the early onset of atrophy in some cases further he allowed the possibility of a degeneration of *the segment* twixt injury and trophic cell both from disuse and by reason of the arrangement of the myelin sheaths of the optic fibres.

Dr A. HILL GRIFFITH (Manchester) thought that the occurrence of atrophy after hæmorrhage, hæmatemesis &c. had been overlooked it certainly occurred He also noted the greater susceptibility of women to tobacco than men both in rapidity of onset and slightness of cause.

Dr MCGILLIVRAY said that though he had little experience of hysterical amblyopia in Dundee there were numerous cases of tobacco blindness in mill women, the liability he thought partly due to the late age of their indulgence

Dr TAYLOR, in replying, said that he did not mean to throw doubt on the frequency of occurrence of tobacco blindness, he felt that it was unduly credited with cases arising from other causes He had had no reply to his inquiry as to the progression and permanence of optic atrophy in these cases. As regards the greater susceptibility of women he noted also their readier reaction to alcohol poisoning as exemplified in the greater frequency of alcoholic neuritis amongst them.

DISEASES OF CHILDREN

FRIDAY AUGUST 1ST

Mr W ARBUTHNOT LANE (London) opened a discussion on

The Value of Physical Exercises in Diseases of the Respiratory Tract

He described the influence of systematic and regulated exercises upon the upper part of the respiratory passages and emphasised the positions which he had previously defined[1] in reference to the relationship of such exercises to naso-pharyngeal obstruction by adenoids, &c. He also discussed the several factors that modify the condition of the teeth and the digestion in patients suffering from respiratory incapacity together with the effects of such incapacity on the tendency to catarrhal processes. He advocated the study of the respiratory function with a view to treatment in each individual case.

Sir FELIX SEMON (London) had a high appreciation of the value of respiratory exercises. They had their own place and value, but he could not accept the view that they could overcome the mechanical obstruction produced by adenoid masses in the naso-pharynx

Professor BAGINSKY (Berlin) said that some children were the subjects of adenoids at the time of birth and in these cases at all events the condition would not be attributed to respiratory inefficiency He agreed that in many cases operations for adenoids were unnecessary a change to the seaside being often sufficient to cause their disappearance.

Dr J J COX (Manchester) endorsed this last statement *on the basis of* a considerable personal experience.

Dr HARRY CAMPBELL (London) directed attention to the feeding of children by soft food as an influence prejudicial to the development of the masticatory apparatus and argued that this led to imperfect expansion of the upper air passages

Dr SCANES SPICER (London) and Dr P MCBRIDE (Edinburgh) took part in the discussion

Mr MAYO COLLIER (London) said that neither Mr Lane nor any other surgeon had suggested that breathing exercises could cure well marked adenoid Sir Felix Semon's statement that nasal obstruction had no relation to the production of post nasal growths was unsupported by evidence. The experience of most surgeons was directly in the opposite direction. Nasal stenosis caused vascular engorgement in the post-nasal space and as further results catarrh and adenoid hypertrophy It was not necessary to nasal stenosis that there should be a definite bony or other form of tumour A lax atonic condition of the turbinal body with the vascular distension that was inevitable when the patient was lying down, and also in other circumstances, was quite sufficient to cause stenosis and to lead to disuse of the nasal airway As a matter of fact this was usually the condition present. The defective development of the upper jaw and palate which attended nasal stenosis Mr Collier attributed largely to atmospheric pressure

Mr ARBUTHNOT LANE replied

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[1] THE LANCET Feb. 15th (p. 4[illegible]) and 22nd (p. 5[illegible]) 1902.

At a joint meeting with the Pathological Section

Dr J W **BALLANTYNE** (Edinburgh) opened a discussion on

The Congenital Diseases of Bone

After a brief sketch of the various stages in the ante natal history of bone Dr Ballantyne said that it was necessary to recognise the general principle that the effects upon the skeleton of prejudicial influences would be very different according to the stage at which such influences came into operation In the earliest stage the tendency would be to produce deformities or malformations, whilst it could only be when osseous tissue had been definitely formed that true diseases of bone could be produced Thus anencephaly resulted from an early arrest of the formative processes of a part of the skeleton, whilst cranio tabes was a morbid change in fully formed bone Between such extremes were intermediate links which might be viewed from either or both aspects This principle was advanced as bearing on the question of fœtal rickets and it was urged that provided the causes which produce rickets in extra uterine life came into operation during intra uterine existence the skeleton would necessarily be affected. There would be conditions of the cartilages and bones which might be called rickets and which etiologically were rickets. But in these conditions the histological changes might be expected to be different from those of extra uterine rickets because the bones had not reached a stage of development in which such changes could possibly be produced Various other early diseases of bone were described and illustrated by lantern slides and Dr Ballantyne concluded by emphasising the importance of the placenta in relation to the nutrition and development of the fœtus

Dr W **STOELTZNER** (Berlin) could not unreservedly accept Dr Ballantyne's classification of congenital bone disease He preferred to state only two groups—namely, (1) those due to arrest of periosteal formation and (2) those resulting from a general dystrophy On the question of fœtal rickets his appeal was to the microscope, and this never revealed the characteristic features of rickets. Numerous microscopical specimens were shown to support these views

Dr **JULES COMBY** (Paris) considered that the term "rickets" had been too generally applied to diseases affecting the skeleton in the early period of life The recognition of the influence of developmental defect, of syphilis, and the explanation of such conditions as achondroplasia were all steps in advance.

Professor **BAGINSKY** (Berlin) held very confidently that rickets might and did occur during intra uterine life He had satisfied himself on this point by repeated microscopical examinations He also described various clinical varieties of rickets as met with in young children.

LARYNGOLOGY

WEDNESDAY, JULY 30TH

Dr **EDWARD LAW** (London) showed a case of

Papillomatous Excrescences, or Ozænic Incrustations, or Chalky Deposits, or Other Lesion Low Down in the Trachea

The patient, a woman aged 36 years had suffered from ozæna since childhood and had to a great extent recovered under various methods of treatment, she was anxious to get quite well if possible and had recently lost her sense of smell. Formerly the voice was very husky and hoarse but not recently, and laughing often produced a fit of coughing From the age of 18 years she had often had to clear away something low down in her throat and had said that she would die from consumption on account of a feeling low down in the windpipe She now complained of constant short hacking cough, loss of smell, indifferent taste, and a very slight discharge from the nostrils There was no history of a foreign body, no dyspnœa or expectoration, and the general health was satisfactory On examination no atrophic changes were found in the nose, pharynx, or larynx, in fact nothing abnormal beyond some slight catarrhal trouble and a small crust in the neighbourhood of Luschka's tonsil Nothing being found to account for the short hacking cough the trachea was carefully examined and a number of papillomatous excrescences or crust-like or cretaceous deposits were seen a large one with ragged edges on the right side, another larger mass deeper down, and a number of smaller nodular ones dotted in an annular or crescentic arrangement around the trachea, the colour and appearances changed a little if covered with secretion. The other part of the mucous membrane of the trachea corresponding to the first seven or eight rings was healthy The diagnosis, in Dr Law's opinion, was very uncertain He had thought of papillomatous excrescences, possibly more or less calcified, ozænic incrustations, herpetic crusts, keratosis, and enchondromata and chalky deposits The patient was brought before the members of the Laryngological Society of London at a meeting last May, and in order to emphasise the difficulty of diagnosis Dr Law quoted from the proceedings of the society some of the views expressed Dr E B Waggett was persuaded that there were no crusts, he regarded the excrescences as being of a papillomatous nature. Dr H. Lambert Lack suggested that the growths in the trachea might really be crusts The fact that the appearances had not changed in 24 hours, in Dr Lack's opinion, in no way militated against his view Sir Felix Semon gave a diagnosis of ozænic crusts and was induced to take this view by the co existence of crusts in the naso-pharynx, and he saw the patient again a month later and confirmed his previous diagnosis of ozænic crusts

Mr T **MARK HOVELL** (London) expressed the view that the growths were papillomata and perhaps associated with changes in some of the adjacent lymphatic glands

Dr W **JOBSON HORNE** (London) had failed to see any crusts and considered that if they had been present there must be some underlying cause for their formation He thought that the diagnosis rested between three conditions—cartilaginous excrescences from the rings of the trachea, calcareous deposits, and papillomata. The appearances in the mirror reminded him of specimens which he had seen of spicules and nodules, composed of hyaline cartilage, projecting from the lower rings of the trachea. He had seen two such specimens abroad, but knew of only one in London and that was in the museum of St. Bartholomew's Hospital, and was the one to which he had drawn Dr Law's attention.

Sir **FELIX SEMON** (London) attributed the appearances to the presence of ozænic crusts in the trachea.

Dr J **MACINTYRE** (Glasgow) considered that perhaps an examination with the x rays might have been of some assistance in arriving at a diagnosis

Dr P **MCBRIDE** (Edinburgh) thought that the condition was due to chalky deposits in the trachea.

Professor **KILLIAN** (Freiburg) was of the opinion that the arrangement and appearances of the growth suggested horny growths springing from the rings of the trachea in its lower part.

Dr **LAW**, in thanking the members of the section for the great interest that they had taken in his case, said that the appearance in the trachea differred from a specimen which Dr Horne had shown him of papillomata in the trachea, but in some respects it resembled the specimen in the museum of St. Bartholomew's Hospital He could not agree with Sir Felix Semon's opinion of crusts, although at the first examination in London there was a much greater appearance of crusts than subsequently Professor Killian had kindly offered to examine the case with the bronchoscope, which would probably lead to an accurate diagnosis, or the use of the probe would differentiate between crusts, papillomatous excrescences, or calcareous deposits, in the meantime he would strongly speak in favour of calcareous deposits (or at least of excrescences which had undergone calcification) He took this view on account of the large number of disseminated white nodules which had not changed in appearance whilst under observation for four months

Professor **KILLIAN** afterwards examined the patient's trachea by direct endoscopy with the bronchoscope, and the excrescences were seen and upon being touched with a probe were found to be of bony hardness

FRIDAY, AUGUST 1ST

Dr **L. GRÜNWALD** (Munich) contributed a paper on

The Present State of the "Ozæna" Question.

He said that it was not easy to speak about "ozæna," for there were nearly as many definitions of this term as there were authors He did not acknowledge ozæna as a disease *sui generis*, but accepted the term for a condition of badly smelling pus in wide nasal passages, and this, the most prominent feature, and its explanation formed the subject of his remarks Speaking first concerning the origin of the secretion he said that if properly examined the secretion of all cases of ozæna would be found to arise from focal disease, where one failed to find it there was not an absence of foci, but they were too obscure to be easily detected He considered that the reservation made, for example, by Hajek, that the focal disease might be only secondary to the general mucous inflammation was quite artificial and had derived no support from Wertheim's 360 necropsies with 95 cases of disease of the accessory cavities. Hajek himself weakened this objection by saying that he had seen cases in a very early state of disease (half a year or so after its commencement) where the secretion could already be proved to be due to focal suppuration. But this statement, he said would not explain why the secretion in a certain number of cases of focal diseases assumed that peculiar form which was commonly called ozæna" From whatever place the secretion might arise it was not to be denied that under certain conditions or in certain forms it might be caused by certain and specific infection (just as specific infection was compatible alike with general and with focal inflammation). And thus they had the attempt to give them etiological factors of general value by proving the presence of specific bacilli. In this respect they had first the bacillus ozænæ of Lœwenberg then the bacillus mucosus of Abel and latterly the cocco-bacillus fetidus of Perez, each of which was said to be the cause of ozæna. But none of these had fulfilled the exigencies of a real pathogenesis—namely that they produced the disease in question in all its forms. The first produced neither crusts nor atrophy the second no atrophy and the third neither crusts nor fœtor Interesting though the investigations of Perez of Buenos Ayres into the correlation between dogs' noses and human infection might be their correctness in European circumstances still required proof and did not seem probable when they considered the enormous number of dogs and the rarity of ozæna in Bavaria as opposed to the scarcity of dogs and the frequency of ozæna in Northern Germany Nevertheless bacteriological researches had brought to notice a very curious circumstance—that the bacillus of Abel produced in cultures a gelatinous tough mass As this bacillus was found principally beneath the true crusts in the tenacious mucus adhering to the mucous membrane it appeared to have a specific relation to ozæna, causing that tough and sticky character of the secretion. Further it was not impossible that altered secretion might produce a fluid of more serous character the coagulation of which might possess greater adherent powers. But this was only a hypothesis, which was not proved even by Schonemann's discovery of degenerated Bowman's glands, for degenerations of the same source would be found in hypertrophied turbinated bodies. This toughness of the secretion would cause it to become fixed in the nose long enough to become putrid and to produce the fœtid smell which was met with also in all other forms of putrefaction of moist masses The assumption made by some rhinologists that this smell was specific had been objected to by others who were zealous defenders of the ozæna theory—namely M. Schmidt Moll and others As to other theories on the etiology of ozæna Hopmann, Siebenmann Gerber and Cholewa-Cordes all considered the atrophy as the primary source of all the other phenomena. But it would be difficult to state a reason why the atrophy of the whole tissue or that of the mucous membrane alone should produce a secretion thus altered without having regard to the unlikeliness of an increased secretion being due to an atrophied membrane in which even the secreting glands had undergone destruction. Moreover all these theories did not discriminate between congenital wideness of the nose and acquired atrophy the occurrence of the former alone being proved by the fact that wide noses were found without the least discharge. If a suppurative process became established in such a nose it found conditions favourable to the establishment of ozæna, as the discharges were likely to be retained long enough to become putrid Even from Cholewa-Cordes's researches it followed that atrophy of the mucous membrane at least, was not the cause, but the consequence of the altered secretion due to the compression and irritation caused by the adherent and putrid crust As to treatment, there was a long series of remedies recommended and most of them had found their well-deserved fate others could produce a perceptible improvement in many if not in all cases It was true that only radical focal treatment had up to now been able to do away with all secretion but it could not be denied that imperfect focal treatment as well as general treatment of the mucous membrane could in some cases alter the whole condition so far that the troubles disappeared. This seemed a strong objection against the statement that the disease was always due to a focal affection, he had never denied but on the contrary affirmed that a great many other factors were required to change the focal secretion into that peculiar to ozæna. If these factors were abolished even without removing all secretion, there would be in favourable cases apparent recovery which practically might approach to a cure. Considering the very great difficulties of radical treatment of focal suppurations in many cases, and especially in disease of the maxillary sinus it would in each single case be a question for consideration whether to take the uncertain way of relief by general measures or the more certain but troublesome one of radical cure by treatment of the focal disease.

OTOLOGY

WEDNESDAY JULY 30TH

The PRESIDENT (Dr W MILLIGAN of Manchester) in opening the proceedings of the section spoke of the need for increasing the teaching of otology and aural surgery with a view of curtailing the amount of ear disease more particularly due to the exanthemata. He expressed the hope that house surgeons would be required to produce certificates of experience in aural surgery before undertaking their duties.

A discussion was held on the Aims and Limitations of Intra nasal Surgical Procedures in the Treatment of Chronic Non-suppurative Middle-ear Disease

Dr J DUNDAS GRANT (London) read a paper on

Cholesteatoma of the Middle Ear

In this communication attention was drawn to the occasional occurrence of spontaneous cure of cholesteatoma of the middle ear the contents finding their way out by causing erosion of the outer wall of the attic and the antero-inferior wall of the antrum leaving such an opening as resulted from a well performed radical mastoid operation as devised by Stacke. Dr Dundas Grant considered that in well marked cases of cholesteatoma when a radical operation was performed and a large cavity was found to be filled with cholesteatomatous masses and lined by a homogeneous membrane, the operator might with economy to the patient's time and tissues leave that membrane *in situ* simply scraping out the contents and sterilising the lining with alcohol. It was understood of course, that by the operation the antrum the attic, the tympanum and the external meatus were thrown into one large cavity In several well marked cases he had found that this practice was followed by speedy subsidence of the discharge and satisfactory after results. The mode of formation of cholesteatoma was described the stages being ulceration of the walls of the cavity followed by granulation, then under favourable circumstances the squamous epithelium from the outer surface of the tympanic membrane and wall of the meatus grew inwards through the perforation in the membrana tympani and proliferated over the granulating surfaces just as in the case of an ulcer on the surface of the body In some cases this extended over the whole of the inner surface of the cavity which was then lined with epidermoid epithelium. Under the influence of moisture or inflammation a process analogous to dermatitis took place resulting in desquamation and the gradual accumulation of layers of epithelium those in the centre broke down and as the mass increased the resulting pressure induced erosion of the surrounding bone sometimes, unfortunately towards the lateral sinus and cranial cavity but in lucky cases towards the external auditory meatus. In cases of disease of the petrous bone in which on radical operation there was found to be only a small cavity Dr Dundas Grant thought that healing might be allowed to take place by means of cicatrisation on the surface of the granulations—the old method. When however the cavity was at all considerable in size and not lined with "cholesteatoma membrane" he held that there was no mode of treatment at all to approach in excellence the method of skin-grafting perfected by Mr C A Ballance In case of a cavity completely lined by pearly membrane he advocated the retention of this membrane and its sterilisation by means of alcohol.

Dr URBAN PRITCHARD (London) said that in his opinion the enlargement of the antrum and mastoid cells in a typical case of cholesteatoma was chiefly due to pressure and not to ulceration of the bone, as was the case in ordinary mastoid disease. This was proved by the hardness and smoothness of the bony walls of the cavity which was moreover lined by a thin altered mucous membrane At the same time he agreed that there were always some spots of ulceration to be found

FRIDAY, AUGUST 1ST

Mr C A. **Ballance** (London) and Mr **Hugh E Jones** (Liverpool) opened a discussion on

The Indications for and against Ligation of the Internal Jugular Vein in Cases of Otitic Pyosepticœmia

Mr Ballance in summarising his conclusions pointed out that the surgeon from his examination of the case must, if possible, come to a clear determination as to the condition from which the patient was suffering—whether from acute systemic infection or from systemic disturbance depending upon a local process He considered that operation upon the vein was indicated in the following circumstances (1) in acute pyæmia and in acute septicæmia whether the sinus was occupied by clot or fluid blood, (2) if the sinus wall was gangrenous or its contents were putrefying, unless it was perfectly clear that on both sides of the area of inflammation the lumen of the sinus was completely blocked by non infected thrombi, (3) if it was proved, or even suspected, that the blood of the jugular bulb was in part or wholly clotted, and (4) if the jugular vein was thrombosed. When it had been decided to deal with the vein before beginning to operate the operation on the vein should precede that on the temporal bone, and when the operation on the vein was first decided upon during the course of the temporal bone operation it should forthwith be carried through without waiting for the completion of the operation on the sinus region

Mr **Hugh Jones** in his paper arrived at the following conclusions 1 Where the clot in the sinus was firm at both ends, though broken down in the middle, and there was little or no cord in the neck, it was sufficient to remove so much of the clot as appeared to be undergoing disintegration and to treat the sinus as an open wound. 2. Where there was no cord in the neck, but on exploration the sinus was found to be permeable though obviously infected, whether lung complications existed or not, the surgeon should obliterate the sinus and tie and divide the vein 3 Where the sinus had been dealt with but the vein had not been tied and the pyæmic symptoms continued or recurred it was necessary to consider carefully in which direction in the sinus the extension was occurring (*a*) If it was occurring towards the torcular, whilst the bulbar end continued sound, there was nothing to be gained by tying the vein, (*b*) if the torcular end was sound whilst a cord was forming and spreading down the neck, whether lung complications had set in or not, the vein should be tied and divided

Dr **Dundas Grant**, in continuing the discussion, considered that the vein should be ligated if suppuration was extending in a clot in the jugular or if symptoms of septicæmia persisted after clearing out the sigmoid sinus or if, on opening the sinus, suppuration was found to extend lower down than could be reached The vein need not be ligatured if the broken down clot was bounded in each direction by a margin of firm organising clot. He deprecated ligature of the vein apart from clearance of the sigmoid sinus As evidence of complete thrombosis in the bulb of the jugular he mentioned absence of fluctuation between one finger on the exposed sinus and another on the internal jugular vein

The **President** spoke of the difficulty in the selection of cases for ligation of the vein Tenderness at the apex of the mastoid process indicated inflammation around the walls of the jugular vein and the necessity for the ligation of the vein In his experience those cases in which the jugular had been tied had given favourable results

Dr F **Rohrer** (Zürich) read a paper on the Relation between the Formation of the Auricle of Anthropoid Monkeys and certain Congenital Malformations of the Human Auricle

Dr A. **Bronner** (Bradford) showed

An Apparatus for the Intra tympanic Hot-air Treatment of certain Forms of Catarrh of the Middle Ear

He confined his remarks to a description of the apparatus, which had been made for him with a view of overcoming difficulties in regulating the temperature of the air used The heating power was electricity The hot-air treatment had been found to be of service in certain forms of middle ear catarrh which had baffled other treatment, and on that account Dr Bronner showed the apparatus

Mr T H **Pinder** (Manchester) had observed benefit to be derived from the external use of hot air in some cases of intractable middle ear catarrh

Dr R. C **Elsworth** (Swansea) made a communication entitled,

Remarks on the Anatomy of the Temporal Bone

The particular point dealt with was a cavity situated immediately behind the antrum, this cavity Dr Elsworth had found to be constant in the specimens he had examined and his observations had been confirmed by observers abroad Dr Elsworth exhibited several sections of temporal bones showing the cavity and demonstrated its relations by means of lantern photographs. A vertical section passing backwards and slightly outwards showed from before backwards—tympanum, antrum, and the cavity to which Dr Elsworth suggested giving the name "accessory antrum." The sections also showed the close relationship which the cavity had with the sigmoid sinus A vein had frequently been met with in the cavity and at times led directly into the sinus itself Dr Elsworth commented on the importance of this vein as a factor in spreading infection when the sinus was the site of disease

Dr J. **Kerr Love** (Glasgow) criticised the introduction of a new term into the anatomy of the temporal bone for the description of this particular air cell.

Dr W **Jobson Horne** (London) pointed out how important it was in the operative treatment of disease of the antrum to be aware of these aberrant cells He also agreed that it was as well to curtail as far as possible the nomenclature of the temporal bone, the term "accessory antrum" as suggested by Dr Elsworth was more explicit than was the name "mastoid cell" The vessel met with in this accessory antrum, and described as passing into the sigmoid sinus, reminded Dr Horne of the petro-squamosal sinus which had been carefully investigated by Arthur Cheatle Its pathological importance, especially in childhood, was probably not sufficiently appreciated

Mr **Hugh Jones** considered that the vein to which reference had been made was the petro squamosal sinus.

LARYNGOLOGY AND OTOLOGY

THURSDAY, JULY 31ST

A conjoint discussion was held by these two sections on

The Etiology and Diagnosis of Ethmoidal and Sphenoidal Suppurations

Dr L **Grünwald** (Munich), in opening the discussion, said that the etiology of these two diseases corresponded in general with that of other focal suppurations of the nose, they were acute infectious disorders of general or local origin. The principal factor in the production of a chronic disease from an acute inflammation in this situation was impediment to free discharge The sinuses in question had their openings situated at their deepest and most dependent parts—that was, under the most favourable conditions for drainage. This, however, would be altered by swelling of the adjacent mucous membrane, and to this the ethmoidal bone especially was much exposed Such a swelling might be superadded to a previous acute inflammation of the cells themselves, or it might be the consequence of an inflammation in an adjoining cavity Sphenoidal, and ethmoidal suppurations rarely occurred alone, in most cases they were combined with suppuration of other cavities, or they might occur together Ethmoidal suppuration was found alone more frequently than was sphenoidal, and this statement would be only slightly changed by the consideration of the much greater difficulty of making the diagnosis in the latter affection In his own cases sphenoidal suppuration was combined with ethmoidal disease on the same side in 73 per cent., but in ethmoidal affections the same combination existed in 40 per cent only Chronic sphenoidal disorders were therefore frequently secondary to those of the ethmoidal bone He had seldom met the combination of sphenoidal and maxillary antrum disease though other authors had more frequently seen this The combination of ethmoidal with maxillary suppurations was more common, and although he did not in the least agree with Weil's view, that all obstinate maxillary suppurations depended upon disease of the ethmoidal bone, he agreed that suppuration of the ethmoid alone was frequently diagnosed when only one or other of its cells might be slightly affected whilst the more important and fundamental maxillary inflammation was overlooked. It seemed to be unknown, but he had no doubt that adenoid growths could infect the ethmoidal as well as the sphenoidal cavities directly by their secretion and could prevent by the maintenance of swelling the natural cure by drainage of these cavities when once infected.

Speaking of subjective signs he said in some cases of sphenoidal inflammation no complaint might be made, but in others vertigo pains of occasionally excruciating character on the vertex deeply in the head behind the eyes or by false localisation, in the region of the ears, or not uncommonly in the occiput, were present. But how uncertain subjective signs in general were might be gathered from Schäffer's and his own observations of typical supra-orbital and infra-orbital neuralgia in such cases. These symptoms, unexpected as they might be, were not merely accidental, but were caused by an irritation of the spheno-palatine ganglion, the immediate neighbour of the sphenoidal cavity The thoroughly false view that the causes of pains must be found near their localisation often led to the general mistake as to the frequency of frontal suppuration. Loss of smell frequently accompanied chronic sphenoidal suppurations in consequence of the obstruction to the fissura olfactoria. Ophthalmic troubles such as asthenopia, scotoma, painful irritation of the ophthalmic nerves, and deterioration of writing power as noted by Schäffer were explicable by the neighbourhood of the orbital and the basal nerves Pain was usually more violent in acute inflammation but then it was on account of radiation to more distant regions still more uncertain as a diagnostic sign. The same held good with disease of the ethmoidal bone, only here the troubles were usually more severe than in any other cavity and here more especially those disagreeable complications of constant pain mental depression, and intolerance to nervous excitement might be found. Asthenopia was also frequent, and the pain would often be referred to the region of the eyes. Supra-orbital neuralgia might occur here as well as in frontal empyema, combined with tenderness on pressure. Special to ethmoidal disease was the pain produced on pressing the lachrymal bone, a fact which was examined by the vicinity of the lamina papyracea.

Concerning objective signs Dr Grünwald agreed with Hajek in his division of the ethmoidal bone into cells of the upper and middle meatus, and thus he considered that the old difficulties in settling the places of discharge for anterior middle and posterior cells were removed once for all Cells of the upper meatus as well as the sphenoidal antrum discharged into the recessus spheno-ethmoidalis, and the pus of both cavities would therefore more frequently flow down to the naso-pharynx than would that of any other cavity and would produce the well known *appearance of post-nasal catarrh. When the* pus ran forwards it was nearly always found in the space between the middle turbinated body and the septum Dr Grünwald said that this localisation was not of absolute diagnostic value only a discharge rapidly re-forming after its removal and gushing out would signify its descent from one of the cavities in question The anterior cells emptied themselves into the hiatus semilunaris or into a posterior part of the middle meatus, and their openings might thus be easily mistaken for those of the maxillary and frontal sinuses as the openings of all these cavities were very close together One diagnostic sign to which he drew special attention was the purulent and even fœtid character of the secretion in contrast with the more frequently muco-purulent or mucoid character of that from the maxillary antrum Speaking of the secondary disorders of the mucous membrane, he said that they were generally of less significance Polypoid degeneration of the middle tubinated body was equally significant of suppuration of the anterior labyrinth of the larger cavities. Isolated inflammations of the labyrinth hardly ever occurred without the production of polypi, the mucous membrane of this region being particularly prone to œdematous degeneration. When in cases where no suppuration might have been apparent previously multiple polypi in the region of the middle turbinated bodies were torn and not cut off so that some bone was removed with them, it often happened that œdematous growths within the *opened cells or holes of the middle turbinates* would be observed—a true sign of previous ethmoidal inflammation the secretion in these cases was scanty on account of the advanced degeneration of the glands and vessels, so that it was practically hidden behind the tumours In the same manner a production of polypi would often persist for a long time after the cessation of the ethmoidal suppuration. The rhinoscopic appearances in sphenoidal suppurations alone scarcely differed from the normal, those of ethmoidal inflammation varied according to the different pathological forms of labyrinthine disease. The closed or ethmoidal empyema proper produced an expansion of the affected part of the labyrinth or its appendages (the bulla ethmoidalis or middle turbinal) and gave the aspect of a bony bladder within or by the side of the concha. Latent open suppuration might exist without any visible effect, but in the majority of cases there were smaller or larger hyperplastic growths on the middle turbinal and very often the participation of the deeper tissues became evident by the appearance of a considerable extension of a concha, the surface of which was covered with granulations or polypoid degenerations, so that it occasionally appeared double Distinct though these appearances might be, the diagnosis would never be sure until the presence of pus within the cavities was proved. For this purpose the probe was used. Roughness or caries of the bone or the presence of the soft or loose necrotic particles might be found but all these signs were of but secondary value. As to the position which the probe had to occupy in the sphenoidal cavity and the distance of this cavity from the anterior nares, he said that it was impossible to give absolute measures of distances and heights of the ostium, as these differed too much to allow of any certainty In general the ostium was situated opposite to the posterior end of the upper turbinated body and that the probe was in the proper position would become evident only by the impossibility of moving it downwards. The same was true as regarded the control of its position in the ethmoidal cells, in contradistinction to the recessus spheno-ethmoidalis (for cells of the upper meatus) and to the middle meatus (for anterior cells) The former could be reached from the recessus by a probe with a lateral bend the latter from the middle meatus on both sides. A division of the sphenoidal antrum by a vertical or horizontal septum could thus be recognised by the probe and had a very *great practical* value. *Whether this deformity* was caused through the formation of a septum or by the dislocation of a posterior ethmoidal cell could scarcely be made out in the living subject. Congenital abnormalities in the cavity might render their exploration quite impossible. For the diagnosis of disease of adjoining cavities the application of a temporary tamponade was of the greatest value. In some cases to get sufficient room it was necessary to make a resection of the anterior part of the middle turbinal and in ethmoidal suppurations this preliminary operation could rarely be avoided for proper treatment In sphenoidal suppuration this operation was only exceptionally demanded. Whatever cavity might be thus explored suppuration in it would not be decided unless pus was running down along the probe or could be drawn or washed out by a cannula. The seriousness of the disorder and the further indications for its treatment would become evident by testing the state of the bone and soft parts with the probe. Diagnosis would naturally be much facilitated by some of the signs thus obtained especially when the probe got immediately through the mucous tissue into cavities by the feeling of loose bone, &c. In doubtful cases the examination of both sides of the nose should never be forgotten, as it was possible that an empyema of one ethmoidal labyrinth might discharge on the other side through a septal perforation. Lastly a warning was given against wrongly diagnosing ethmoidal and sphenoidal suppuration when a *malignant growth was really present* the early stages of which might simulate suppuration with inflammatory hypertrophies. Only great experience and attention to the whole course of the disease could prevent such an error

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DERMATOLOGY

THURSDAY JULY 31ST

Professor T C. GILCHRIST (Baltimore) read a paper on

Blastomycetic Dermatitis

It was preceded by a lantern demonstration of a large number of slides illustrating the occurrence and the life-history of the blastomyces and the organism of so-called protozoic dermatitis" Professor Gilchrist commenced by describing a case which had been recently under his care The patient was a negro (and this point was noteworthy because the disease had not previously been described as occurring in a negro) in whom there was a marked family history of phthisis. For the last six years he had been in the penitentiary for manslaughter and evidently the disease had been contracted there. About two years ago a small sore appeared on the abdomen; it caused no pain It enlarged gradually until it formed an ulcer measuring nine centimetres by 16 centimetres and a second ulcer was also present nearly as large. The lesion was evidently superficial, for the skin could be moved over the deeper parts, the edges were studded with minute abscesses For one month there had been swellings in the groin and right axilla. The temperature varied, rising as high as 101 5° F The lungs were unaffected The blastomyces was present and easily found. Rapid improvement occurred under large doses of potassium iodide (100 grains three times a day) Up to the present 33 cases of blastomycosis of the skin had been described (22 in men and 11 in women) and five cases of protozoic dermatitis Of all these only two had been seen in Europe, and of these one came from America It might therefore be looked upon as an American disease Blastomycosis was a chronic infectious disease of the skin occurring between the ages of 20 and 60 years It began as a papule, then forming a wartlike lesion which gradually spread It was superficial and painless and tended to heal, forming scars The edge of the patches was well defined and raised, and contained many minute abscesses The disease was auto-inoculable, for the patches were generally multiple. The blastomyces measured about 12 μ in diameter, it was double-contoured, and it contained no nucleus In most cases there was no glandular enlargement and only two cases had proved fatal. Protozoic dermatitis resembled the blastomycetic dermatitis in many ways, but the organism increased in number by sporulation instead of by budding and for this reason it had been thought that the organism was a protozoon, but there were so many points of resemblance between the two diseases that in all probability the two were produced by organisms which were closely allied

The PRESIDENT (Dr H A. G BROOKE of Manchester) said that he had derived much pleasure from the paper and demonstration and was proud that Professor Gilchrist was an *alumnus* of the Owens College —A formal vote of thanks to Professor Gilchrist for his paper was moved by Mr MALCOLM MORRIS (London), seconded by Dr H. RADCLIFFE CROCKER (London), and carried unanimously

A paper was communicated by Dr J H. SEQUEIRA (London) and Mr H. BALEAN (London) on

Lupus Erythematosus

It was based on the observation of 71 cases, of whom only 11 were males The disease began early eight cases commencing between 11 and 15 years of age In 34 cases there was a family history of tuberculosis and two cases of lupus erythematosus occurred in one family Tuberculosis was present in 18 cases There was a history of scarlet fever in five cases Two forms of the disease occurred, the discoid and the disseminated, but these varieties merged into one another In 11 cases the disease commenced in multiple small foci. Local irritation appeared to be an exciting cause, for instance, one case developed after the application of a poultice. Out of 27 cases in which the urine had been examined albuminuria was present in seven, and it was especially frequent in the disseminated cases The disease appeared to affect special vaso motor areas The authors concluded that lupus erythematosus was not bacterial in origin but was caused by a toxin circulating in the blood and acting on the capillary vessels They thought that it was not possible to say that the toxin was the product of tuberculosis

Dr CROCKER mentioned that he had seen several cases of the disease in which albuminuria was present.

Professor GILCHRIST pointed out that they must not too readily conclude that a disease was due to a toxin because it was not possible to find a micro-organism in it. It had been shown that there were microbes sufficiently small to pass through porcelain filters.

Dr GRAHAM LITTLE (London) thought that a great argument against lupus erythematosus being due to a toxin from tuberculosis was to be found in the fact that the disease was certainly rare in the Brompton Hospital for Consumption

Dr J M H MACLEOD (London) read a paper on

The Histological Changes in the Skin after Light Treatment

This paper was illustrated by some excellent diagrams In all the cases examined the typical reaction had been present. The first change had been the occurrence of an œdema round the margin of the tubercle This was followed by an œdematous destruction of the fibrous elements present and the plasma cells became vacuolated and the nuclei disappeared The giant cells were attacked in the same way An important point was that the cells showed a definite tendency to become elongated and to form fibres and thus lead to cicatrisation

The section then visited the Manchester and Salford Hospital for Diseases of the Skin, where the President and Dr G H. Lancashire demonstrated the instruments employed and the mode of application. There were one large Finsen lamp for four patients, two small lamps, two apparatus for the production of x rays, and a high frequency current apparatus. Many cases, chiefly lupus, were seen which had been under treatment The installation was very complete and up to date

FRIDAY, AUGUST 1ST

At the commencement of the meeting the PRESIDENT referred to the great loss which dermatology had sustained in the recent death of Mr W Dale James of Sheffield who had borne many afflictions with great fortitude and resignation

Psoriasis

A discussion on psoriasis was introduced by Mr MALCOLM MORRIS (London) He said that of psoriasis it might truly be said that its causation was unknown, its pathology was obscure, and its treatment was unsatisfactory A convenient starting-point for a summary of the progress made in recent years presented itself in the discussion on psoriasis which took place at the annual meeting of the British Medical Association in 1893 On that occasion Dr H Radcliffe Crocker suggested that the disease might be the outcome of two factors, the primary lesion being vaso motor in character and a parasite being a secondary but necessary agent Mr J Peeke Richards, while medical officer of the Hanwell Lunatic Asylum, observed that psoriasis occurred much more frequently in cases of perverted nervous action, such as delusional insanity, than in cases of lessened nervous force, as dementia, while Dr J J Pringle expressed himself in favour of the trophoneurotic theory of its origin On the other hand, Dr Norman Walker was inclined to think that it was parasitic. As to the treatment, the speakers expressed views almost equally divergent. Six years later the distinguished President, Dr Brooke, in the most lucid and complete monograph on psoriasis that existed in their language, confessed that, "notwithstanding researches in every direction—social, statistical, chemical, microscopical, and bacteriological—the cause of psoriasis is still unknown" Reviewing the various opinions on the subject he grouped the hypotheses under three headings—namely, humoral, neuropathic, and microbic It was obvious that there were serious objections to all three hypotheses taken singly The humoral theory postulated that all sufferers from psoriasis were the subjects of gout, rheumatism, or some other dyscrasia, but clinical experience showed that this was true only of a small minority The neuropathic theory also rested on a relatively slender foundation of facts, and the parasitic theory was also open to the objection that it had so far been impossible to fix the responsibility for the disease on any particular micro-organism, and attempts at artificial inoculation had failed As to the pathology of psoriasis there was almost as much discrepancy of opinion as there was in regard to its causation and observers were not agreed even as to the primary lesions. All the more recent writers recognised that there were present (1) an increased production of epithelium, (2) an abnormality in the process of cornification of the epithelium, and (3) a dilatation of the blood vessels The most important recent contribution to the pathology of psoriasis had been by Dr W J Munro He believed that the earliest lesion was the formation of a small "dry" abscess at the surface of the horny layer and he looked upon the hyperkeratosis as a local defensive process against the abscess These researches, however, threw no light on the origin of the disease With regard to the pathological question generally it might be said that the opinions of dermatologists were at present pretty equally divided between the neuropathic and the parasitic theories These theories were not mutually exclusive, for the two factors might coöperate. It was conceivable that the true explanation of the origin and nature of the disease was to be found in a combination of causes, local and general Thus psoriasis might begin as a local response to irritation set up by the presence of a local agent or condition and constitutional disturbance caused by the production of toxins and, lastly nervous disorders might become developed as a consequence of profound toxæmia. He could not help thinking that if the primary etiological factor were a parasite it would not have eluded the persevering search that had been made for it in lesions so superficial as those of psoriasis The development of psoriasis on the site of vaccination which had sometimes been noted, and of which he had himself seen several cases, might, in view of the acknowledged failure of inoculation experiments be explained by the local irritation producing the condition of neuro-vascular disturbance necessary for the production of the specific toxin. If the poison were introduced with the vaccine lymph or into the wound afterwards vaccination would more often be the starting point of psoriasis than it was. Heredity probably did play some part if not in the actual genesis of the disease at least in the production of a type of skin favourable for its development. The greater frequency of psoriasis in Europe, and especially northern Europe, compared with America seemed to show that climate had some etiological influence. It had long been taught by French dermatologists that there was a relation between osteo-arthritis and certain other joint affections and psoriasis. Mr Morris had seen several cases in which joint affections existed concurrently with psoriasis There were several types of psoriasis (1) there was the simple uncomplicated form with occasional outbursts of activity seen in young persons without any sign of impaired health (2) there was the acute rapidly spreading form associated with headache, asthma, and other nervous symptoms (3) there was a form occurring in connexion with osteo-arthritis associated with severe constitutional disturbance (4) there was psoriasis which passed into pityriasis rubra and (5) there was a simple but atypical form which resembled seborrhœa. As a general rule no internal medication should be employed except in response to a definite constitutional indication. Arsenic was worse than useless in acute cases. When hyperæmia or active inflammation was present antimony was called for As to local treatment, bactericides applied to the affected parts gave the best results. If there was no hyperæmia the most efficacious was unquestionably chrysarobin. Tar in the form of liquor carbonis and mercurial ointments of moderate strength were also serviceable. In severe forms associated with joint affections arsenic internally was useful In one very severe case an exclusively meat diet, washed down by copious draughts of hot water proved very effective. In the type of psoriasis in which there was a tendency to the development of pityriasis rubra all irritating remedies must be at once discontinued Very weak preparations of tar were useful and if the attack was severe the patient must be kept in bed. In psoriasis of the seborrhœic type the best application was sulphur In slight cases of psoriasis complete destruction of the early lesions should be arrived at and the best security against relapses was the complete removal of all remnants of the disease

Dr LESLIE ROBERTS (Liverpool) expressed the opinion that psoriasis was not microbic but due to a poison He drew attention to the great resemblance of its action to that of arsenic. He was inclined to think that the disease was associated with the abnormal action of some gland, probably the thyroid gland. The course of the disease was probably modified by seborrhœa. He had not much confidence in internal treatment, and of internal applications he considered chrysarobin to be the best. Inunction of simple ointments, continued for a long time after the apparent cure of the disease prevented recurrence.

Mr GEORGE PERNET (London) considered the disease to be parasitic. For all ordinary cases he employed the internal administration of salicin which had been first advocated by Dr Radcliffe Crocker Arsenic was only to be employed in chronic and resistent forms. He had known a case treated by the exclusively meat diet which grew worse

Dr A. EDDOWES (London) looked upon the disease as microbic. He thought there were many drawbacks to the use of chrysarobin and he considered that painting the patches with liquor carbonis detergens was the most effective local treatment.

Professor GILCHRIST had examined many early lesions of psoriasis but he had never seen "dry" abscesses in the horny layer He had seen much benefit from the administration of 40 grains of potassium iodide three times a day Salicylic acid was a very effective local application. Treatment should be continued for from 12 to 18 months after apparent cure

Dr ARTHUR WHITFIELD (London) had found nothing characteristic in the histology of psoriasis. He did not believe in dry abscesses, for leucocytes could not wander in a dry substance. These so-called 'dry abscesses occurred in lichen planus and other scaly lesions. He did not say that the disease was parasitic, but the great tendency to recur if any patches were left uncured was a distinct point in favour of a microbic origin.

Mr WILLMOTT EVANS (London) wished to endorse what Mr Pernet had said as to the great value of Dr Crocker's treatment by salicin. All the members of the salicylic acid group were useful but salicin was probably the best. For persistent patches of psoriasis he thought the best application was an ointment of chrysarobin 50 per cent. with 25 per cent. of salicylic acid of course this should only be applied over a small area.

Dr NORMAN WALKER (Edinburgh) said that he had seen good results from the administration of extract of thyroid gland in combination with arsenic.

The PRESIDENT said that the variety of opinions as to the cause of psoriasis reminded him of the theories of the etiology of phthisis before the discovery of the tubercle bacillus.

Seborrhœa

Dr NORMAN WALKER read a paper on the above subject He pointed out that there was a want of agreement as to what was meant by seborrhœa some confining the term to the dry form and some to seborrhœa oleosa. He thought that in this country the name was chiefly used for the dry form and that when it was intended to speak of the oily variety the adjective oleosa" was appended. The scales in seborrhœa were not dried secretion but were derived from the epidermis It must be recognised that the sweat glands secreted a fatty" fluid With regard to seborrhœa corporis he thought that its relation to seborrhœa capitis might be very aptly compared to the relation subsisting between tinea capitis and tinea circinata. For instance, while on the body a tinea might form a definite inflammatory ring on the scalp it formed dry scales. The amount of dermatitis present in seborrhœa varied greatly Was seborrhœa oleosa the same disease as seborrhœa sicca? It was very difficult to speak with certainty It seemed certain that with the oily form baldness was not so common but the hair tended to turn grey

The PRESIDENT said that it was generally agreed that seborrhœa was certainly microbic in origin and that fact gave them a definite basis from which to start.

Dr T COLCOTT FOX (London) thought that Sabouraud had done great service in this matter and that endless confusion would arise unless they distinguished the oily from the dry form. In the oily form the oil could be definitely seen to exude from the pilo-sebaceous orifices.

Dr LESLIE ROBERTS pointed out that fat was excreted by the skin in two ways In the case of the sweat glands it was a pure secretion, but in the case of the sebaceous glands it was an exfoliation He thought that oleorrhœa" would be a useful term for excessive fatty secretion from the skin.

Professor GILCHRIST referred to some researches of his on a bacillus in acne vulgaris and its relation to Sabouraud's bacillus.

Dr WHITFIELD pointed out that the patulous glands on the nose were not necessarily the openings of hair follicles only and he considered that they might be looked upon as cloacal apertures of hair follicles, sebaceous glands, and sweat glands.

Mr. PERNET read a paper on

The Tumours of Xeroderma Pigmentosum

The case was sent to Dr Crocker at University College Hospital in September 1901 The child was eight years old and had been first deeply freckled in 1895 The condition had been steadily getting worse and the face was the part most affected being the seat of a general desquamating dermatitis and thickly studded with pigmentary macules On the face there were two growths a small one just below the left lower eyelid and a large flattened sessile mass between the eyes of about the size of half-a-crown Its surface was irregular and crusted. The growths were removed in the country and the larger one was examined. Masses of epithelial cells pervaded the corium but no connexion could be traced between these cells and the surface epithelium There were indications favourable to the idea that the new growth was derived from hair follicles. Mr Pernet referred to other descriptions of tumours occurring in xeroderma pigmentosum.

INDUSTRIAL HYGIENE AND DISEASES OF OCCUPATION

THURSDAY, JULY 31ST

Dr C A. GREAVES (Derby) read a paper opening a discussion on

The Granting of Certificates of Fitness to Children and Young Persons employed in Factories and Workshops

He stated that he considered that it would be superfluous to demonstrate the propriety of the policy of medical certification but for the probability that outsiders might note the proceedings of the section and the fact that in 1891 an attempt to abolish certifying originated chiefly in Lancashire. He said that he would therefore note briefly the grounds on which this limitation of free trade in labour rested as a preventive of injury to urban workers Adverting shortly to the course of factory legislation, from the Apprentices' Act, to the comprehensive enactment of 1901 and the important part played by Lord Shaftesbury in the reform of a system under which children even at the age of five years could, prior to this legislation be subjected to industrial slavery, he said that it was something of a shock to him to recall that in 1868 (when he entered on the certifying function) children of the age of eight years could work half time in mills Since then the hours had been shortened, the ages raised, the work regulated, and education enforced, while the half-time system was almost obsolete Parents and public opinion were more enlightened, but if inspection was withdrawn the helpless would still go to the wall The importance of medical knowlege was formerly recognised by the appointment of Dr Robert Baker with Mr Alexander Redgrave as conjoint chief inspectors of factories, and then after an interval of lay superintendence the selection of Dr B A. Whitelegge opened a new vista to preventive medicine. Why, then, was medical inspection essential for the protection of the workers? It was impossible for the present staff of inspectors, with their many duties and wide districts, to give adequate supervision to the multitude of young hands—their visits were necessarily rare while those of the medical man were frequent. The objects of requiring certificates might be classified as (1) avoidance of injury to the individual as to health, growth, or bodily capacity, (2) protection of the fellow workers of whatever age or sex, (3) preserving legality and thus protecting the employer, and (4) checking unfair competition and so protecting the conscientious from the unscrupulous manufacturer The protection of the individual on the one hand and the fellow workers on the other could not be secured without medical knowledge and judgment. In considering reasons for refusal of certificate the nature of the work was always considered, and it was satisfactory to note that the Act of 1901 allowed the certificate to be qualified by conditions as to the work and gave the surgeon power to inspect the processes Amongst the grounds for rejection that might be specified debility, malnutrition, deformity, rickets, joint disease, spinal curvature, sore eyelids, and distance from home chiefly concerned the young person examined, abscesses, ulcers, bone sinuses, scrofula, phthisis, ophthalmia, bad sight, deafness, and imbecility might also involve injury to the fellow workers, while the fellow workers were also in view in the case of eruptive fevers scarlatinal desquamation, mumps, whooping-cough, vermin and dirt, ringworm and other skin diseases, and non vaccination. When in 1891 the opponents of the medical examination alleged that there were few rejections recorded he (Dr Greaves) made a return of 2000 in 23 years in Derby alone Their frequency had diminished but it was undoubtedly still necessary to safeguard the helpless in the struggle for wealth. Referring to the desirability of requiring certification in workshops, he remarked that the absence of steam or other mechanical power was an inconclusive index of healthy employment and the Secretary of State had power to require medical examination in any class of workshops Section 65 a permissive clause allowing workshop owners to obtain medical certificates "if they think fit," was a dead letter as it involved some pecuniary outlay The question as to the practicability of fixing a standard of physical fitness for work must be answered in the negative, neither height, weight, nor muscular strength would be satisfactory, and different employment would require different standards. Fitness for specified work could only be properly decided by an examiner with medical knowledge and experience, an independent position, and moderate sagacity In conclusion, Dr Greaves entered an energetic protest against the statutory provision which in certain cases enabled the employer to demand a certificate of fitness from the medical man at his own consulting room and to tender 6*d* as a fee for this medical service

Professor C J WRIGHT (Leeds) said that he looked for an extension of the use of certifying surgeons In Leeds he saw hardly anything of half time labour The raising of the age limit had been very beneficial, not only as regarded half timers but also as regarded young persons under 14 years of age He looked on the preventive aspect of the Act as the most useful. He asked whether it was for the public good that a certifying surgeon should receive such poor remuneration for making his examination.

Dr A. CAMPBELL (Dundee) contributed a paper with special reference to the system of half time employment. Referring to the recent legislative changes under which a young person could work full time at 13 years of age after having procured an exemption certificate from the school board, Dr Campbell said that his experience was that however popular this change in the law might be it was not favourable to the health of either the children or the young persons He thought that if by an Act of Parliament all young persons and children could be kept at school till they attained 15 years of age much might be said in its favour Most educationists, and especially those who had had experience of both systems, agreed that the half day system was the better and more natural one. From personal experience and careful watching during many years he was convinced that children improved steadily in their health and strength under the half-time system. By admitting them into half-time they were taken away from the long hours in the day school which were probably the chief cause of their white faces and wearied looks, and it insured their being regularly fed and gave them sufficient time for play The diminution in the number of half timers in recent years could be accounted for by the way in which they had been treated In schools they were looked upon as of a different caste and sympathised with and the system was spoken against by a sentimental public who had not taken the trouble to inquire into the whole bearing of the case The great value of the certificates of fitness as given by certifying surgeons after professional and personal examination as to health and fitness, and the power and influence which had been exercised in safeguarding the young persons and children from being worked in factories when unfit, had long been satisfactorily proved. This certification being so necessary in factories it was in many respects more so in certain classes of workshops, and so long as certifying surgeons had not the same power conferred upon them of examining young persons and children employed in workshops as they had those employed in factories only a portion of the young persons and children were being cared for and protected as they ought to be.

Dr J HOLMES (Radcliffe) agreed that the extension of the system of examining children was advisable

Dr T F YOUNG (Bootle), Mr C W THORP (Todmorden), and Mr H. HAMMOND SMITH (Uxbridge) also joined in the discussion.

FRIDAY, AUGUST 1ST

Dr JAMES NIVEN (Manchester), in opening a discussion on

The Relation of Phthisis to Factory and Workshop Conditions,

said that a study of the supplement to the Fifty-fifth Annual Report of the Registrar General revealed that in 19 out of 44 counties, two of the 19 being coal mining counties and the rest chiefly agricultural, the death rate for females exceeded that for males This was the relation which would be expected were infection chiefly to occur in the house In nearly every large town the death rate from phthisis for males exceeded that for females—in many considerably When the occupational death rate from phthisis for males was analysed by using the figures given by Dr Tatham in his Analysis of Occupational Death rates, Part II. of the above mentioned Supplement, it was perceived that the high occupational death rate from phthisis for males in large towns was due to a variety of causes, amongst which the habits of particular classes as regarded intemperance and their circumstances and place of abode were the most considerable. The very great influence of the circumstances and places of abode was well illustrated by the three main statistical divisions of Manchester These factors also entered largely into the relations of phthisis to factories and workshops. There were also many occupations in which the work itself was adequate to produce a high death rate from phthisis, but the occupation might be only partly causal. A predisposition might be produced at the workshops or the infection might take place in the home, in the public house, or in some social place of resort. The measures needed were multiform but it was requisite to consider only the more important. 1. Compulsory notification of all cases of tuberculous phthisis was required so that every operative might be instructed in the precautions needed to protect his fellow workmen and assisted to carry them out efficiently Voluntary notification was almost equally useful however in the poorer parts of the city 2. All spitting in workshops should be prohibited. This was easier to state than to effect, but with a great effort it might be managed The first thing was to bring home to masters and operatives the vital necessity for this measure. Men requiring to spit should carry a pocket spittoon. 3. Increased efforts should be made to secure systematic wet sweeping as far as possible daily in workrooms. The dry sweeping usually practised was liable to do much harm if spitting went on It would be an additional safeguard if the rooms were dredged with a disinfectant, as in the case of wool-sorters under the special regulations. As regarded the lighting of workrooms, it was essential that there should be sufficient light by which to see to cleanse the workrooms in all parts though more than that would be beneficial If lighting must be artificial either electricity should be used or gas If gas was used it should be regarded as essential to have intensified lights in which complete combustion was the case, with reflecting shades and tubes connected so as to carry off the waste gases and aid ventilation. It must be carefully considered what was aimed at by ventilating appliances In schools clearly it was the removal of respiratory impurities, but in workshops it was very often a question whether the removal of dust was not the more important object. It was not easy to see how to deal with the more generally diffused dusts in carding rooms, iron turning marine stores and so forth. Various ideas presented themselves, such as supplying fresh air to the operatives by special tubes and ventilation on the plenum system with removal of the dust-laden atmosphere from below but these did not appear at present to be within the domain of practical politics. It was essential that public houses should be placed under strict legislation in respect of cleanliness and that spitting in public-houses should be prohibited. It was partly in the workshop but to a much larger extent in public-houses that the inhabitants of common lodging houses propagated amongst the industrial classes tuberculous phthisis which made such ravages amongst them Hospital provision was needed at the expense of the rates for the removal of consumptives from crowded homes. But in regard to phthisis directly arising in the course of work he was satisfied that, having regard to occupations generally the two most urgent requirements were the suppression of spitting and the maintenance of strict cleanliness, the workrooms being wet-swept.

Dr G C MCLEARY (Manchester) contributed some remarks on the prevalence of phthisis amongst laundry workers. He said that the conditions of employment were subject to imperfect legislative regulations. The work was often carried on far into the night, Sunday work was not prohibited and persons below 16 years of age might be employed without the certificate of fitness for employment without which no such person might work in a factory The habit of intemperance which was unfortunately common amongst laundresses also weakened the resistance of the tissues to the attack of the tubercle bacillus. Finally there was the risk of infection in the sorting room Phthisis as a disease of comparatively frequent occurrence amongst laundresses was not easy to prove inductively The death registers were of no avail, as it was a common practice in registering the death of a female to mention the occupation, not of the deceased, but of her father or husband This practice was much to be deplored and it was to be hoped that the Registrar General would take steps to institute a system of death registration which would enable statistics to supplement the valuable information already possessed with regard to male occupational mortality by information which would be of almost equal value concerning diseases of occupation in females

Dr ARTHUR RANSOME (Bournemouth) agreed with Dr Niven that the public-house was a great factor in the spread of consumption though he would also include theatres and music halls and possibly places of worship.

Dr W M ROBERTSHAW (Stocksbridge) contributed a paper on Ganister Miners Disease. In discussing this subject he said that it was well to say something about ganister itself. In certain manufacturing processes and especially in those connected with certain Sheffield trades, a heat resisting substance was required which would stand very high temperatures. Such a substance was ganister a hard, close-grained mineral, consisting mainly of silica, which it contained to the extent of 95 per cent. Ganister occurs principally in the South of Yorkshire and more particularly in that part of the Don watershed between Penistone and Sheffield, where it is associated with the lower coal seams. In the mining preparing and manufacturing of this mineral the disease which had been called ganister miners disease or ganister disease was produced. For many years the disease in the Stocksbridge urban district passed unnoticed but the number of deaths occurring amongst the miners at the ganister works drew attention to the condition. Ganister being extremely hard it was impossible to mine it with the pick. It was therefore blasted with dynamite. On being brought to the surface it was crushed in "breakers," and then ground into a powder in which state it was used for lining Bessemer converters, making bricks &c. Two main sets of workmen were affected by the dust—the miner who got the mineral and the surface workman who prepared it and manufactured it into bricks &c. In the mining process a hole was first drilled in which the dynamite was placed. The workmen having retired the dynamite was fired by time fuse and percussion cap Dust which consisted of particles of ganister was produced in boring the hole, and when the shot was fired the whole was disturbed and the place reeked of it. Dust was produced by the breakers and grinders and in that way surface workmen became affected. There had been and still was, a great difference in the certifying of deaths of workers in this industry while the majority of practitioners certified the cause of death as phthisis a few had been more correct and had used the terms fibroid phthisis, pneumonokoniosis " or ganister miners disease. This was important, because unless it was taken into consideration many deaths really due to this condition might be overlooked With regard to the relation of the disease to tuberculous disease Dr Robertshaw was of opinion that the cases might be best classed under three heads: (1) those in which after the fibroid change had damaged the lungs true tuberculous phthisis played the chief part (2) those in which tubercle was found but which was only very secondary to the fibroid disease and (3) those in which there was no tubercle at all the disease being entirely due to the fibroid change brought about by the ganister dust. The majority of cases were found in the last two classes. The following suggestions were likely to do a good deal towards stamping out this scourge. No miner should go into the workings for half an hour after the blasting shot had been fired A limit should be put on the length of time during which a man was permitted to work at any of the dangerous branches of the ganister industry and such improved conditions (such as better ventilation) as obtained at present should be continued and extended.

Dr T WATTS (Hyde), speaking on shuttle threading as a source of infection in phthisis said that it constituted one—if not the greatest—of the dangers of the cotton manufacturing process. The method at present in vogue amongst weavers of threading shuttles in looms consisted in what was popularly known as sucking up the weft which was carried out as follows. When the shuttle ran empty the weaver put a new cop in and the free end of the weft was then drawn through the eye of the shuttle by suction, the shuttle being placed between the weavers lips for the purpose and by means of a forced inspiration this weft was drawn through the eye and unfortunately whatever else was in the shuttle was drawn into the mouth and respiratory passage When it was remembered that a weaver in charge of three looms—which was most usual—performed this little operation on an average once for each loom every five minutes which worked out at 36 times an hour or 360 times during a working day of 10 hours it would readily be seen that any injurious effect, however slight, was very much increased by the number of times that it was repeated If a shuttle taken from a working loom were examined in the cavity of the shuttle, especially about the eyelet, there would be found a quantity of dust and this on examination would be found to consist of "size" and cotton fibres A weaver nearly always used the same looms and consequently the same shuttles, but a weaver suffering from incipient phthisis had frequent break downs and was away from her work, at which times her looms were taken charge of by others whom in this way she might infect What had been said with regard to tubercle applied also to syphilis, diphtheria, lupus, &c, but it was in the risk of tubercle infection that the greatest danger lay His attention had lately been drawn to a simple and effective means of threading a shuttle by means of an indiarubber pump which could be worn secured to the bodice by means of a safety pin. This simple little instrument did away entirely with the objectionable and unhealthy method at present in vogue He had found it difficult to get the older weavers to use it, but children and young persons took readily to it, and every child or young person when first commencing work in a weaving shed ought to be warned by the certifying surgeon at the time of his examination of the dangers of drawing the weft through by means of the mouth and to be trained from the first to some other method of threading the shuttle

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ETHICS

Friday, August 1st

Sir Victor Horsley (London) opened a debate on

The Organisation of the Profession

and advocated the establishment of a political bureau. There was, he regretted to say, a distinct feeling that medical men had nothing to do with politics, yet it was evident that legislators had a great deal to do with medical men Indeed, every member of the profession was a servant of the State Therefore, it was necessary that the profession should watch and seek to influence legislation where their interests were concerned. The British Medical Association had, it was true, appointed a Parliamentary Bills Committee, the members being selected by the branches It became a watching committee which criticised but did nothing effective The late Mr Ernest Hart did a good deal of work personally by interviewing Members of Parliament. The old constitution of the Association appeared to provide for political action but in reality it only relied on the generosity of the editor of its journal who had to devote his time gratuitously so as to save the situation The new constitution made better provision There was to be a Medico political Committee which was to study prospective legislation and to report thereon to the meeting of representatives, and the latter would determine what should be the policy of the Association Ideas and suggestions would come in from the divisions and be approved or rejected by the profession as a whole But it was further necessary to secure that these views when once ascertained should be heard in Parliament and impressed upon the Government When this was done systematically the Government would no longer treat the profession with contempt At present the profession was not properly represented in the House of Commons by the medical members

Dr Dawson Williams (London) having been called upon to speak said that the question raised was really very urgent Formerly medico political work had been done in a very casual manner and this by persons who had many other duties to perform This was notably the case in regard to his predecessor, Mr Ernest Hart. Now, Sir Victor Horsley was doing this work, studying the likely effect of Bills, &c This should be done by others and then submitted to him There were three stages in legislation which should be watched by some person especially appointed for that purpose who would be able to keep all the threads in hand and be familiar with every stage of the legislation They had to decide first what they did want and, secondly, what they did not want It was necessary to note and to ascertain the feeling within the ranks of the profession and then to watch and sometimes to counteract the agitations outside the profession Thirdly the need of action did not cease when a law had been enacted It was no easy matter to understand the effect of a new law. Under every law the methods of its application had to be carefully watched and amendments were often necessary There must be an authorised embodiment of the opinions of the profession to suggest such amendments to orders under the law

Dr Redmond protested that medical practitioners could not take political action, for they had good patients in both camps What was wanted was something like the Incorporated Law Society which would fix a minimum fee and thus enable the young practitioner to earn a living wage

Dr Major Greenwood (London) protested that the object in hand would not be promoted by abusing the medical men who were in Parliament.

Sir Victor Horsley explained that he had not said "all" the medical Members of Parliament

Mr R. H Wolstenholme (Salford) expressed some anxiety lest the political official should become the leader instead of the representative of the profession. He thought that medical men should take a full part in public life and do their duty to the community Political practitioners were the best of canvassers and if there were more of them they would have greater influence over the legislature

Mr E H. T Nash (Accrington) explained how medical practitioners could influence their local Member of Parliament and how in some instances they had done so Mr Whittaker had now abandoned a large practice so as to become an organiser for the Association He would do what was necessary The Association was wealthy and could pay sufficient to have this well done.

Mr John Wallace pointed out that Mr Whitaker would *not engineer anything but would carry out instructions* and put forward the views of the whole profession They would have to forget their party views where the interests of the profession were concerned

The President (Dr S Woodcock of Manchester) here rose to explain that the appointment of Mr Whitaker was but temporary and only an experiment, which, however, he hoped would prove successful and permanent. The late Sir Frank Lockwood had said to him "You doctors are a surprising lot of fellows Why do you not unite and agree as to what you want? With more than 20,000 men spread over the whole country and exercising great power you could get all you want. Look at the trades unions, they dictate terms"

Mr J S Whitaker (Great Yarmouth) pointed out that each division would deal with local matters and report as to how they were affected by Imperial legislation The public were bewildered, they wanted to know but could not ascertain what were the opinions of the profession There must be a double movement—from the circumference to the centre and from the centre to the circumference What came from a division must be reported by the council to all the divisions and thus the opinion of the whole Association should be known The duty of the organiser was not to initiate but to reflect the prevailing opinion Then there was the question of the relations of medical men to the political parties. Were they to follow the Irish plan of supporting either party? This was also the principle on which the liquor trade had acted He hoped that medical men would not say that their profession was their politics. They could preserve their own opinions on general political questions, but questions effecting the profession affected the general public. They opposed the Midwives Bill in the interests of the community The advocates of temperance sometimes put temperance before party and sometimes party before temperance There was much that could be done by persuasion and by the accumulation and classification of facts

Mrs. E Garrett Anderson (London) thought that the future did not depend on organisation, though it was a good thing The East Anglian branch of the British Medical Association had discussed the Midwives Bill, appointed deputations, and had usefully brought their influence to bear If all the other branches of the Association had done the same the result would have been very different.

Sir Victor Horsley, in reply, thanked Dr Dawson Williams for his lucid explanation of the difficulties to be faced in carrying on effective medico political work He hoped that Dr Redmond would bring a schedule of fees to the representative meeting at Swansea next year so that they might do what the lawyers had done. Dr Greenwood laboured under a misapprehension The speaker had not meant that medical men should conspire with a medical party, but he did aise as a question of principle the manner in which hey should deal with Members of Parliament and urged hat it was necessary to mention their names if it was esired to influence them. It was very well to talk of onciliation in reality it meant full surrender Members f Parliament had their own axes to grind. They would not isten to representations that were not backed by force. It vas not possible to conciliate, it was only possible to frighten Ir Nash and others had shown what could be done locally nd it would be the duty of the divisions to educate their Jembers of Parliament. Then there was the question as to ow far the new constitution converted the British Medical sociation into a trade union. There was, however one ital difference. The trade unions only took in hand the vages question. The medical profession had always aken into consideration ethical conduct. If a member lisgraced himself he was arraigned The medical profession lso worked more for the general public than the trade nions But in regard to united action and mutual help nd support he hoped that the members of the profession vould imitate the trade unions.

Dr E. JEPSON (Durham) read a short paper on

How to Form a Medical Union.

Ie gave a history of the County of Durham Medical Union[1] nd insisted that the leaders should make visiting tours nd that there should be well-defined punitive measures n the north they were studying how to establish a minimum ee and how to do away with contract work altogether

Dr J H HUNTER (South Shields) read a paper on the ame subject and urged that the cost of qualification entitled he practitioner to a competent livelihood and yet many ailed to secure enough to provide for themselves and amilies. This was not due to improvidence or to the overcrowding of the profession but to sweating of medical men. After quoting THE LANCET Special Commissioner s reports to how that practitioners received but from *2d.* to *4d* er consultation he urged that organisation was imperatively needed. The resident medical officer of the ocal hospital might often be useful as a neutral organiser Local practitioners should meet privately tabulate their grievances canvass the profession and when the majority had agreed to form a union then a public meeting should be convoked and the organisation formally constituted Those who remained outside would join in time. By following trade-union tactics they were doing nothing derogatory to their dignity, on the contrary it was the only practical means of defending the dignity of the profession

Dr ALFRED COX (Gateshead) raised the very important question as to what was going to become of the medical unions, for they had acquired some vested interests which they might not feel inclined to abandon so as to become divisions of the newly constituted British Medical Association. These unions would have to appeal to such of their members who were not also members of the British Medical Association to join the latter body and to pay 25*s.* a year The speaker thought that all local and special organisations should be sunk in favour of the one great Association. Yet some of these smaller bodies would die hard They had nevertheless nothing to lose. There was no reason why the South Shields Medical Union which had already abandoned its local independence so as to become a branch of the County of Durham Medical Union should not now become a division of the British Medical Association

Dr T LAFFAN (Cashel) complained that there were still back-door entrances to the profession which should be closed so as to prevent overcrowding

Surgeon Major G K. POOLE (late I M.S.) thought that the profession was in a lamentable position and that medical men were all pulling against each other There were only about 150 medical men who attended the two recent meetings of the profession held in London.

Dr R. E. HOWELL (Middlesbrough) thought that if the profession was not yet well organised the spirit of union was among them. But for the medical union in his town he could not run the risk of absenting himself now however competition was replaced by coöperation.

Mr WOLSTENHOLME (Salford) was also concerned as to what would befall the local organisation in face of the new constitution. They had been asked to commit suicide. But there was enough work for them to do outside the ranks of the British Medical Association. Nor need they fear the expense. In Manchester their medical guild had a quarterly journal and for the sake of the profits that that paper brought in the publishers had offered to pay all the working expenses of their guild

Mr G H. BROADBENT (Manchester) replied that this offer should make them suspicious and showed that the guild had better do its own work. He did not agree with Dr Cox and was strongly of opinion that the local medical unions or guilds should be kept in existence. The other and vast scheme would take a long time to grow and then it was not at all certain that it would do the work for which the medical unions had been founded. There had never been much cohesion in the British Medical Association. The guilds and the unions alone had achieved tangible results. They had promoted unity and cohesion and must continue their good work and not abandon a reality for what as yet was but a scheme.

Mr NASH remarked that some of the unions had money in their banks, where it had accumulated to provide means for taking legal action against quacks and for other purposes They had got rid of several quacks with the aid of these funds and he did not believe that the British Medical Association was going to do this work for them therefore he was opposed to the policy of suicide.

Dr S CRAWSHAW (Ashton under Lyne) thought that the existing organisations could continue as at present and that it would only be necessary to change their name. The only point was that their rules would have to be submitted to the Council of the British Medical Association but he saw no reason why these rules should not be approved by the Council.

Dr JEPSON thought that each union would have to decide for itself whether it would join the British Medical Association and he believed that in the course of time the unions would for the most part do so

Dr HUDSON did not think that they were killing local organisations but only altering their names

The PRESIDENT now rose to announce that it was time to close the debate saying that the questions raised could not be settled till more experience had been acquired.

The Vaccination Question

Barely an hour remained before the time of final adjournment and during that short period an attempt was made to discuss the question of the application of the vaccination laws.

Mr R. F TOMLIN (London) read a paper dealing to some extent with the quality of the lymph and the nature of the marks

Mr DAVID OWEN (Manchester) urged that parents should be able to select any practitioner to vaccinate their children and that the cost should be defrayed by the State as in the case of public vaccinators

This led to a somewhat animated debate between public vaccinators and private practitioners but the remaining hour elapsed before any decision could be arrived at beyond the adoption of a resolution to the effect—

> That in the opinion of this section no alteration in the Vaccination Acts will be satisfactory which does not provide a standard of efficiency for all practitioners alike

Other proposals were brought forward but the PRESIDENT declared that there was not time to take them into consideration and accordingly left the chair This gave rise to some protests and the section broke up in confusion.

NAVY ARMY AND AMBULANCE.

THURSDAY JULY 31ST

Inspector-General A. TURNBULL, R N retired (London) opened the proceedings of this section by a paper entitled

The Prevention of Scurvy

He said that the absence of scurvy from Nansen's expedition had not received the recognition to which it was entitled. The British Arctic Expedition of 1875 failed as the result of scurvy on board the *Discovery* and *Alert* though every precaution thought necessary at that time was taken to prevent scurvy. Osler had stated that the etiology of scurvy was still undecided. Osler gave three suggested causes for the disease (1) the absence of vegetables or ingredient supplied by vegetables (2) the presence of some toxic material present in the food and (3) the presence of some organism in the food The speaker thought that the evidence was overwhelming that the disease arose from a lack of some essential element and not from food allowed to become tainted He went on to say that, judging from extensive researches, the exciting cause was some toxic material in the food and that lime juice, though an unquestioned remedy, was not a preventive and was erroneously so supposed The present absence of scurvy from the navy was due to the changed and varied dietary The late Dr Curnow and Dr Johnston attributed the lessening of scurvy at the *Dreadnought* Hospital to (1) the Merchant Shipping Act, 1867, (2) the increase of steamships, and (3) the decline of sailing vessels. Scurvy they found was limited to the ordinary seamen of sailing ships, particularly of the East Indian trade, and was essentially a disease of the forecastle Patients were admitted who had regularly taken lime-juice This showed that lime juice was an adjuvant to the prevention of, and not an absolute deterrent to, scurvy Nansen, under the advice of Professor Torup of Christiania, had established a proper anti scorbutic diet. And yet Nansen and Johannsen, after great hardships and privations, living on their rifles, arrived home in robust health This was due to the fresh meat food which they procured The crew of the *Fram* had little fresh meat and no lime juice yet did not get scurvy The speaker quoted the Jackson Harmsworth expedition which trusted to sound provisions and escaped scurvy, and the *Windward* which trusted to lime-juice had to contend with scurvy He then touched on the cost of lime juice to the Royal Navy in 1900 (£1500) and mentioned the theory of sterilised milk foods causing scurvy rickets as being refuted by Ransom, Holt, and Cautley Antiseptic surgery was purity, true anti scorbutic measures meant pure food

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[1] We have already published this history see THE LANCET March 9th (p. 740) and 16th (p. 819) 1901

The PRESIDENT (Brigade Surgeon Lieutenant-Colonel G S ELLISTON) thanked Inspector General Turnbull for his interesting paper and its very valuable details and hoped that in the Royal Navy scurvy was an extinct disease. Improved feeding and ventilation had no doubt much to do with the improvement.

Fleet-Surgeon G KIRKER said that he had not had much experience of scurvy except when a student He did not agree that it was due to decomposed food and thought it was due to the absence of fresh animal and vegetable food The Nansen expedition depended on their rifles for the most part and had no scurvy, principally because of the fresh food thus provided. In treating scurvy Coppinger depended more on fresh meat than on lime juice

Surgeon Major G A. HUTTON said that the captains of ships might be allowed to alter the diets as a remedy against scurvy It was, of course, a serious question, as it would be difficult to bring about a change from a regular diet. It was doubtful even whether such a responsibility should be placed on the commander The short voyages of the present day and the easy obtaining of fresh provisions were great preventives In his first voyage from Plymouth to Cape Town the vessel took 65 days, in these times it took only a fortnight.

Inspector General TURNBULL, in reply, said that Fleet-Surgeon Kirker agreed with his plea for fresh and pure food The American navy did not issue lime juice. In the Nares expedition the people were better provisioned and the officers took port wine The pemmican was very unappetising He was not wedded to the ptomaine theory but advocated pure fresh food. In the case of dietary he had given evidence before the Admiralty Committee and had suggested a dietary for war service which would be useful in times of scarcity

Surgeon Major HUTTON read a paper entitled

Voluntary Aid to the Sick and Wounded in War, with Special Reference to Hospital Orderlies

He quoted Sir John Furley, the Chief Commissioner of the Red Cross Society in South Africa, who said, "In no army can the medical department be made equal to the exigencies of a great war without supplementary aid from voluntary societies, and no such societies can properly fulfil that duty without preparation and organisation in time of peace" The main object of his paper, as the title indicated, was the future supply of hospital orderlies The St. John Ambulance Association had, during the South African war, furnished through its ambulance brigade upwards of 2000 men who had acted as orderlies in the various military hospitals at the seat of war and in the hospital ships, and excellent accounts had been received on all sides as to the way these men had done their arduous duties 65 of these men had succumbed to disease contracted in the performance of their noble work, eight had been mentioned in despatches, and one had received the distinguished service medal. The question of the supply of efficient hospital orderlies was a pressing one Sir Frederick Treves had said at the meeting of the British Medical Association at Ipswich that "the question of orderlies is a difficult one The present campaign showed that nurses —keenly as their services were appreciated—could not work in the field hospitals and they must fall back on the orderly, and he was almost an impossible person It was indeed in fact, very difficult to know what his position was He had to pitch tents, to dig trenches, and then to nurse complicated cases" It was almost an impossible position. Those who criticised the hospital orderly had no knowledge of the extreme difficulty of this subject Where were they to be got? Besides the St John Ambulance Association and Brigade another source of supply of hospital orderlies might be from the Volunteer Brigade Bearer Companies

Colonel A W DUKE, R A.M.C, said that the St. John Ambulance people in Africa were good fellows and most willing to learn and to work. It was most necessary for teaching officers to remember that these men should be brought into the hospitals There should be two classes of army hospital orderly From 5*s* to 6*s* a day should be given to the men who did the real nursing work and the other men could do the cleaning The subject of the two classes of orderlies ought to be pressed upon the War Office.

Surgeon General J B HAMILTON, retired, said that when he joined, any old soldier was used as hospital orderly The Army Hospital Corps was gradually developed At the beginning the men were under the military officers for discipline only Eventually, after much trouble, they obtained command of their own men At first they got good men but the military authorities took them and eventually they had to put up with men below the standard required. The two classes of orderly was a most important matter and should at once be seriously undertaken. The men should be tentatively employed until it was seen how they would turn out. It was as necessary for an orderly to have military instruction as it was for a soldier in the interests of discipline He had succeeded in getting nurses registered for service in the War Office Preparation in advance was the thing—not scramble after war had broken out

Surgeon Major G H DARWIN said that the St John Ambulance men would be good men if they would only keep up their practical work, if they would do this they would be the best possible men For the future the men would have to come from the Medical Staff Corps

Dr FORBES ROSS (London) said that, speaking as a civilian, it was nothing less than a miracle surpassing every other recorded that in spite of the material as regards orderlies which the Royal Army Medical Corps had to deal with they had done so magnificently in South Africa. Their organisation must have been superb and if their efficiency had not been good they could never have coped with their difficulties as they had done There was an apparent need for a "nursing ward orderly" in all military hospitals There ought to be a "dresser sergeant," a "dresser corporal," and two "dresser privates" kept entirely and solely for dressing surgical cases and nursing medical cases Surely a man of the clerk class could be taught antiseptic surgical dressing, just as were ordinary medical students, and set to help the surgeons when on active service and in hospital, 30*s* a week and rations and allowances would procure the right class of man. His uniform should be different from the other orderlies of the Royal Army Medical Corps and he should not be permitted to do dirty jobs about camps Government colonial hospitals were equipped with trained dressers and there was no reason why this could not be done at home

Surgeon Major POOLE thought that the idea of the two classes of orderly was an excellent one The higher grade orderly should be drawn from the lower grade men. The need for male nurses was a great one and male nurses ought to be used largely

Deputy Commissioner C H. MILBURN (St. John Ambulance Brigade) said that the St. John Ambulance Brigade and the St. John Ambulance Association should be clearly distinguished The brigade had done a great deal of the organisation for the war The men ought to have hospital training The first and second grade of orderly would come and was a most important and necessary matter The civil organisation which had helped the army should have been thanked by the Government. The St. John Ambulance people had not been thanked.

The PRESIDENT said here that the King had had the proper thanks conveyed and that was the main matter and the speaker cordially agreed.

Lieutenant-Colonel J HYSLOP D S.O (Natal) said that the matter of the civilian element was very pressing. The Royal Army Medical Corps administration was admirable. If the St John Ambulance men had been trained in the same way as the Royal Army Medical Corps orderlies they would have been immeasurably superior as they were drawn from a more intelligent class

Assistant Commissioner J S GRIFFITHS said that he had tried to organise the St. John Ambulance Brigade in Bristol into a more military body and drilled them and found them most efficient.

Captain W B PRITCHARD R.A.M Ó. (Volunteers) thought that the Royal Army Medical Corps was a better training ground for orderlies than the St. John Ambulance for disciplinary reasons. As regards the ambulance work the St. John Ambulance Association was most efficient. The men ought to be trained in hospitals in the nursing part of their work. He thought that the Royal Army Medical Corps Volunteers had not been accorded proper recognition.

The PRESIDENT thought that the volunteer medical corps had gained a great distinction by its incorporation with the Royal Army Medical Corps. The St. John Ambulance Brigade had had some hospital training They had most undoubtedly a great deal of discipline for the ambulance men were required to attend annual drills and parades and if they did not they were turned out. Men in the bearer companies should be under their own officers who had trained them as far as possible and it was a grievance if that were not so

Surgeon Major HUTTON in reply said that army orderlies did their duties fairly well in the old days. It was gratifying that the St John Ambulance men were found so good in South Africa. The object was to get good men to enlist in the Royal Army Medical Corps as orderlies He *was in the St. John ambulance work before the formation of* the Brigade The Association and the Brigade were inseparably connected and the greatest cordiality existed. With regard to the two classes of orderlies it was extremely desirable but presented certain difficulties The large hospitals no doubt would be very glad to give any assistance in the hospital training of the St. John Ambulance Association.

Surgeon General HAMILTON here read out the new suggestion of having representative members for the three services on the council—navy army and Indian medical *services—and suggested that they should be retired members* as they could be the only people who could open their mouths freely Their election could be effected by means of the *British Medical Journal.*

The meeting unanimously endorsed a resolution suggesting to the council of the Association that a small committee, consisting of Inspector General Turnbull Surgeon General Hamilton, and Brigade-Surgeon Lieutenant-Colonel Drake-Brockman, be formed to look into the necessary arrangements.

FRIDAY AUGUST 1ST

Deputy Inspector-General JAMES PORTER, R.N opened the proceedings by the contribution of a paper entitled

The Red Cross Badge

He reviewed the question of the abuse of the red-cross flag in South Africa and stated that owing to long range shooting and the difficulty of seeing the flag at long distances that it was to be expected that it would sometimes be fired on in mistake, and at most in future it must be regarded as indicating where help and medical aid could be obtained rather than as a protection to the wounded He reviewed and recounted the numerous reported instances where the Boers in the late war made improper use of the red-cross flag and mentioned the various and numerous vehicles taken during the war which were adorned with the red cross but which had undoubtedly been used for other purposes. He pointed out that in naval work the red-cross flag might be taken for the admiral's badge and thus draw fire on a hospital ship. Some authoritative ruling should be obtained with regard to whether Government hospital ships were capturable as prizes of war He finally summed up as follows (1) the Geneva badge, whilst readily recognisable should not be easily counterfeited or be confusable with any other badge or flag, (2) it should be issued under authority only along with means of proving the identity of the holder, and (3) abuses of the badge should entail definite penalties, swift and severe.

Surgeon General HAMILTON retired, thought that wagons for the use of the sick ought to be painted white, and not khaki as were those which were used for military purposes. He did not see how we could blame the enemy on a dull day for firing on a red-cross wagon painted khaki, as it was difficult to see the red cross.

Lieutenant-Colonel HYSLOP said that the individual wearing the red cross was absolutely unprotected, as at long range the cross could not be seen

Surgeon General HAMILTON read a paper entitled

Reform in the Army Medical Service

He briefly reviewed the history of the difficulties experienced in attaining their present satisfactory position. The jealousies of the combatant branch which led to petty acts of irritation unworthy of so noble a body of men were caustically dealt with. He then alluded to the war in South Africa and commended the retired medical officers and civilians, and said that the civilians should have been given temporary commissions and uniforms as they were entitled to it, many of them lost their lives as the result of their services. This omission of commissions and uniforms was a great mistake on the part of the War Office He strongly criticised the treatment of the late Director General Jameson and stated that some recognition should undoubtedly have been given him. He reviewed the situation as altered by the new Warrant and commended the position awarded to the new Director General He thought that the Royal Army Medical Corps in India should have the same rate of pay and hospital allowances as at home. The social position accorded the *personnel* of the Royal Army Medical Corps should undergo improvement or it would injure the working of the new Warrant. His Majesty's honorary medical officers in the army were never asked to Court functions as were other officers of other branches.

Surgeon Major G A. HUTTON said that he could well understand Surgeon-General Hamilton's remarks. It was regrettable that when officers rose to the higher ranks they became merely clerks and lost their professional attainments as physicians and surgeons. He thought that junior officers should be more considerately treated by their seniors and this would bring about a sound *esprit de corps* as it would encourage them to persevere.

Dr FORBES ROSS said that from a purely civilian point of view it had always puzzled him why the army medical man seemed to be so much in doubt and so touchy as to his social position. Social status was mainly a personal matter a gentleman was always a gentleman and remained so and would be treated as such whatever anyone else might decide, and no amount of official recognition would transform a cad into a gentleman. Medical men from their general and professional education were much better informed on many subjects than many soldiers, therefore it did not behove them as a profession to descend to petty jealousies It behoved the members of the Royal Army Medical Corps to be loyal and considerate to one another—senior to junior and *vice versa*—as professional brothers and then the other branches of the service would regard them differently

Dr. G H. DARWIN (Manchester) related an amusing episode in his volunteer mess to the effect that having been treated very uncivilly by some volunteer brother officers and an argument in consequence having arisen he had stated that he himself the doctor" the chaplain, and the veterinary surgeon were the only people present whose callings were real the other gentlemen being only shams" which greatly discomfited his opponents and eventually led to more courteous treatment of himself by the sham combatants.

The PRESIDENT said that Surgeon General Jameson was badly treated as his advice at the beginning of the war was against the abolition of the sanitary officer and the result showed that he was right. The Queen Alexandra Nursing Corps was a good move, as enteric fever and pneumonia could not be nursed by ordinary orderlies.

Captain PRITCHARD thought that the age of joining the service should be raised and very young men should not be admitted as they had no experience He thought that social position as a medical man was what was most desirable and he did not care very much for their opinion of himself as a soldier so long as he received that due to a professional man and a gentleman.

Surgeon General HAMILTON, in reply said that no doubt the social matter would right itself, but up till now many discourtesies had to be put up with which were very galling. He did not agree that the age of entry into the service should be raised, as the officer did not learn discipline and became imbued with the military spirit unless he began young. A man entering at 28 years of age had very little chance of promotion and as a result excellent men had to retire on account of age. The age should be not under 22 years and not over 26 years. The medical officer in the army was more than a medical man when on the battlefield.

Mr C. ROBERTS, late civil surgeon in Government employ in South Africa, read a paper entitled

The Treatment of Abdominal Wounds in War

He said that in discussing the treatment of abdominal wounds in war it was necessary to consider (1) the nature of the injury, (2) the cases in which operative interference was indicated, and (3) to what extent the prospect of success of abdominal operations was diminished by the difficulties inseparable from campaigning. When the wound was caused by a high velocity and mantled bullet of small calibre—as the Mauser and Lee Metford—the extent of the visceral injury depended little, if at all, upon the range at which the bullet was fired, except in some instances in which the wound was complicated by injury to bone. At very long ranges, when the force was spent and in ricochet wounds, the bullet might be retained. The course it took within the abdomen was then lost and the internal injuries might be widespread and with difficulty made out. Where both wounds of entry and exit were present the track was always that of a straight line between these two points, and from anatomical knowledge one was able to say what viscera might have been injured. Transverse wounds were more fatal than those passing in an antero-posterior direction. Wounds above the umbilicus were more favourable than those below. Direct antero-posterior wounds in the small intestinal area were very unfavourable. Complete transverse wounds above the umbilicus were very unfavourable. That the small intestinal area might be crossed without perforation occurring had been demonstrated. 1. By examination after death. In the published record of the work of the Portland Hospital in South Africa written by the professional staff a case was described the details of which were supplied by Mr G. L. Cheatle. Two perforations were found in the cæcum and sigmoid flexure of the colon and though the bullet had undoubtedly crossed the area occupied by the small intestine no wound of the bowel had occurred. 2. By examination during laparotomy. Mr Makins in his work on his surgical experiences in South Africa had given an account of an operation in which two linear rents were found in the jejunum, involving the peritoneal and muscular coats only. He had also noted in other instances linear ecchymoses and wounds of the peritoneal and muscular coats alone associated with complete perforations. The view that the intestine escaped perforation in many of the cases that recovered was supported by the fact that frequently so few abdominal symptoms were present. It was difficult to believe, however, that in all cases no perforation was present, for in many shock was severe and frequent vomiting persisted for two or three days, the temperature rose, and the abdomen became rigid and painful. These symptoms were readily attributable to the shock of perforation and slight local peritoneal infection. The post-mortem examination in Mr Cheatle's case previously mentioned showed that no extravasation of fæces had occurred from a perforation of the cæcum and in cases operated upon no free escape of fæces had been found before manipulation. Sometimes the presence of melæna had furnished strong evidence of perforation. There was little doubt that a perforation might heal primarily or become shut off by adhesion to a neighbouring coil within a few hours. In considering the cases in which operative interference was required one must first exclude those wounded which would die in the first 24 hours from intra peritoneal hæmorrhage or from the shock of extensive internal injuries and which were not amenable to surgical treatment. Their number was always considerable, probably from 20 per cent. to 30 per cent of those wounded. Where increasing intra peritoneal hæmorrhage was threatening life and the surroundings and general condition of the patient allowed of it laparotomy should always be performed and the bleeding arrested, whether from torn vessels in the omentum or mesentery or from laceration of the liver or spleen. Only too often, however, extensive visceral injuries would also be found and a favourable result would not be obtained. Wounds of the liver, kidney, and spleen, as a rule, healed well, and when hæmorrhage was not dangerous required no operative treatment except for secondary complications, such as biliary fistula, hydronephrosis, or perinephric abscess. Laparotomy might be required when perforation of the stomach or bowel might have taken place. If one excluded those who died in the first 24 hours one might estimate that of the cases of penetrating abdominal wounds amenable to surgical treatment about 60 per cent. would recover. The recoveries, however, were chiefly amongst those cases in which the area of the small intestine was not crossed and when this area was involved the mortality was probably very great. Too often without exploration one could not be sure whether perforation existed or not, and whilst a routine laparotomy was not justifiable in every case it should be performed at the first evidence that perforation existed. Such evidence might be found in the persistence of shock, a steady increase in the rate of pulse, and in the abdomen becoming increasingly rigid and tender, and especially was it probable if vomiting had persisted and the passage of flatus was arrested. In these circumstances, and when the surroundings were such as not to expose the patient to fresh dangers, the operation should not be delayed, and the apertures might be dealt with by suturing or the area of the wound might be resected, according to the condition found. Especially was the operation likely to prove successful when the injury was localised, the patient was seen within six hours of being wounded, and transport had not been difficult. When the bullet was retained or the track was a complete transverse one the prognosis was far less favourable. The results of laparotomy for gunshot wounds in war had been most unfavourable. In the Spanish American war Senn reported that all cases he knew of that had been operated on died. In the Tirah campaign, of eight cases of penetrating wounds of the abdomen five had been operated on and all died. In the Boer war he (the speaker) only knew of two successful operations performed for wounds of the small intestine. In the American war in the Philippines Dr Robinson reported that five cases had been operated on and four died. The unfavourable results were attributable to various causes. The severity of the injuries, the delay in bringing in the wounded, difficult transport, and the unfavourable surroundings rendered abdominal operations at the front in most cases unpermissible. One was led to the following conclusions. 1. That as a rule the conditions in a field hospital were not suitable for performing laparotomy. Moreover, many patients with penetrating abdominal wounds recovered without operation, and in the majority of those who died the nature of the injury was such that death must have resulted whatever had been the conditions of operation and an exploratory laparotomy might add a fresh danger to the patient. 2. When occasions arose in which the conditions of operation approximated to those in civil practice laparotomy should be undertaken, for increasing intra-peritoneal hæmorrhage must endanger life. Also when there was evidence that perforation of the stomach or bowel existed, provided that the patient was seen early enough, laparotomy was called for.

The PRESIDENT commended the paper for its valuable practical suggestions and invited discussion.

Dr FORBES ROSS said that Mr Roberts's excellent paper tended to support the predictions made by Mr Clinton Dent and Sir Frederick Treves, "that the small-bore bullet was a most humane missile." In cases of abdominal injury from small bore bullets experience would tend to show that the surgeon would be more deadly than "our friend the enemy." It would now become an accepted axiom not to operate in injuries of the abdomen inflicted by a small bore bullet unless forced to do so by urgent symptoms.

Brigade Surgeon Lieutenant-Colonel P. B. GILES contributed a paper (*in absentiâ*) entitled

The Brigade Medical Unit

He stated that under modern conditions of extended front and long range fire extra individual teaching for the regimental stretcher bearer would be necessary. The men should be taught the principles of first-aid and also how to take advantage of cover whilst approaching the wounded. The regimental medical officer should have a non commissioned officer of the Royal Army Medical Corps instead of from the regiment. The bearer companies and the field hospital should be joined as one unit under one command and not be distinct as hitherto Field hospitals should be placed as near the field of action as possible, but not so as to interfere with any position of strategy and should never be pitched at a distance from a good road if available

The PRESIDENT then put a motion to the meeting proposed by Surgeon General HAMILTON and seconded by Lieutenant Colonel HYSLOP D S O to the effect—

> That ambulance wagons should be painted a conspicuous colour preferably white for coolness, and should be provided with a red-cross flag much larger than was hitherto used.

The motion was carried unanimously

The business of the section was concluded by a cordial vote of thanks to the President for discharging in so genial and able a manner his arduous duties, and Dr FORBES ROSS in proposing this vote of thanks which was seconded by Inspector General TURNBULL, R.N said that the 1902 meeting at Manchester would be memorable in that at that meeting the members were allowed to indulge in the 'weed.

The PRESIDENT briefly replied.

TROPICAL DISEASES.

FRIDAY AUGUST 1ST

Mr JAMES CANTLIE (London) opened the discussion on

Yellow Fever

by stating the conclusions arrived at by the United States Army Commission in Cuba. The Commission had demonstrated (1) the fact that none of the bacilli hitherto described including that of Sanarelli, played any part in the etiology of yellow fever (2) that no bacillus or other organism could be found in fresh blood in defibrinated blood or in blood diluted and filtered through a Berkefeld filter and therefore that either our methods of investigation are faulty or that the germ is ultra microscopic, or that no germ exists , (3) that the specific agent of yellow fever was destroyed by exposure for 10 minutes to a temperature of 55° C (4) that the blood taken from a yellow fever patient and injected into healthy non immune persons caused the disease and that defibrinated blood and blood passed through a Berkefeld filter also caused the disease (5) that fomites did not convey the disease (this was tested in the most thorough fashion and proved beyond doubt) , (6) that the mosquito—the stegomyia fasciata—after having fed on a patient suffering from yellow fever caused by its bite the disease in healthy non immune persons (7) that the mosquito could not convey the disease until 12 days after feeding and (8) that the mosquito was capable of conveying the disease 57 days after it had fed on yellow fever patients. Mr Cantlie mentioned various diseases in which yellowness of the skin occurred independently of biliary obstruction. Amongst these he mentioned acute yellow atrophy bilious remittent, relapsing fever and bilious typhoid fever The last-named was especially prevalent in Egypt for in the early days of the last century it was named yellow fever and was still frequently so termed. He thought it possible that yellow fever was more widespread than the literature at the present day allowed

Dr GEORGE C LOW Craggs Scholar London School of Tropical Medicine, sent a paper on

The Differential Diagnosis of Yellow Fever and Malignant Malaria.

Dr Low stated that the diagnosis of yellow fever on its first occurring in a non-endemic area where malaria was prevalent was often by no means a simple affair The facial appearance the condition of the tongue, the state of the skin, the relation of the temperature and the pulse the presence of albumin in the urine, epigastric pain the vomit, hæmaturia, and the condition of the nervous system all of which were described in text-books as features by which yellow fever might be diagnosed, were quite untrustworthy The only positive diagnosis was by a blood examination and even then it must be remembered that malaria parasites might co-exist in the blood with the poison of yellow fever Post mortem the characteristic malarial pigment the localisation of parasites in the brain, spleen or gastric mucosa at once declared the cause to be malarial and in yellow fever the liver showed the typical fatty degeneration.

Dr PATRICK MANSON C.M.G F.R.S (London), drew attention to the possible errors in the experiments of the United States Army Commission and pointed out that in the experiments made by passing blood through a Berkefeld filter the blood from only one patient had been used.

Dr L. W SAMBON thought that the diagnosis between malaria and yellow fever would be much easier when they had succeeded in separating blackwater fever from the intermittent fever with which it was now confounded. It was difficult at times to diagnose blackwater fever from yellow fever Hæmoglobinuria was, as a rule, absent in yellow fever yet he held that the existence of blackwater fever on the west coast of Africa was greatly responsible for the notion that yellow fever prevailed there.

Malta Fever

Mr P W BASSETT SMITH staff surgeon R N (Haslar), contributed a paper on

The Agglutinating Properties in the Blood in Cases of Mediterranean Fever with Special Regard to Prognosis with Remarks on other Blood Changes and Reactions during the Course of the Disease

In the wards of Haslar Hospital as many as 198 cases of Mediterranean or Malta fever had been treated during the past two and a half years The agglutination of the micrococcus melitensis when brought in contact with dilutions of blood of patients suffering from malta fever was early established and became an efficient method for diagnosis The agglutinating properties commenced early (five days) and lasted long (one and a half years). The technique employed consisted in using an emulsion made from a five days old agar culture of the micrococcus in saline solution this was drawn up into sterile pipettes and killed at 65° C. for a period of 15 minutes, the same series of pipettes being utilised throughout in the cases The blood was centrifugalised and the serum generally employed a few hours after it was obtained the dilutions were made with a measuring pipette as recommended by Professor Wright, an equal part of diluted serum (20 cubic millimetres) and emulsion being always used so that the number of organisms present in each sedimentation tube was approximately the same in each instance. These were left at room temperature for 24 hours and the results then recorded the dilutions ranging from 1 in 20 to 1 in 2000 Equal parts of clear blood serum were drawn up in tubes with spiral twist incubated at 37° C. for 24 hours and then blown out on thick agar plates which were incubated for from three to seven days, when the presence or absence of growth of the micrococcus melitensis could be observed. If there was no growth one inferred that the serum had been able to kill off the organisms present in that dilution and so estimate the bactericidal power which was in all cases very considerably less than that found against the typhoid organism Mr Bassett-Smith also drew attention to the phagocytic power of leucocytes and to the general blood changes in the disease.

Mr JAMES A. HISLOP (Assam) contributed a paper on

The Geographical Distribution of Malta Fever and the Value of Splenic Enlargements as a Test of Malarial Incidence

Mr Hislop drew attention to some cases of Malta fever which he had observed in Assam and believed that many fevers classed as malaria and remittent fever would be found to be Malta fever The serum test had given positive results in several cases and the charts showed the undulant nature of the temperature. Mr Hislop described a form of fever in Assam which was absolutely resistant to large doses of quinine and yet accompanied by great enlargement of the spleen. He believed this to be a specific form of disease independent of malarial infection and requiring further investigation and interpretation.

Dr C. A. BENTLEY (Tezpur Assam) contributed a paper entitled

Kala-azar as an Analogous Disease to Malta Fever Preliminary Notes of an Investigation and some Discoveries regarding the Nature and Condition known as Kala-azar

This disease had been attributed to ankylostomiasis to an intense form of malarial fever and to post malarial cachexia Dr Bentley concluded that kala azar had nothing to do with malaria in any form but was a distinct disease By none of the three tests for malaria—viz. periodicity the effect of quinine or the microscopic examination of the blood—could kala-azar be in any way associated with malarial fever In summing up the result of his investigations Dr Bentley said The hæmatology of kala-azar lends no support to the malarial theory of origin, while it corresponds to the little at present known of the blood conditions of Malta fever "

Dr BRIAN MELLAND (Bowdon) read a paper on

Malta Fever in the Canaries

Dr MANSON, in criticising the statements made as to the presence of Malta fever in India and the identity of kala azar with this disease, said that too much reliance seemed to have been placed on the agglutination tests He related an instance in which he submitted a case of doubtful fever to three experts one affirmed that the blood gave the reaction of Malta fever, a second declared that it was from a person suffering from typhoid fever, and a third that it was neither Malta fever nor typhoid fever He would ask investigators not to place too great reliance upon serum tests in cases of doubtful forms of illness

Professor GALLI-VALERIO (University of Lausanne) contributed a paper entitled

Contribution to the Study of Bacillus Pestis, its Cultural and Morphological Characters and its Relations with Bacillus Pseudo tuberculosis Rodentium

He dealt first with the characters of the cultures of bacillus pestis , secondly with the morphology of bacillus pestis, and thirdly, compared the bacillus pestis with bacillus pseudotuberculosis rodentium He maintained that confusion in the diagnosis of plague by the inoculation of guinea-pigs might arise from the fact that the bacillus pseudo-tuberculosis might be present in the guinea pig and the two bacilli exhibited many points in common.

Dr SAMBON read a paper on

Remarks concerning the Nomenclature, Etiology, and Prophylaxis of the Intermittent Fevers

He recommended that the term "malaria" ought to be abolished. The old name "intermittent fevers" might be continued or the term "hæmocytozoal fevers" adopted The name "æstivo autumnal" was inappropriate , "tropical malaria" gave a false notion of the widespread nature of the disease, which went beyond the tropics. The old terms "semi tertian" or "sub-tertian" were worthy of re instatement The name "plasmodium" applied to the parasite was most inappropriate Dr Sambon was of the opinion that the parasites of quartan, tertian, and subtertian (æstivo-autumnal) should be classed in one genus and called respectively hæmamœba Golgii, hæmamœba vivax, and hæmamœba Laverani.

Dr MANSON stated that he agreed with Dr Sambon's nomenclature

Surgeon-Major G K. POOLE (London) remarked that he had seen quartan fever in Eastern Bengal.

ASYLUM REPORTS

Dorset County Asylum (Annual Report for 1901) —The average number of patients resident during the year was 732, comprising 359 males and 373 females. The admissions during the year amounted to 145—viz , 73 males and 72 females Of these 119 were first admissions Dr P W Macdonald, the medical superintendent states in his report that the past two or three years of national excitement and tension have had an influence on the male admission rate, which now shows a tendency to increase "Recent experience lends credence to the opinion that strain and exposure are having their victims even among the strong and healthy, and it has to be admitted that a percentage of these cases are finding their way into institutions for the treatment of mental disease " Whether such cases are to be regarded as due to exceptional stresses and trying circumstances connected with the war or are merely the ordinary result of active service it is difficult to say , but such cases were found to be the most hopeless and least favourable as regards prospect of recovery among the admissions, and "their one outstanding characteristic was the complete and painful early dementia." The admission rate was somewhat higher than usual, but this was not compensated for by any general improvement in the character of the cases. "The female patients as a class were less favourable than the males and several were the subjects of grave physical ailments " As regards the males, 70 per cent. were classed as incurable on admission, and in the case of the women the proportion of incurable patients was as high as 80 per cent. The unfavourable and hopeless character of the admissions was not associated with any particular form of mental disease. A large increase appeared in the proportion of aged patients among the admissions The senile cases were "unfavourable as regards any hope of recovery and it is to be regretted," adds Dr Macdonald, "that these aged men and women could not be cared for elsewhere." Worry and anxiety accounted for 12 per cent. and hereditary predisposition to insanity was traceable in 45 per cent. of the admissions The number of patients discharged as recovered during the year amounted to 50—viz., 22 males and 28 females, or 6 8 per cent. of the average number resident. The deaths during the year amounted to 47—viz , 24 males and 23 females, or 6 4 per cent as calculated on the same basis Of the deaths two were due to renal disease, two each to bronchitis and to phthisis, four to cerebral hæmorrhage, five each to senile decay and cerebral degeneration, six to cardiac disease, and the rest to other causes The committee of management states in its report that plans for a separate new building for the use of private patients have been prepared and approved of and that the work will be shortly proceeded with The weekly maintenance rate for patients has remained at 9*s* 4*d* during the year The report of the Commissioners in Lunacy is not appended

TUBE RAILWAYS

THE concentration within the heart of London of the radiating lines of traffic from the growing suburbs, and the chronic upheaval of the streets consequent upon the tangle of sewers, hydraulic power, water, and gas mains, besides telegraph, telephone, and electric lighting cables, have produced such a state of congestion as to be insupportable. The necessity for rapid communication between the extremes of the outer circle with the centre of the metropolis and with each other, in view of the vast population of London, is a sufficient reason for welcoming any proposal that promises relief. In the following article we propose to touch briefly upon those points in the now numerous schemes for tube railways in London which have a bearing upon the public health of the metropolis in a comprehensive sense

There is a natural tendency for promoters of proposed tube lines, with an eye to dividends, to tap the more populous districts, but their lines should not be permitted to terminate here or facilities for locomotion will but increase the already overcrowded condition of these parts The new lines should pass on to more open country and those that contemplate the establishment of direct communication between extreme points of London, from north to south or east to west, providing for the proper expansion of the city, are certainly most deserving of popular support. London recently has borne a strong resemblance to a newly discovered gold field. There has been a wild rush by various syndicates to peg out their claims and to obtain concessions. In some cases there have been two or more applicants for one plot. Some of these have recognised the wisdom of combination but disappointment has been the lot of the majority Engineers, with praiseworthy anxiety to promote their own professional interests, are all on the side of the new tube railways The idea is fascinating, the opportunity is golden, no voice is heard to criticise adversely the optimistic views taken by the promoters. Indeed, when every man of any note in the English engineering world is interested in some similar undertaking, what member of their institute would be so bold as to question their proceedings ?

Impatience of control is a characteristic of those responsible for these undertakings It was stated during the proceedings in connexion with the Metropolitan District Railway Bill before a Departmental Committee that it is not the duty of any Government Department to inquire into such proposals. This formed the subject of a report by the Committee to the House of Commons which concluded thus "In view of the rapid development of such undertakings and the novel, and possibly dangerous, character of some of the proposals, the committee consider it desirable that in future every Bill containing such proposals should be reported upon by the Board of Trade " Fortunately, therefore, Parliament is able to check to some extent the exuberance of all similar undertakings. And in regard to the tube railways a debt of gratitude is due to the London County Council for the careful consideration given to the various proposals and for its able comments upon them though the fact of its harbouring rival suggestions in the form of shallow subways has in the eyes of some militated against the value of its criticism. It is the duty of all who are in any way the custodians of the public welfare and the public health to examine the various projects put forward, which does not mean that there should be any attempt on the part of municipal bodies to convert themselves into gigantic trading monopolies.

The recent developments in connexion with tube railways unforeseen or disregarded by those responsible for them do not tend to induce such implicit reliance upon the assertions of their promoters as might be desired but while railways of some sort to connect up the distant parts of the city are necessary underground railways are preferable to overhead lines as used in America. The first question, allowing their necessity is, Are deep tube lines or shallow subways the more desirable for London within a radius of six miles from Charing Cross? The difficulties attendant upon the constructing of shallow subways would of course be enormous, owing to the existence of the various connexions of house and street gully drains with the sewers. Possibly in most cases the sewers themselves might have to be diverted, together with water gas, and electric mains, while the risk of damage to adjacent property likely to arise from tunneling would be considerable and the dislocation of business enormous. In the construction of the Central London Railway at the Bank station such obstacles were, however successfully grappled with

The advantages of these shallow subways over the low level tubes to the lay mind appear to be considerable There would be economic difficulties but it is questionable if these are insuperable.[1] The accumulated sum annually spent by municipal bodies on repairs to the roads owing to continual disturbance must represent the interest on a large funded capital The same may be said of other interested companies and of the Post Office. The payment of a rental to the railway by the different bodies using the subway for access to their property should produce a large revenue while effecting a saving to each tenant. The miles of road thus rendered free for surface traffic would be very great. But the mind can hardly contemplate the dreadful inconvenience to the public, and the real pecuniary loss to the nation, that is implied in the closing for six months of such a thoroughfare as, say the Strand. This and similar things would however have to be done.

No useful purpose would be attained by discussing all of the very many schemes for tube railways submitted to the two committees presided over by Lord Ribblesdale and Lord Windsor respectively The following are only those that, having successfully passed the first stage come before the House of Commons in due course for approval or rejection. It will be a cause of satisfaction to many to know that the committees jointly contemplate the introduction of a general clause to be inserted in all Bills, dealing with every question of damage to property arising within a period of two years at least from the date of opening the lines either through "construction or working" This clause will not be retrospective in its action, and cases will be tried before a special tribunal. The committees have also exercised a wise discretion by eliminating many of the lines, evidently in the interests of the investing public. For on the continent, where electric traction has made such rapid advances, many of the leading companies have recently suffered serious depression.

It is a fact that many people do not know what lines of tube railways are projected even though their houses may be in close proximity to one of them. We will therefore begin by indicating the course taken by the various schemes which have a good chance of coming to completion First in order may be taken the District, or Yerkes, group, to be run in connexion with the Metropolitan District Railway now shortly to be electrified. It consists of the following lines run under the title of—

THE UNDERGROUND ELECTRIC RAILWAY COMPANY OF LONDON LIMITED

The Brompton and Piccadilly-circus Railway.—Authorised in 1897 with a limit of time for the compulsory purchase of land to August 1st 1900 and for the completion of works to August 1st, 1902. An extension of time was afterwards obtained to 1902 and 1904 respectively A still further extension of time is now sought to 1904 and 1906 which has been granted in committee. From the terminus at Earl's Court the line follows the existing line to South Kensington, as by an arrangement with the Metropolitan District Railway that part of their deep-level line has been transferred to the Brompton and Piccadilly Railway There is to be a generating station at Lots-road Chelsea. At South Kensington the new line will branch north east to a station in the Brompton road by the corner of Ovington square, following the Brompton road to Knightsbridge and on to Piccadilly circus, the next station *en route* being Sloane street, at which point the line comes in touch with the proposed Hammersmith and City tube line and the line from the Marble Arch to Clapham Junction The next station is Hyde park-corner Dover street, Albemarle-street, and Piccadilly-circus follow A subway will here connect this line with that of the Piccadilly and City At Piccadilly-circus a junction was proposed one branch to run under Leicester square to connect with the District deep-level at Charing Cross the other branch after crossing the Baker street and Waterloo line, and farther on the proposed Charing Cross, Euston, and Hampstead line to continue, with possibly a station in Cranbourne street, to Little Queen street, Holborn, where it would connect with the Great Northern and Strand tube running to Finsbury park. The branch line between Piccadilly-circus and Charing Cross was thrown out in committee.

The Great Northern and Strand Railway.—This tube is to start from the Crescent, now building in the Strand From here it passes under the new street and London County Council subway and then runs north across Holborn (where there is a junction) to the corner of Southampton street and Russell square. Here it bears east to the corner of Guilford street, crossing Great Coram street, Compton street, Judd street and Manchester street, where it takes a direct line to a station under the Great Northern Railway station. From here it closely follows the course of the Great Northern Railway to Finsbury park. Completion of this line is promised in about three years.

Charing Cross Euston, and Hampstead Railway.—Leaving Charing Cross this tube takes a direct line to the corner of Tottenham Court road crossing the tubes of the Brompton and Piccadilly and Central London Railways. It runs under the whole length of the Tottenham Court road and then takes a sharp curve east to a station at Euston. From here it runs directly to Camden Town to a junction at the "Mother Red Cap." One branch now bears north west for Golder's-green with stations at Chalk Farm Belsize-park, Hampstead and North End. The other line keeps due north with stations at Kentish Town Highgate-road Dartmouth park road Archway road and Highgate Archway Another extension of this line from Hampstead to Edgware has passed the committee it is not a tube line.

The Baker street and Waterloo Railway.—This tube was authorised in 1893 between these two points, though but little was done until it was financed by the London and Globe Finance Corporation in 1897 On the failure of this corporation in 1901 the undertaking was acquired by and became amalgamated with the Yerkes group. The line is now nearly half finished the tunnel being completed under the river and the line will probably be ready for traffic in about two years time. Extensions have been granted from Baker street to Paddington and from Waterloo to the Elephant and Castle. Leaving Paddington station the tube takes a fairly direct line east to the Edgware-road where it crosses the North West London tube passing to Baker street, with an intermediate station at Marylebone, in proximity to the Great Central London station. From Baker street it takes a wide curve, under Regent's park north of York terrace turning south under the Metropolitan line it runs under Portland place with a station at Oxford circus where the line crosses the Central London tube and follows the course of Regent street. There will be a station at *Piccadilly-circus* From here it runs with slight deviation to a station at Charing Cross, crossing the river west of the South Eastern railway bridge to Waterloo station thence to a station at St. George's-circus and under the London road to the Elephant and Castle.

The District Railway intends to run 12 trains per hour each way between Earl's Court and the City and six per hour from Harrow Ealing Richmond and Hounslow all passing through Hammersmith, which latter busy station will thus be provided with a most ample service. A five minute service is also promised from Wimbledon and Putney, some trains going to High street, Kensington, and others to the City The Brompton and Piccadilly line will run a 10-minute service from Earl's Court to Piccadilly circus and Finsbury park, with an all-night 15 minute service There will also be an all night 15-minute service on the District Railway No fares have yet been fixed, but it is believed that apart from the District Railway the fare will be the same throughout, the short distance paying for the long

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[1] Roughly tube lines cost about £250 000 per mile to construct The cost of the London County Council subway now building in the new street between Holborn and the Strand is at the rate of over £340 000 per mile in a new road. This cost would be increased in running through an existing thoroughfare

It will be seen that the advantages offered by this group are very great, connecting as it does a vast network of existing rail and tramway lines hitherto isolated. The facilities offered by this system of intercommunication may help the housing problem to some extent, while the central portion of the line will unquestionably accommodate a vast quantity of midday traffic to the relief of the congested streets of business London

We next come to—

The London United, or White-Morgan, Group

This is, or was, a combination of the following proposed tubes —

Hammersmith to Charing Cross and City —Among the schemes proposed by the London United Electric Railway Company under Mr White's chairmanship was a tube line running from Barnes through Hammersmith to Charing Cross which would have competed to some extent with one of the lines of the Pierpont Morgan groups—viz, the Piccadilly and City Railway These lines have now amalgamated thus. The London United will run its proposed line only as far as Hyde park corner and the Piccadilly and City line is to continue on to Ludgate hill and the Mansion House. At the western end of the line a loop was to have been formed running up Holland park road to Shepherd's Bush, returning down the Grove to Hammersmith Broadway, thus connecting the two chief radiating points of the London United Electric Tram lines that will eventually serve a very extensive district, including Harlesden, Acton, Ealing, Uxbridge, Cranford Hanworth, Hampton, Staines, Ditton, Surbiton, Kingston, Teddington, Richmond, Wimbledon, &c The western loop from Addison road to Shepherd's Bush was very properly rejected by the committee, as it would have served no useful public purpose, while competing unfairly with the Central London line which is at present fed by the tram service at the Shepherd's Bush centre The following are the points at which it is proposed to build a station Hammersmith Broadway, Addison road, High street Kensington, Queen's gate, Sloane street (where there will be an exchange station with another line belonging to the same group running from Wandsworth to the Marble Arch, at which latter station there will be an exchange with the North West London line to Cricklewood as well as with the Central London line), Hyde-park corner, Albemarle street, Piccadilly circus, Charing Cross, Law Courts, and Ludgate-circus Here, in order to avoid St. Paul's Cathedral, the line turns south to Upper Thames-street which it follows, entering Cannon street from behind the existing Mansion House station. From Cannon street station the line is continued as--

The North East London Tube Railway —It was originally proposed to run this line to Chase Side, Southgate, but owing to local opposition the portion between Palmer's-green and Chase Side was thrown out in committee. The stations *en route* are the Monument, Bishopgate-street Without, Hackney road, Kingsland road, Stamford road, Arcola street and Church street Stoke Newington for Abney Park. At Stamford-hill the line comes to the surface. (It is in this neighbourhood that the London County Council proposes to form a working-class colony) At Church street also a branch line to the east was contemplated by the railway company but this was abandoned when the coalition took place with the now discarded City and North East Suburban line. After Church street the stations are Amhurst Park, High road, The Avenue, Lordship-lane, White Hart-lane, Chequers green, to Palmer's green. The line crosses under several existing railway lines before reaching Tottenham.

The City and North East Suburban Railway from Cannon street to Waltham Abbey also formed a part of the partnership but owing to the piece of line between Cannon street and Whitechapel having been thrown out in committee the White Morgan party dissociated themselves from the undertaking which has since been abandoned This line is an unfortunate example of the "between two stools" proverb It was originally intended to form a junction at the Mansion House station with the Metropolitan District Railway Company which was willing that the proposed tube should run for some distance under the Metropolitan line, differences arising upon financial questions coupled with the appearance upon the scene of the White Morgan combination induced the promoters of the tube line to transfer their interests to that group This was resented by the Metropolitan District Railway and the tube line was stoutly and successfully opposed.

The Marble Arch to Wandsworth Railway —This line will run from the Marble Arch in a direct line across the park to Sloane street, which is to be an interchange station with the Hammersmith and City line, passing along Sloane street to a station at Sloane square it will come in close touch with the District Railway There will be a power station at Chelsea where the line crosses the river to Battersea park. The next station will be Queen's road (Battersea), Lavender hill and Clapham Junction following

There will be some 100 miles of line in these combined railways with a service at a few minutes' interval, while the proposed fares are of a revolutionary character From Hammersmith to Charing Cross 1*d*, and from Sloane street to the City 1*d*, from Cannon street to Stamford road 1*d*, and from Seven Sisters road to Palmers-green 1*d*, while the entire journey costs 4*d* Workmen's tickets at half fares will be issued from 4 o'clock to 7 30 A M, available to return by any train during the day It is intended to introduce where possible moving platforms sloping up to the street level to supersede the use of ordinary lifts. Unquestionably this group meets the recommendation of the joint committee on tube railways last year and will materially help the solution of the housing problem, connecting as it does north east and south west suburban London with a complete net-work of tubes and electric trams In view of the enormous and increasing population in the district through which the proposed City and North East Suburban Railway was to have passed and the greatly over crowded state of the existing railway accommodation the abandonment of the undertaking is a matter for regret.

Independent Lines

The Central London Railway —Leaving the Bank station it proposes to form a loop touching Liverpool street to connect with the North London and Great Eastern stations, returning to run west *viâ* Thames street, Ludgate-circus, the Strand, Charing Cross, Piccadilly, Knightsbridge, Kensington, Hammersmith, and to complete a circle by connecting with the existing station at Shepherd's Bush. The extension from Shepherd's Bush *viâ* Hammersmith and Kensington to the City was thrown out in committee, the loop to Liverpool street has been abandoned for the present. The committee could not well have come to any other decision, considering the public advantages offered by the competing scheme put forward by the London United Electric Company The committees have been jealous of admitting any proposals where there seemed a possibility of the concessions being utilised for the purpose of blocking the route for any other line, though in this instance there was nothing to indicate such an intention Sir Benjamin Baker, the engineer of the line, in his examination in support of the proposed extension of the Central London Railway to Hammersmith, returning to the City *viâ* Piccadilly and the Strand, was evidently anxious to convert the existing shuttle service into a circle, partly in order to avoid the trains having to cross over the line at each end, in continually doing which the men, he stated, were apt to get into a kind of "penny in the-slot" method of working which did not conduce to safety

The North-West London Railway —This line was authorised in 1899 but owing to financial reasons construction has been delayed. Its promoter seeks an extension of time to complete, which has been granted by the committee. The proposed line will run from the Marble Arch through Maida vale, Kilburn, Brondesbury, and Cricklewood to Child's hill Employers of labour will be permitted to purchase workmen's tickets in bulk to dispense to their employés at 1½*d* for a single whole distance journey and 2½*d* for the double one.

The Great Northern and City Railway —Authorised from Moorgate street to Finsbury park. This line is almost completed, the stations having yet to be finished. It is the largest-sized tube yet constructed, being 16 ft. in diameter as against 11 ft. 6-in. on the Central London line. The lower portion of the tube is constructed in brickwork. It was originally intended to allow the Great Northern Company's trains to run through to Moorgate-street by changing the ordinary locomotive for a motor at Finsbury park For some reason unknown to the public this arrangement with the Great Northern Company collapsed, and the line will now be run independently as an electric railway although with the moral support of the Great Northern Company The generating station is at Pool-street on the Regent's Canal. It is the largest yet built, the engine house alone measuring 122 ft. by 52 ft. by some 60 ft. high. An extension from Moorgate-street to Lothbury was passed in committee. It is proposed to connect the Lothbury station with the existing Bank station by a subway There will be five lift-shafts sunk between the corner of the Bank and Moorgate-street with an underground station, and this has given rise to a special Bank clause for the protection of the building The next station from Lothbury will be Moorgate-street and then Old street, up to which point the tube runs in the same direction but below that of the South London line just beyond Old street the lines diverge the South London line going up the City road and the Great Northern and City line going up the New North *road to a station at Essex road, afterwards taking a direct* line through Canonbury under the North London Railway to Highbury and from there to Finsbury park. A further extension is intended to Wood Green.

The London County Council Subway for Electric Trams — This will run from Holborn to the Embankment and the tunnel will be 18 feet wide by 13 feet high. Starting from Theobalds road its course lies under the new avenue down to the Embankment, the idea being by means of proposed tramways along the Embankment to connect the present terminus of the East-End trams at Theobald's-road with the trams on the south side of the river There is, and has been a good deal said about the trams spoiling the Embankment. As a matter of fact, the road is but little used as a promenade. The place has missed its opportunities A row of good shops, with cafés, tables for coffee, chairs under the trees and a theatre would have utilised a splendid thoroughfare and relieved the Strand of its congested traffic—perhaps the cafés and theatres will come in time with the trams.

The City and Brixton Line —This is a line that has recently emerged from obscurity making a bid for popularity by assuming the seductive title of the City and Surrey Railway" It is under the guidance of Mr Harry J Lawson, and is in some way associated with the South London tube line, having received Parliamentary powers in 1898. It proposed to occupy the abandoned station of the South London line at the Monument and the tunnels in connexion under the Thames. Want of enterprise on the part of investors has blighted the earlier prospects of this undertaking A capital sum of over £1,000,000 is likely to be required but the contractors are, it seems, anxious to begin work and will start operations upon £150 000 being raised, for which they will pay interest to investors at 5 per cent. during the progress of the work. Nay more they will give a bonus to shareholders of some 17½ per cent. out of their own little profits. Parliament is to be asked to extend power to carry the line as a light railway to Reigate and eventually to the sea. This is romantic nonsense. What contract would bear profits such as would admit of 17½ per cent. being given out of them? Or how could the little station at the Monument with the small tubes under the Thames suffice for a busy local traffic and a long distance main line traffic also? The station and tubes might possibly manage the former but certainly not the latter

Such are the main schemes in course of completion. Upon the whole the committees have made a wise selection from the many projects submitted to them and have evidently looked at them, not so much from the individual as from the collective standpoint. The result should be a relief of the congested street and suburban railway traffic, a help to the solution of the housing problem, and a consequent reduction of the existing danger to health from overcrowding

The throwing out of the Bill to extend the South London" line from the Angel" at Islington to Euston is from the point of public convenience a matter for regret

In THE LANCET of May 12th 1900 *just prior to* the opening of the Central London Railway there was published an article dealing with the probable effect of the construction of the line upon the drainage of the subsoil water in its vicinity subsequent events have rather strengthened than modified the views then expressed and we refer our readers to the article in question. Our forecast was in all interested quarters described as an unwarranted attempt to scare the public, so that no one need be surprised to find our view largely confirmed by subsequent events. In the discursive remarks that follow upon certain details in the construction of tube railways—especially in regard to the prevention of accidents and of nuisance from vibration and the provision of proper ventilation—it will be seen that upon the whole we take a cheerful view of the undertakings But the public is much more awake now than it was two or three years ago to the inconveniences and risks that may counterbalance the advantages of underground travelling

The questions connected with the construction of the proposed lines are of such a highly technical nature that no one but an engineer would venture upon technical criticism, but criticism is not valueless because it is not technical Into the respective merits of a three-and a half or four and a half chain curve it is impossible, for example, for us to enter but it must be evident to the least initiated that a train running at a high rate of speed down a gradient such as, say from Piccadilly to Charing Cross, and making *too sharp a turn round to the Strand* at the *bottom of the* hill, stands some extra chance of being derailed in the case of the sharper curve.

Diameter of the tube —There exists some diversity of professional opinion as to the desirability of using tubes of 11 feet and six inches in diameter as at present in use on the Central London line, or of 13 feet and six inches, the minimum size suggested by Colonel Yorke, electrical adviser to the Board of Trade, who holds strongly to this opinion. The latter size greatly increases the cost of construction. Mr Brereton Sir J Wolf Barry's partner as engineer to the proposed Brompton and Fulham line, estimates the cost of a tube of 11 feet and six inches on his line at £40 per yard, and of a tube of 13 feet and six inches at £48 per yard, but the larger tube has the advantage of permitting the use of the ordinary railway rolling stock, while giving greater facilities for repairs to the lines, which is important in the case of all night services and for the exit of passengers in the event of a breakdown. There would seem also to be another important advantage that relates to ventilation

Ventilation.—Should a serious breakdown occur the probability is that between the stations most widely apart there would be two trains in the tunnel at one time. In the smaller tube the circulation of air would then be greatly impeded. It has now been generally admitted that the hopes of the engineers as to the ventilation of the tunnels by the passage of the trains have not been realised and efforts are being made on the Central London line to accomplish this at night by a process of exhaustion. This considering the numbers carried, must be quite inadequate to the requirements. At present it is very noticeable how large a proportion of the passengers are affected by the influence of an excessive quantity of carbonic acid gas associated with other human exhalations. What might result from a prolonged exposure in the event of a serious accident is not pleasant to contemplate. There have been one or two fatal cases in which people have fallen upon the line from some cause not very clearly defined. It is understood that the Great Northern and City railways will have a continuous current of fresh air admitted at some point between each station. This in conjunction with the large size of the tube should give very good results

Both Mr Yerkes and Mr Perks (the chairman of the Metropolitan District Railway) in giving evidence on the tube lines connected with the District Railway undertook to change the air of each mile of tube every 45 minutes presumably by a *system of fans. The difficulty in* the existing lines is no doubt greatly increased by the continued action of the lift which are constantly reversing the draught. Colonel Yorke would wish the fans to be driven by some other motive power than electricity so that in the event of any breakdown in the electrical arrangements the fans would still continue to work.

Accidents —Much has been said in committee as to the desirability of side doors to the cars and side tunnel platforms for use in any emergency The opinion expressed by Mr Yerkes is that they would tend to disaster during a panic. In the event of an accident that is quite conceivable Doors at each end of the train with a centre platform are suggested in preference but should a train be derailed collide with the sides of the tube few, if any, of these doors would open. It would be one more chance in the passenger's favour when the train was on fire if all such doors were skeleton ones filled in with some fabric which could be easily cut through with a penknife. The minds both of Mr Yerkes and Sir Alexander Binnie are exceedingly receptive to fresh opinions and this, though excellent in its way, makes their views sometimes difficult to follow Sir Alexander Binnie, for instance, last year gave evidence that confluent junctions were things to be avoided, but in his recent examinations his evidence seemed to be entirely in their favour, possibly Mr Yerkes may have succeeded in convincing him of his former error Mr Yerkes, again, stated that at one time he was satisfied that a tunnel of 11 feet and six inches was too small and that there ought to be a footway at the side of the train, he is, we believe, now convinced that for safety one of 11 feet and six inches is the best. The reason which he gave was that in the case of the train being derailed a side platform would be swept away, but he proposed to put a centre platform, though what was to prevent this being swept away also he did not state Sir Douglas Fox, engineer to the North East London Railway, is in favour of the side platform, under which he proposes to place the conductors Some kind of platform is necessary as it might be required for use in the event of a breakdown The possibility of a fracture in the tube itself admitting water and thus setting up electrical connexion between the wreckage and the broken cables underlying the fractured platform might form an unpleasant feature in an accident. In a recent case at the West End of London the accidental fracture of a water main resulted in the setting up of a short electric circuit in one of the public supply cables, the effect of which was to boil the escaping water in the short space of time that elapsed between the accident and the fusing of the cut-out on the cable It would seem within the bounds of possibility that side guide wheels might be used in the smaller tube, thus lessening the chance of derailment and perhaps permitting the use of increased speed

The London County Council and Colonel Yorke (on behalf of the Board of Trade) wisely advocate the lighting of the tunnels It is to be hoped that the current supplying such lights will be generated and conducted by a system entirely independent of that supplying motive power as will be the case on the Great Northern and City line The same may be said of the signals

Vibration.—The bitter complaints of the nuisance due to vibration made by a section of the public dwelling above the course of the Central London Railway have roused the strongest opposition on the part of those likely to be affected by the proposed new lines. In a discussion on a paper read at the Auctioneers' Institute in December last by Mr G M Freeman, K.C, Mr Minshall maintained that one cause of the vibration on the Central London Railway arose from the gauge being six inches too narrow In the experiments conducted by Lord Rayleigh's committee the trains made up upon the multiple unit system, first used by Mr Frank Sprague of New York, were found greatly to reduce the evil, though the extent to which this was successful upon the line in question has been variously estimated. The promised immunity from vibration seems to depend upon the fulfilment of several conditions First, upon a more equal distribution of weight hroughout the length of the trains The heavy, almost pringless engines, weighing possibly some 40 or 50 tons, are o give place to light spring motor cars alternately coupled ith ordinary cars or trailers upon the multiple-unit system use on the American elevated lines Another condition the character of the rails used and the method adopted for ing them. The rails in use upon the Central London line ere vibration has been most pronounced, are bolted ctly on to the sleepers through the broad bottom web he rail, each rail, however, being independent of its hbour The form of rail now proposed differs in section this last and is attached to the sleepers by chairs while also bolted to the adjoining rail with fish plates, the hus forms one continuous whole This avoids the jerk the depression of each rail as the engine passes from the other A third condition is sinking the tubes to a depth This last may minimise the intensity of any ent but will probably ext the area over which it felt

isk—It is to be any calamity similar to orable accident on the iverpool Overhead Railway will be avoided by the adoption of precaut of which the sad loss of life on the L be attributed. Colonel Yorke, in his evi Windsor's committee anticipated little dif against this evil if the use of wood w cables and electrical machinery, or if, were protected by some non-combustible n he advocated the general use of non comb for all trains, stations, signal cabins, a sunk buildings If wood must be use owing to their lessening vibration they creasoted but rendered non-inflammable by Mr Yerkes informed the committee was in t Compressed asbestos will probably take the lighter woodwork. This is all very satisfac goes well, but in the event of an accident the ponents of a carriage will be apt to rearrange th live cables may form unexpected connexions. against fire the forced draught which it is now use for ventilating the tunnels will always driv in one direction, which is a factor worthy of cons providing means of exit in such an event.

Mr Yerkes's opinion is that the safest place for in the event of an accident is the carriage in w seated and he deprecates the use of the larger a tube with the side platform and side exits from the conducive to panic, and, generally speaking, perh right, but should the train catch fire and there be exit available at the end a ghastly holocaust woul while the panic would be too awful to contemplat smoke from creasoted sleepers might in such a case merciful deliverance from suffering

THE ANNUAL REPORT OF THE MEDI OFFICER OF THE LOCAL GOVERN MENT BOARD FOR THE YEAR

1900–1901[1]

FIRST NOTICE.

THE annual report of the principal medical officer of Local Government Board is a volume the publication of whi is looked forward to with interest by our readers, for it always certain to contain a very large amount of informatio in regard to the present sanitary state of England and the means which are being adopted for the improvement of the existing conditions In addition to this it gives an account of what is being done by means of careful laboratory experiments to elucidate points about which we are still in ignorance in regard to the etiology, and the prevention of disease. It can be said without boastfulness that no other country has produced so valuable a collection of works bea ing on questions of public health as this series of annu reports, the first of which was published in the year 1870

The present volume differs in no important point from it immediate predecessors and the arrangement of the contents is identical with that which was followed in previous years. The report of the principal medical officer, Mr W H Power, occupies no more than 26 pages and it serves as an introduction to the record of work done by the officers in his department, summarises the conclusions which they have adopted as a result of their inquiries, and emphasises the points which are particularly worthy of note in the year's work. The chief points to which attention is called are arranged under the headings Vaccination and Public Vaccination (p ix.), General Administrative Business of the Medical Department (p. xi.), the Distribution of the Plague and the Precautionary Measures adopted in the Country in view of its Advent (p xix.), and Scientific Investigations made by Officers of the Board (p. xxii.)

Several of the experienced members of the medical staff of the Local Government Board have recently been employed on work not directly connected with the department, to which, therefore, their services have for the time in great measure been lost. Dr H. F Parsons, whose special report some 12 years ago on the influenza epidemic was of its kind a perfect piece of work, has been appointed a member of the Departmental Committee to inquire into the organisation and staff of the Geological Survey Dr H. T Bulstrode was appointed a member of the Departmental Committee on Food Preservatives. Dr Theodore Thomson has been engaged on a special inquiry into the sanitary state of Dublin, an investigation undertaken at the instance of the Lord Lieutenant of Ireland. Mr Power as a member of the General Medical Council appointed by the Crown has also had some of his time occupied by attending the deliberations of that body so far as his office duties have permitted. The way in which the services of these medical officers have been sought to carry out duties not strictly within their province shows that their abilities, their industry, and their training are appreciated when serious work is wanted.

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[1] Thirtieth Annual Report of the Local Government Board, 1900-1. Supplement containing the Report of the Medical Officer for 1900-1. London: Eyre and Spottiswoode 1902. (Cd 747 Price 6s)

The report of the principal medical officer is followed by three appendices. Appendix A contains a digest of the vaccination officers returns with regard to children whose births were registered in the year 1898, together with five other reports concerning vaccination (pp. 1 to 60) This is followed by a summary of the work of the medical inspectors during the year 1900 (p. 61)—an abstract of medical inspections made in 1900 with regard to the incidence of disease in particular places and to questions concerning local sanitary administration (p. 67). A series of special reports made by Dr S Monckton Copeman (p. 77) Dr R. J Reece (p. 98) Dr S. W Wheaton (p. 113) Dr F St George Mivart (p. 126), Dr R. W Johnstone (p 149) and Dr E. Petronell Manby (p 165) respectively serve to show the manner in which the work of local inspection is carried out. Statistical details are given in regard to certain notified infectious diseases in 94 urban districts quarter by quarter and for the whole year 1900 (p. 176), and similar details are given in regard to each of the sanitary areas within the administrative county of London and in the county as a whole week by week, quarter by quarter, and for the whole year 1900 (p. 186)

The memoranda prepared or revised in the medical departments during 1900 are printed *in extenso* (pp. 228-257) Of these memoranda there are seven 1. On the Provision of Isolation Hospital Accommodation by Local Authorities revised August, 1900 This is a most useful document, clearly written and illustrated by plans showing how such hospitals should be built. 2. Plague Memorandum prepared September 1900 This memorandum deals with (i.) administrative considerations (ii.) symptoms of plague (iii.) directions for the use of the Haffkine plague prophylactic (iv.) directions for obtaining and forwarding for bacteriological examination material from suspected plague cases from the living person and from the dead body (v.) a general memorandum on the proceedings which are advisable in places attacked or threatened by epidemic disease (vi.) a memorandum as to the annual reports of medical officers of health (London) and an extract from the Order of the Local Government Board dated Dec 8th 1891, on the duties of a medical officer of health as regards the district or part of a district for which he is appointed and (vii.) a memorandum as to annual reports of medical officers of health in the provinces and an extract from the Order of the Local Government Board dated March 23rd 1891 as to the duties of a medical officer of health. These two last-mentioned memoranda should prove of great use Many medical officers of health especially in rural districts have entered upon their duties without having had much previous knowledge of or special training in matters pertaining to public health, and a considerable proportion of those living in the country have consequently been somewhat at a loss to understand what their exact duties are The memorandum will be of the greatest service to these officers, for it deals not only with the nature of the duties which they are called upon to perform, but gives admirable directions as to the best mode of doing them.

A report by Dr Parsons on Geological Considerations in relation to Public Health and Sanitary Administration (p 258) is a useful result of his investigation of the Survey Department, for it shows conclusively and in a short space the very great practical importance of geological conditions in their bearing on hygiene.

The two next appendices are the work of Dr R. Bruce Low Of these the first gives a summary of the Progress of Diffusion of Plague in 1900 (p. 264) and the second is a memorandum on Plague in England and Wales during 1900 and on certain precautionary measures employed to prevent the importation and spread of the disease (p. 283). These reports necessarily lose some of their interest from the delay which has occurred in their publication, for it already seems quite ancient history to recall the plague visitation of 1900 The scare which generally affected the inhabitants of the English seaports has not been without its uses for it has undoubtedly led many of the port sanitary authorities to effect improvements which without the spur of some unusual excitement might have been longer delayed. The last report of the series, which is by Dr Thomson gives an account of the general sanitary administration in some of the ports and riparian districts (p. 294) and as a result of his very careful investigation it is evident that many of the places which he visited were and some probably still are, in a state which reflects great discredit on the local sanitary authorities.

The second appendix (Appendix B p. 295-581) contains the reports of special investigations undertaken to determine some points in regard to the spread of preventable disease There are in all eight reports which show the results of the work done by Dr E Klein, Dr A. C Houston, Dr M H Gordon Dr Sidney Martin, and Dr J S. Haldane. The questions dealt with include studies on the spread of disease by means of certain articles of food, a report on the bacteriology of scarlet fever a note on the destruction of rats on board ship, and an important series of investigations dealing with the inoculation of soil with sewage, the nature of the antagonism of the soil to the typhoid bacillus and on the chemical and bacteriological examination of the water of Chichester Chichester it will be remembered, is a city which for years has supplied a constant field for the study of the etiology of typhoid fever and has already engaged the attention of more than one member of the Medical Department of the Local Government Board.

The third appendix (Appendix C p. 609) contains reports by Dr F R. Blaxall Mr H S. Fremlin, and Dr Alan B Green on research work in connexion with glycerinated calf lymph. Mr Power in his introductory remarks to this part of the work of his medical staff explains that they habitually test the efficiency of the glycerine process as used at the lymph laboratories for the purpose of eliminating from the successive series of lymphs which are undergoing the process of maturation those extraneous micro-organisms which are commonly associated with lymph as collected from the calf They have also done much work in gaining a knowledge of the bacteria of vaccine lymph and of the methods necessary for the detection the isolation and the identification of these organisms They have closely studied the condition of lymph glycerination. Finally they have searched for agencies other than glycerine more competent than that medium to eliminate from the lymph extraneous micro organisms and free also from that ultimately deleterious effect on the activity of vaccine which is apt to result from long sustained association of the lymph with the glycerine" (p. xxxiii.)

In their reports Dr Blaxall and Mr Fremlin refer to the Report of THE LANCET Special Commission on Glycerinated Calf Vaccine Lymphs[1] (pp. 610 611 610) with the results of which they are not in accord The experiments which they have carried out and of which details are given lead them to believe 1. That glycerinated calf lymph contains no organisms which can be described as anaerobic—that is none which are capable of growth under strict anaerobic conditions and incapable of growth under aerobic conditions 2. That all the extraneous organisms are facultative anaerobes, that is can grow under either aerobic or anaerobic conditions, with the single exception of bacillus subtilis which is well known to be an obligatory aerobe. 3. That the extraneous organisms grow equally well under aerobic and anaerobic condition in equal numbers and with colonies of similar appearance, with the exception that under anaerobic conditions produced by hydrogen the development of definite pigments is to a large extent lost 4. That glycerinated calf lymph contains no spore-bearing organisms, aerobic or anaerobic capable of growth on the various media used, other than the members of the mesenteric group commonly met with. 5 That in glycerinated calf lymph there are frequently present bacilli which often escape notice in ordinary plate cultivations They are usually few in number and probably occur only in the original plate where many colonies being crowded together and more or less ill developed they have no opportunity of displaying their characteristic forms and consequently are missed But these bacilli which belong to the proteus group, and very closely resemble proteus vulgaris, when placed in suitable media such as beef broth, and cultivated either aerobically or anaerobically, grow luxuriantly and multiply much more rapidly than do the staphylococci

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[1] THE LANCET, March [illegible]

Dr Blaxall has made a series of experiments on the effect of heat on the activity of crude calf lymph and on the contained extraneous organisms which it contains The results of his investigation, he believes, show (1) that it is possible for the vaccine organism to withstand a comparatively high temperature 57 5° C, for five minutes without loss of potency, (2) that the lethal point is a very exact one—all the lymph gave good results after exposure for five minutes to a temperature of 57 5° C, and all failed entirely after exposure for the same time to a temperature of 60° C (at 58 5° C only a feeble result was obtained or none), and (3) that there appears to be, on the part of the vaccine organism, a greater power of withstanding the effects of high temperature than that possessed by the extraneous organisms

Dr Alan B Green has made a series of experiments on the disinfectant action of chloroform and of various other substances on the specific and extraneous organisms of vaccine (pp 639, 663) The conclusions at which he has arrived are that the "specific vaccine virus can withstand the action of several substances besides glycerine which kill in part or wholly the extraneous organisms, in other words, that these substances appear to have a selective germicidal action on the micro-organism of crude calf lymph Of these substances chloroform employed in a saturated watery solution is the most important. Under its action the extraneous micro-organisms of crude calf lymph have been, as a rule, eliminated in from 24 hours to seven days, and the specific organisms have survived in every case as long as have the specific organisms in the glycerine "control" experiments, and in some cases for a longer period The experiments which have shown these results have up to the present time not been very numerous (20 or 30 in all), and Dr Green advises that his investigations should be continued as there is *prima facie* evidence that the use of chloroform in the preparation of vaccine might prove of considerable value Mr Power is evidently impressed with the importance of this research, for he concludes his report by commenting on it in terms full of hope "It affords prospect," he says, "of an agency in lymph manufacture not only more potent than glycerine as a germicide of extraneous micro-organisms but also considerably less deleterious than that substance in later antagonistic influence on the activity of the vaccine lymph after it has passed from the Board's establishment into the hands of the public vaccinators"

ARMY MEDICAL REPORT FOR 1900[1]

CONCLUDING NOTICE.[2]

CONFINING our attention to a few of the statistical results and salient points of this report we are glad to notice that, taking all forms of venereal diseases together, there was a decline in the ratios for 1900 among the troops serving in the United Kingdom as compared with those of the year before and with the average of the preceding 10 years

The number of invalids discharged the service in the course of the year 1900 on account of medical unfitness for further service was 5074, which gives a higher ratio per 1000 than in the previous year or than the average for the preceding 10 years This number includes 475 men who had returned from the South African field force invalided for disabilities contracted in the campaign. The full statistics, reserved for record at the conclusion of the war, ought soon to be in our hands Among the officers serving at home, whose average strength is given as 1329, we note that there were 16 deaths, giving a ratio of mortality of 4 0 per 1000 Influenza caused 260 admissions (one fatal) and there were five cases of enteric fever (1 2 per 1000) and no deaths

The average strength of women borne on the army in the United Kingdom in 1900 was 9148, of whom 53 died The ratio of sickness among them was 428 0 per 1000, and that of mortality 5 79, in both respects somewhat higher than in the returns for the previous year The average strength of the children borne on the army at home in 1900 was 18,156, with a sick-rate of 560 8 and a death rate of 20 82 per 1000, in both respects also somewhat higher than for the preceding year

As regards recruiting, we learn that the total number of recruits inspected during the year was 84 402 Of these 23 105 were rejected as unfit Including, however, those subsequently discharged within three months as unfit for service the total number of rejections equalled 23,745, or a ratio of 281 33 per 1000 The facts connected with recruiting and the causes of rejection are set forth as usual, with much laborious detail

There is nothing that strikes us as particularly new in the reports on the sanitary conditions of the different military districts and stations of the United Kingdom. At Golden Hill Fort Isle of Wight, we notice that a septic tank system of sewage disposal has been installed and has been in use for about a year at Warden Battery It is said to have required little or no attention. At Netley it is reported that defects were discovered in connexion with the flushing of the water closets, the fittings and pipes of which were destroyed by the chlorinated water produced by the Hermite process At the Royal Military Academy, Woolwich, it is remarked that two large corrugated iron huts had been erected to afford increased hospital accommodation and the need of another similar hut for infectious cases had been represented (Is there not accommodation available for this purpose at the Herbert Hospital?) Passing over the Mediterranean stations and coming to the sanitary report for Bermuda we notice that the main feature of the decline of enteric fever at that station is its coincidence with the gradual replacement of the dry earth system conservancy by a water carriage system The need of a destructor for burning ashbin refuse and the provision of a modern and efficient disinfector for hospital use are pointed out. We have already touched upon Mauritius, but seeing that plague occupies a place in the public health returns received from this colony, we may add that the town of Port Louis is stated to be insanitary, the barracks are old fashioned, defective, and unsuitable, and the surroundings are objectionable. According to the report the town is saturated with the filth of ages and badly drained The soldier is the chief sufferer, as his residence there is at present compulsory Both sick and and non effective ratio would, it is alleged, be surprisingly reduced if Port Louis ceased to be occupied altogether or if its garrison were reduced to the utmost possible extent.

It will be remembered that a large number of Boer prisoners of war were deported to Ceylon Two large camps, the report tells us, were established for them at Diyatalawa. The sanitary arrangements of these camps were carefully worked out with most satisfactory results

Passing on to the long and elaborate report "on the health of European troops serving in India," we find that during 1900 there was a decrease of 7144 in the strength of these troops as compared with 1899, mainly caused—but not entirely for there were other contributory causes—by the non replacement of the troops sent to South Africa in that year

The following table shows the admission, death, invaliding, and constantly sick rates among the troops in India during 1900 —

Average strength for 1900	Admissions	Deaths			Invalids		Average constantly sick	Ratio per 1000 of strength.				
		In the command	Of invalids	Total	Sent home	Finally discharged		Admissions	Deaths	Invalids sent home	Invalids finally discharged	Constantly sick.
60 553	69 225	885	45	930	2026	677	4 342·21	1 143 2	15 36	33 46	11 18	71·71

As regards enteric fever, the most notable fact about it is the decrease in the prevalence of this disease among the troops in 1900—a decrease in the average number of men constantly sick, which, as compared with the preceding year amounts to 72.50. At page 153 of the report there is a table which sets forth the results in figures of enteric fever in 1899 and 1900 respectively. It is well known what a terrible scourge this fever has for many years past proved to be to the British army serving in India, and as far as the mortality is concerned enteric fever in 1900 still gave rise to 32.65 per cent. of the total death-rate from all causes as compared with 40.37 per cent. in 1899. Statistically speaking, however, there was a great diminution in the admission and mortality ratios for enteric fever in the Bengal and Punjab commands, though the case-mortality was high, being 29.8 per cent. of those attacked. The admission and mortality rates for 1900 are both lower than for any year since 1888. The disease was general and not confined to particular stations. A severe outbreak at Quetta was the chief cause of the increased admission and mortality rates in the Bombay command. While the decreased number of admissions for enteric fever in India during 1900 is mainly, as well as in our opinion rightly, attributed at page 159 of the report to the suspension of the trooping system and the consequent absence of drafts of specially susceptible material, it is nevertheless right to add that this fact does not wholly account for the decreased prevalence of enteric fever. Reasons are assigned for believing *that the decrease was partly due to more satisfactory causes* than the absence merely of susceptible men. Almost all the points connected with the causation of enteric fever in India are noticed. The exhaustive and carefully considered article by Major T. O. McCulloch, R.A.M.C., on Enteric Fever amongst the British Troops in India, published in the Appendix, should be read in connexion with this subject. What he adduces in regard to the relative prevalence of this fever in the cavalry as compared with other arms of the service is new and interesting. Munson in his work on "Military Hygiene" has also pointed out the much greater prevalence of enteric fever among the cavalry of the United States Army.

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[1] Army Medical Department Report for the year 1900 with appendix Vol XLII London Printed for His Majesty's Stationery Office by Harrison and Sons St. Martin's lane Printers in-ordinary to His Majesty 1902. Price 2s 3d.

[2] The first notice was published in THE LANCET of August 9th, p 398

One thing seems to us quite clear—namely, that we are still far from having exhausted all the points connected with the etiology and causation of typhoid fever in armies. It is all very well arbitrarily to take up some one particular view and, because it can, for instance, be shown to be a water-borne disease, to say that *that* is the sole and exclusive source of its spread, but is it the correct view? There are too many *people who simply* content *themselves with mentally affixing* "water-borne" to this form of fever as if it were a label which both described its nature and causes and the only vehicle through which its infection was spread. No account is taken of the influence of direct infection, fouled soil, dust storms, and insectivorous agency in the spread of the disease in tropical and sub-tropical climates. Sir William Taylor, when principal medical officer in India, was simply repeating the results of the previous experience of others when he reported in 1898, "The liability of troops on service to enteric fever, even when encamped on what appears to be virgin soil, is a fact in regard to which almost all observers are unanimous, and a considerable part of the increase in both the admission and mortality rates for 1898 can be accounted for by field service." He goes on to say that the disease is endemic in most military stations in India, that cases may come from all parts of barracks, and that even when it assumes an epidemic form it is often impossible with any degree of certainty to trace the disease to specific contamination of water, milk, *food*, or *air*, and *he adds that the enteric* fever bacillus may be more widely distributed than our present knowledge leads us to suppose. We know much more now than we did about the length of time during which the typhoid bacillus may remain in the tissues of the body whilst still retaining its potential activity, and more also about the conditions under which the bacillus can exist outside the body. The part which the urine may play in the spread of infection is also a very important and persistent factor which has not been, and is not even now, sufficiently taken into account. It is in all probability a fertile means of spreading the disease, seeing that the specific bacilli are often to be found in it in enormous numbers. We have in the previous article called attention to the exhaustive and elaborate Report of the Commission on the Typhoid Fever Epidemics in the Camps of the United States Army in 1898. Ample opportunities were afforded to the commission owing to the widespread prevalence of this fever (more than 90 per cent. of the regiments developed typhoid fever within eight weeks of going into camp) for going into the whole subject from a many-sided and all-round point of view. The commission certainly seems to have spared no pains in order to discover the origin of the disease and to trace out the various ways and channels by which the infection was spread in the various encampments. But our great point in calling attention to this American report is, as we have already said, its very important bearing and the new and strong light which it throws on the typhoid fever of armies. The causation of this disease is *the* question of the day for the army sanitarian.

Among the articles in the Appendix many call for notice which only want of space prevents us from giving, but we must call attention to the report on the Progress of Hygiene for the year 1900–1901, contributed by Major R. H. Firth, R.A.M.C., the present professor of military hygiene at the Army Medical School, Netley. It is an excellent and most useful record, the materials for which have been judiciously selected and put together and commented upon in an interesting and instructive way. This is followed by a report giving a list of operations at the Royal Victoria Hospital in 1900–1901, with notes on some of the operation cases and remarks on some of the work done in the surgical division, by Major W. Dick, R.A.M.C., the assistant professor of military surgery. In the *Appendix will also be found the first annual report of* the Pasteur Institute in India by Major D. Semple, R.A.M.C., the instructions concerning army railway ambulance carriages (with diagram), and the tables showing the results of preventive inoculation against enteric fever during 1900. These tables and the remarks submitted by the principal medical officer of India on the figures connected with the inoculations in that country are somewhat intricate and do not readily lend themselves to any brief statement and analysis.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF *THE LOCAL GOVERNMENT BOARD*

On Prevalence of Throat Illness in and near the Ditcham Park Estate in the Catherington and Petersfield Rural Districts of Hampshire,[1] by Dr. L. W. DARRA MAIR.—Small outbreaks of infectious disease in sparsely populated districts are worthy of careful study from the view-point of epidemiology. In such circumstances it is often possible to trace infection to a common cause or causes with greater certainty than in populous neighbourhoods. Dr. Mair's report deals with "throat illness" which prevailed between April and August of last year among the inhabitants of some 20 dwellings scattered about the Ditcham Park Estate in Hampshire to an extent which caused the owner of the estate to make a strong appeal for inquiry to the Local Government Board. The illness was in different instances diagnosed as scarlet fever, diphtheria, and quinsy. Excluding two doubtful cases 22 persons living in 10 houses were attacked during the period. In several the illness was severe, and two cases were fatal.

Dr. Mair devotes the greater part of the report to a statement of the information which he *obtained from medical* practitioners concerned and from personal inquiry of the inhabitants at each of the dwellings affected. He then sums up the evidence and concludes that two distinct infections were operative, scarlet fever with distinctive rash which attacked six cases in two dwellings, and "sore throat illness," without scarlatinal rash, which attacked 16 cases in eight dwellings. Scarlet fever without rash is not uncommon, but, as Dr. Mair points out, if the disease in these eight houses had been scarlet fever it is most improbable that no rash would have been manifested in any of the 16 cases. Moreover, all the eight households concerned contributed children to the small school which serves the estate and which afforded several opportunities of infection, whereas the two scarlet fever households had no relation with this school. The evidence that the "sore throat illness" was diphtheria, however, had a good deal in its favour, particularly the fact of the severity of the illness in some cases and the occurrence of two deaths out of the 16 On the other hand, no diphtheria bacilli were found in single specimens of throat swabs from two cases taken at the end of the epidemic

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[1] London: Eyre and Spottiswoode, East Harding-street; [illegible] Oliver and Boyd; Dublin: E. Ponsonby. Price 3d.

The interest of these observations lies in the fact that the introduction of these illnesses at Ditcham Park can be referred with a considerable degree of certainty to a single case A family named Case went from Portsmouth to live at Ditcham Park on April 11th, leaving at Portsmouth Isolation Hospital a child suffering from scarlet fever. This child left hospital and went to her new home on May 23rd. A week before, May 17th, her convalescence had been interrupted by a slight attack of adenitis, and about that time several cases of post-scarlatinal diphtheria had occurred in the hospital The circumstantial evidence which suggests that the return of this child was the starting point of both infections in Ditcham Park, the scarlet fever series and also the "sore throat" series, is fairly strong, and in Dr Mair s view an assumption that on discharge from hospital this child not only retained scarlatinal infection (in other words, was capable of producing the familiar "return case") but also retained 'infectious sore throat," or diphtheria, infection, would afford a consistent explanation of a sequence of events not otherwise easily capable of elucidation. Dr Mair refers, however, to two elements of uncertainty one that the other Case children, all of whom had previously suffered from scarlet fever, developed neither scarlet fever nor "sore throat illness" on return of their sister, and the other, that in the scarlet fever series the possibility of infection through washing scarlet fever infected clothes brought from Portsmouth to Ditcham could not be altogether excluded. In this connexion he criticises the practice adopted at Portsmouth of making a charge of 5*s* and upwards for disinfection of bedding and clothing from infected premises The report as a whole affords a suggestive contribution to the difficult question of "mixed infections"

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 76 of the largest English towns 9568 births and 4419 deaths were registered during the week ending August 16th The annual rate of mortality in these towns, which had been 14 1 and 13 6 per 1000 in the two preceding weeks, rose again last week to 15 5 per 1000 In London the death rate was 15 8 per 1000, while it averaged 15·4 in the 75 other large towns. The lowest death rates in these towns were 5 6 in Handsworth, 7 6 in Bournemouth and in Wolverhampton, 8 0 in Warrington, 9 0 in Hornsey, 9 7 in Southampton, 9 8 in Tottenham, and 9 9 in Plymouth and in Stockport, the highest rates were 19 4 in Gateshead, 19 5 in Wigan and in Middlesbrough, 19 7 in South Shields, 21 3 in Liverpool, 20 2 in Tynemouth, 22 2 in Stockton-on-Tees, and 22 3 in Wallasey The 4419 deaths in these towns last week included 642 which were referred to the principal infectious diseases against 552, 579, and 584 in the three preceding weeks, of these 642 deaths 245 resulted from diarrhœa, 114 from measles, 104 from whooping cough, 70 from diphtheria, 52 from scarlet fever, 48 from "fever" (principally enteric), and nine from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Southampton, Great Yarmouth, Handsworth, Smethwick, Bury, Newport (Mon.), or Swansea, while they caused the highest death-rates in West Ham, Norwich, Bristol, Hanley, West Bromwich, Bootle, and Rhondda The greatest proportional mortality from measles occurred in West Ham, Bristol Walsall, Stockton on Tees, West Hartlepool, Gateshead, Cardiff, and Rhondda, from scarlet fever in West Bromwich and King's Norton, from diphtheria in Willesden, from whooping cough in Leyton, Portsmouth, Norwich, and Birkenhead, from "fever" in Grimsby and Rhondda, and from diarrhœa in Reading, Norwich Bootle, St. Helen's, and Rhondda. Nine fatal cases of small pox belonging to the 76 large towns were registered last week, of these, five belonged to London and one each to West Ham, Leyton, Walthamstow, and Liverpool There were 170 small-pox patients under treatment in the Metropolitan Asylums hospitals on Saturday, August 16th, against numbers declining from 1515 to 239 on the 16 preceding Saturdays; 24 new cases were admitted during the week, against 23, 44, and 21 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2486, 2562, and 2591 at the end of the three preceding weeks, had further increased to 2595 at the end of last week, 303 new cases were admitted during the week, against 397, 382, and 295 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 128, 135, and 131 in the three preceding weeks, rose again last week to 159, and were 8 above the corrected average number The causes of 41, or 0 9 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Bristol, Nottingham, Salford, Bradford, Newcastle, and in 47 other smaller towns, the largest proportions of uncertified deaths were registered in Norwich, Hanley, St Helens, Preston, and South Shields

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16 6 and 13 9 per 1000 in the two preceding weeks, rose again to 15 7 per 1000 during the week ending Saturday, August 16th, and exceeded by 0 2 per 1000 the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 11 9 in Leith and 14 1 in Dundee and in Perth to 19 2 in Paisley and 21 2 in Greenock The 507 deaths in these towns included 25 which resulted from whooping cough, 23 from diarrhœa, nine from measles, five from "fever," one from scarlet fever, and one from diphtheria, but not one from small-pox. In all, 64 deaths resulted from these principal infectious diseases last week, again 48 and 46 in the two preceding weeks These 64 deaths we equal to an annual rate of 2 0 per 1000 which was 0 3 p 1000 below the mean rate last week from the same diseas in the 76 large English towns The fatal cases of whoopin cough, which had been seven and 16 in the two precedi weeks, increased last week to 25, of which 14 occurr in Glasgow, five in Aberdeen, two in Edinburgh, two Dundee, and two in Leith The deaths from diarrhœ which had been 21, 19, and 16 in the three precedi weeks, rose again to 23 last week, and included 11 Glasgow, four in Aberdeen, three in Edinburgh, two Dundee, and two in Leith The fatal cases of measle which had been 12 and five in the two preceding week increased again last week to nine, of which five were regi tered in Paisley, two in Glasgow, and two in Edinburg The deaths referred to different forms of "fever," which ha been three and four in the two preceding weeks, further ro to five last week, and included two in Glasgow and tw in Edinburgh The deaths referred to diseases of th respiratory organs in these towns, which had been 80, 7 and 63 in the three preceding weeks, rose again la week, and were 20 in excess of the number in the co responding period of last year The causes of 17, or mo than 3 per cent, of the deaths registered in these eight town last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 21 2 and 20 per 1000 in the two preceding weeks, futher declined to 19 per 1000 during the week ending August 16th. During th past four weeks the death rate has averaged 20 3 per 1000 the rates during the same period being 14 2 in Londo and 15 6 in Edinburgh The 142 deaths of person belonging to Dublin registered last week showed a decline of five from the number in the preceding week and included 24 which were referred to the principal infectious diseases, against 15, 29, and 30 in the three preceding weeks, of these 20 resulted from measles, two from "fever," one from scarlet fever, and one from diarrhœa, but not one from either small pox, diphtheria, or whooping cough These 24 deaths were equal to an annual rate of 3 3 per 1000, the mean death rate last week from the same diseases being 3·0 in London and 1 5 in Edinburgh. The fatal cases of measles, which had been eight, 18, and 20 in the three preceding weeks, were again 20 last week. The deaths from "fever," which had been two and four in the two preceding weeks, further declined last week to two The 142 deaths in Dublin last week included 27 of children under one year of age and 29 of persons aged upwards of 60 years, the deaths both of

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY 1902.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,579,107	241	1876	1064	1	438	8	25	463	1	4119	9·4	52	177	49	110	203	—	68	—	222	881	2·0	6039	13·8	108
West Districts.																										
Paddington	145,107	5	34	26	—	15	—	2	16	—	98	7·0	—	—	—	2	—	—	2	—	6	10	0·7	134	9·6	62
Kensington	177 605	8	32	22	—	16	—	3	19	—	100	5·9	—	5	—	2	1	—	4	—	9	21	1·2	197	11·6	116
Hammersmith	114,210	6	31	23	—	8	—	1	10	—	79	7·2	4	5	1	2	4	—	2	—	9	27	2·5	149	13·6	116
Fulham	143 102	1	43	42	—	8	—	—	13	—	107	7 8	—	6	3	4	9	—	1	—	21	44	3 2	193	14·0	139
Chelsea	74 018	1	22	10	—	2	—	3	7	—	45	6·3	1	2	1	—	3	—	—	—	2	9	1 3	100	14 1	103
City of Westminster	180,800	2	48	39	—	12	—	—	14	—	115	6·6	—	5	2	7	2	—	1	—	4	21	1 2	256	14·7	163
North Districts																										
St. Marylebone	132,069	1	52	33	—	18	—	2	15	—	121	9·6	—	3	1	4	1	—	3	—	8	20	1·6	177	14 0	72
Hampstead	83,743	—	29	16	—	3	—	2	2	—	52	6·5	—	1	—	1	—	—	1	—	2	5	0·6	63	7·8	45
St. Pancras	236,506	16	140	78	—	17	1	—	22	—	274	12·1	9	12	4	7	11	—	1	—	3	47	2·1	338	15·0	115
Islington	337,263	9	118	78	—	40	—	—	28	—	287	8·3	4	9	—	5	14	—	2	—	5	39	1 2	402	12·4	115
Stoke Newington	51 700	2	13	11	—	2	—	—	2	—	30	6 1	—	1	—	—	3	—	2	—	3	9	1 8	48	9·7	102
Hackney	221 928	3	90	49	—	19	1	2	32	—	196	9·2	1	8	1	4	10	—	4	—	14	42	2·0	263	12·5	74
Central Districts.																										
Holborn	58,535	2	35	10	—	6	—	1	6	—	60	10·7	—	1	—	—	5	—	2	—	2	10	1 8	93	16·6	46
Finsbury	100 487	38	40	34	—	17	—	2	8	—	139	14 4	6	7	1	5	7	—	2	—	10	38	3·9	193	20·0	117
City of London	25 598	5	8	17	—	—	—	—	3	—	33	13 4	—	2	—	3	—	—	—	—	1	6	2·4	53	21·6	152
East Districts																										
Shoreditch	117 900	3	29	24	—	12	2	2	12	—	84	7 4	1	8	3	3	6	—	2	—	7	30	2·7	187	16·5	148
Bethnal Green	129,520	20	57	23	—	19	—	1	28	—	148	11·9	1	4	1	3	9	—	2	—	10	30	2·4	206	16·5	148
Stepney	300,551	13	119	78	—	38	—	—	63	—	311	10·3	7	18	5	6	17	—	8	—	24	85	2·9	504	17·5	131
Poplar	169 214	9	66	34	—	24	—	1	18	—	152	9·4	3	4	1	3	16	—	4	—	15	40	2·8	251	15·5	129
South Districts																										
Southwark	206,725	6	130	70	—	31	—	—	23	—	260	13 1	3	24	5	9	14	—	3	—	11	69	3·5	385	19·4	129
Bermondsey	130,218	7	61	32	—	14	1	—	20	—	135	10·5	—	15	2	3	8	—	2	—	8	38	2·9	219	17 5	117
Lambeth	306,102	11	177	44	—	26	3	—	26	1	288	9·8	1	3	4	6	11	—	4	—	12	41	1·4	388	13 2	82
Battersea	171 401	18	71	33	—	14	—	—	17	—	163	9·3	1	9	2	2	6	—	1	—	3	24	1 5	183	11 1	83
Wandsworth	241 810	7	81	71	—	18	—	—	23	—	200	8·6	1	12	2	4	6	—	4	—	11	40	1 7	245	10·6	65
Camberwell	262,775	17	141	74	1	24	—	1	18	—	276	11·0	3	7	3	15	14	—	6	—	12	60	2·4	305	12·1	116
Deptford	111,577	6	64	19	—	10	—	—	17	—	116	10·8	—	2	1	1	7	—	1	—	5	17	1·6	143	13 4	99
Greenwich	98,013	7	64	12	—	2	—	—	5	—	90	9·6	1	—	1	—	3	—	—	—	3	8	0·9	84	8·9	61
Lewisham	132,432	2	55	40	—	7	—	1	6	—	111	8·7	3	2	2	5	10	—	2	—	2	28	2·0	138	10·9	90
Woolwich	119,[illegible]6	6	28	24	—	11	—	1	4	—	74	6·5	2	2	3	4	8	—	2	—	—	21	1 8	145	12·6	103
Port of London	—	—	—	—	—	5	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

infants and of elderly persons showed a slight decline from the number in the preceding week. Six inquest cases and three deaths from violence were registered, and 65, or nearly one-half, of the deaths occurred in public institutions The causes of 8, or nearly 6 per cent, of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JULY, 1902.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 9 4 per 1000 of the population, estimated at 4,579,107 persons in the middle of the year In the three preceding months the rates had been 10 5, 10 3 and 10 0 per 1000 respectively The rates were considerably below the average in Kensington, Chelsea, Hampstead, Stoke Newington, and Woolwich, while they showed the largest excess in St. Pancras, Finsbury, the City of London, Bethnal Green, and Southwark. The prevalence of small pox, which had been declining during the four preceding months, showed a further considerable diminution in July, among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras Finsbury, City of London, Bethnal Green, Stepney, Battersea, and Greenwich The Metropolitan Asylums hospitals contained 305 small pox patients at the end of last month, against 1442, 1274, and 837 at the end of the three preceding months, the weekly admissions averaged 45, against 319, 260, and 145 in the three preceding months. The prevalence of scarlet fever during the month under notice showed a slight excess over that recorded in the preceding month, the greatest proportional prevalence of this disease occurred in St. Pancras, Holborn, Southwark, Lambeth, Deptford, and Greenwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2176, 2222, and 2439 at the end of the three preceding months, had further risen to 2515 at the end of July, the weekly admissions averaged 322, against 258 274, and 251 in the three preceding months Diphtheria showed a slightly increased prevalence during July as compared with that recorded in recent months, among the various metropolitan boroughs this disease was proportionally most prevalent in St Pancras, Finsbury, the City of London, Southwark, and Lewisham. There were 1008 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1035, 960, and 975 at the end of the three preceding months, the weekly admissions averaged 165, against 140, 146, and 152 in the three preceding months The prevalence of enteric fever last month showed a marked excess over that recorded in any of the previous months of this year, the greatest proportional prevalence of this disease occurred in St. Marylebone, Finsbury, Bethnal Green, Poplar, and Southwark The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 115, 127, and 195 at the end of the three preceding months, had further risen to 289 at the end of July, the weekly admissions averaged 49, against 17, 19, and 38 in the three preceding months Erysipelas was proportionally most prevalent in Hackney, Bethnal Green Stepney, Bermondsey, and Deptford. The 25 cases of puerperal fever notified during the month included three in Kensington three in Chelsea, and two each in Paddington, St Marylebone, Hampstead, Hackney, Finsbury, and Shoreditch.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the five weeks ending August 2nd the deaths of 6039 persons belonging to London were registered, equal to an annual rate of 13 8 per 1000, against 16 8, 15 9, and 13 9 in the three preceding months The lowest death-rates last month in the various metropolitan boroughs were 7 8 in Hampstead, 8 9 in Greenwich, 9 6 in Paddington, 9 7 in Stoke Newington 10 6 in Wandsworth and 10 9 in Lewisham, the highest rates were 16 6 in Holborn, 17 5 in Stepney and in Bermondsey, 19 4 in Southwark 20 0 in Finsbury, and 21 6 in the City of London. The 6039 deaths from all causes included 881 which were
to the principal infectious diseases, of these 52
from small pox, 177 from measles, 49 from scarle
110 from diphtheria, 203 from whooping cough,
enteric fever, and 222 from diarrhœa. The lowes
rates from these diseases were recorded in Pad
Kensington, Westminster, Hampstead, Islingto
Greenwich, and the highest rates in Fulham, F
Stepney, Poplar, Southwark, and Bermondsey
fatal cases of small-pox showed a decline of 47 f
number in the preceding month, the greatest pro
mortality from this disease occurred in Hamm
St Pancras, Finsbury, Stepney, and Lewisham
deaths from measles were 86 below the average nu
the corresponding periods of the 10 preceding years
the various metropolitan boroughs this disease
portionally most fatal in Finsbury, the City of
Shoreditch, Stepney, Southwark, and Bermondse
49 fatal cases of scarlet fever showed a declin
from the corrected average number, the great
portional mortality from this disease occurred in
St Pancras, Shoreditch, Southwark, and Woolwic
110 deaths from diphtheria were 95 less than the
in the corresponding weeks of the years 18
among the various metropolitan boroughs diphth
proportionally most fatal in Westminster, Finsb
City of London, Southwark, Camberwell, and Le
The 203 fatal cases of whooping cough excee
corrected average number by 27, the highest pro
mortality from this disease occurred in Fulham,
Finsbury Bethnal Green, Poplar, and Lewishan
68 deaths from enteric fever were considerably
of the average number in the corresponding pe
the 10 preceding years, the highest "fever" de
last month were recorded in Kensington, St. Mar
Stoke Newington, Holborn, Stepney, and Popla
222 fatal cases of diarrhœa were only about on
the corrected average number, the greatest pro
mortality from this disease occurred in Hamm
Fulham, Finsbury, Bethnal Green, Stepney, and
In conclusion, it may be stated that the aggregate
in London last month from these principal infectious
was nearly 53 per cent. below the average.

Infant mortality in London during July, meas
the proportion of deaths of children under one
age to registered births, was equal to 108 per 10
lowest rates of infant mortality were recorded in Pad
St Marylebone, Hampstead, Hackney, Holborn, and
wich, and the highest rates in Fulham, Westmins
City of London, Shoreditch, Bethnal Green, and Ste

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified —Su
W Keith to the *Devastation* and H. V Wells to the

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel E O Wight takes over charg
Station Hospital, Devonport, from Lieutenant Col
Coutts, who proceeds to Salisbury Plain as staff o
Surgeon General G J H Evatt, P M O, Secon
Corps Lieutenant-Colonel H Charlesworth, C
appointed to succeed Surgeon General W G Don
depôt of the London Recruiting District, and Lie
Colonel J Latchford (retired) is appointed medica
in the Dublin Recruiting District.

IMPERIAL YEOMANRY

The undermentioned officer resigns his commiss
receives a new commission subject to the provision
Militia and Yeomanry Act, 1901, retaining his prese
and seniority, viz. —

Staffordshire (Queen's Own Royal Regiment) S
Captain E W Welchman.

VOLUNTEER CORPS

Royal Garrison Artillery (Volunteers) 4th D
Henry William Martyn Strover to be Surgeon Lie
1st West Riding of Yorkshire Surgeon Captain S
to be Surgeon-Major

Royal Engineers (Volunteers) 2nd West Riding o
shire (Leeds) Joseph Holmes to be Surgeon Lieuten

Submarine Miners The Severn Division Surgeon-Captain A. Rees to be Surgeon Major.

Rifle 2nd Volunteer Battalion the King's (Liverpool Regiment) Surgeon Captain N F Roberts to be Surgeon-Major. 4th Volunteer Battalion the Devonshire Regiment Surgeon Captain F B Manning resigns his commission. 1st Volunteer Battalion the Essex Regiment Surgeon Captain St. C B Shadwell to be Surgeon Major 14th Middlesex (Inns of Court) Surgeon Captain H. M Ramsay to be Surgeon Major Surgeon Lieutenant F C. Wallis to be Surgeon Captain.

Royal Army Medical Corps (Volunteers)

The London Companies Captain H. D Buss resigns his commission

Volunteer Infantry, Brigade Bearer Company

South Yorkshire Surgeon Captain W K. Clayton from 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry) to be Surgeon Captain and to command under paragraph 55A Volunteer Regulations.

Surgeon Lieutenant F J Sadler from the 2nd Volunteer Battalion the York and Lancaster Regiment, to be Surgeon Lieutenant.

Volunteer Officers' Decoration

The Volunteer Officers Decoration has been conferred upon Lieutenant-Colonel Francis Lawrance Stephenson of the Woolwich Companies, Royal Army Medical Corps (Volunteers).

Outspoken Criticism

The *Archives de Médecine Navale* an official journal published by order of the Minister of Marine," contains in its June issue a short article in which Dr. Astius Castellan who is a naval medical officer of the first class finds fault very unreservedly with the convalescent depôt for French colonial troops which has been established on the island of Porquerolles. This sanatorium, says the outspoken critic having been in existence since January 1898, ought by this time to be organised on a solid basis, but such is far from being the case. In the first place the site that has been pitched on is entirely unsuitable for the purpose. In this marvellous island continues Dr Castellan there are several places where the depôt could have been established under far better conditions, amidst the health bestowing emanations from the pine groves but instead of that it stands quite close to the village, on a bare hillock destitute of verdure and entirely unshaded. The rooms, professing to accommodate 16 convalescent men in each, are overcrowded he kitchen is only a kitchen in name being filthy full of cobwebs and shockingly furnished the latrine unprovided with water supply and very imperfectly cleansed, is placed to windward of the cantonment there are no drains pro erly so-called, only a few shallow trenches where putrescible matter lies stagnant and rotting in the sun the pharmacy and dressing room is so small and dark that it is impossible to examine or dress a patient in it finally in the immediate neighbourhood there is a village of some 250 inhabitants in which there are no fewer than seven liquor shops some of them being suspected of harbouring improper characters.

The Overcrowded Transports.

It is not easy to exaggerate the grave importance of the allegations that have been made regarding the disgraceful state of the transports conveying the colonial troops from South Africa to their various destinations. The affair has very naturally and properly given rise to a good deal of feeling in the colonies. A Royal Commission has been appointed and if the charges that have been advanced are substantiated we can only trust that the blame will be brought home to those concerned

The Welsh Hospital.

A handsome brass tablet to the memory of six members of the staff of the Welsh Hospital who died during the recent war in South Africa was unveiled in St. David Cathedral on August 14th by Lord Penrhyn The names on the tablet are those of Professor A W Hughes Professor T Jones Dr H. Davies T R Eames (dresser) Marion Lloyd (matron and Florence L. Sago (nursing sister).

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—In the list of gentlemen admitted on July 31st as Members of the College published in THE LANCET of August 9th p. 396 the following name was accidentally omitted —Andrew Elliot M A. M.D Edin.

Correspondence

"Audi alteram partem."

THE DUTIES OF A MEDICAL MAN AND THE LAW OF LIBEL

To the Editors of THE LANCET

SIRS,—I have read with interest the letter of Dr Shaw Mackenzie on the above but must confess that I think he has taken too gloomy a view in respect of the dangers run by medical men in the particular instance he quotes. He states in his letter that publication of a wife's disease to the husband would undoubtedly be sufficient to cause an action to lie against the medical attendant and suggests that an alteration in the law of libel is desirable. It is quite clear from the recorded cases that such a statement made *bonâ fide* by a medical man would be held to be privileged." Only lately in a case held at Leeds Assizes the learned judge extended the privilege in this respect not only to the communication made to the husband but also to the employer and also to the housekeeper in whose employment and under whose domestic care the wife was. Further than this privilege can hardly be expected to extend

I am Sirs yours faithfully

A. GEORGE BATEMAN

August 18th, 1902. General Secretary Medical Defence Union

PATENT FOODS

To the Editors of THE LANCET

SIRS,—I have read with much interest the valuable and exhaustive address by Dr R. Hutchison on Patent Foods published in THE LANCET of July 5th (p. 1) There is one point, however in respect of somatose that is worthy of note Dr Hutchison after stating that somatose is a good albumose food and a very rich one, containing 80 per cent. of digested proteid goes on to say that if it is given in anything like large quantities it is apt to produce diarrhœa and for that reason its use is seriously restricted in practice"

I do not think that this is a universal experience. I have used somatose more or less since 1897 and I have scarcely ever found that it has produced any diarrhœa and I am anxious to say a good word for it. I think that it is more than probable that the mode of administration has a great deal to do with the results obtained. It is imperative, in the exhibition of somatose, that it should be administered at first in small doses but frequently three, four or more times in 24 hours, gradually increasing every few days until the full dose is obtained. Another thing is also essential—that is, that it should be in *complete* solution before being swallowed. The only cases in which I have seen slight diarrhœa in the use of somatose are those in which this precaution has been neglected and the substance has been lumpy I have given somatose in adults in quantities of from three to six drachms per day and to children from 45 to 90 grains without any unpleasant effects and with the best results.

In July, 1899 I wrote a small brochure on somatose which appeared in the *Scalpel* during that month On reference to it I find that I have made no mention of diarrhœa but as there stated it has done me yeoman's service the great increase of body weight being astonishing as much as from two to three pounds having been put on in seven days. Dr J L. Landau in *Die Heilkunde* September 1898 quotes a series of cases in which he exhibited somatose and he states The manner of preparing this solution is deserving of very special consideration. Into a wineglass containing a tablespoonful of water or other medium the desired quantity of somatose is poured and the resulting paste stirred for a few minutes until a *complete solution* is obtained" He further states that when given to children in the following manner—one gramme for the first three days and then increased up to three grammes in eight days—no diarrhœa has occurred He has also used it in gastro-intestinal cases where there was total loss of appetite, diarrhœa, and vomiting from one to five grammes of somatose being given at first gradually increased to eight grammes As a result by the second day the stool had decreased and by the eighth the diarrhœa had altogether ceased

The experience of many other continental physicians coincides with that of Dr Landau, indeed, he quotes them frequently in support of his own statements as to the value of somatose, and there can be no doubt that this preparation has been administered in sufficient quantities to produce highly beneficial results, May we not, therefore, be justified in assuming that in those cases in which the results have been unsatisfactory the method of administration of somatose has had more to do with the production of diarrhœa than has the preparation itself, seeing that when certain precautions are taken diarrhœa is mostly absent and that its use has been attended with marked success in the hands of very many physicians?

I am, Sirs, yours faithfully,
T POYNTZ WRIGHT,
St. Neots Hunts August 18th Medical Officer of Health

THE SIMULATION OF ABDOMINAL DISEASE BY INTRA-THORACIC LESIONS

To the Editors of THE LANCET

SIRS,—In a leading article in THE LANCET of August 16th you refer to papers bearing on the above subject by Mr H. L. Barnard[1] and by Dr Jane H. Walker in the Mirror of Hospital Practice,[2] and you well emphasise the necessity of being on one's guard and making examination of the thoracic region, especially in the case of surgeons Now, in most of these cases, if not in all, careful examination of the chest will, even at the earliest period, throw light on the problem Mr Barnard candidly admits that error in the diagnosis is usually due to neglect on the surgeon's part to have the chest examined—"the diagnosis is nearly always easy, if suspicion is aroused and the surgeon is aware of this deceptive condition" With regard to the case reported by Dr Jane Walker, it is, to say the least, unsatisfactory It is stated that at a period when the respiration varied from 18 to 54 per minute and the pulse-rate from 90 to 128 "her chest, which was carefully examined every day, showed no abnormal signs" Now, Sirs, it would be interesting to know exactly in what the examination of the chest consisted For my part, I cannot believe that diaphragmatic or other obscure basal pleurisy could possibly exist without a marked diminution, if not abolition, of the shadow movement (Litten's) on the corresponding side On the other hand, if the lesion was really under the diaphragm the shadow might remain unaffected. The abolition or restriction of the shadow movement would be quite compatible with negative signs on auscultation and percussion There is another expression in the narration of this case which deserves notice—viz "Some muco-purulent material being expectorated which was examined for both tubercle bacilli and other organisms with a negative result." What is meant by 'other organisms"? Are we to believe that the sputum in this particular case was sterile? Was the sputum injected into animals?

May I end by saying that it would be well if in narrating important cases authors would state the precise details of their methods of examination It is easy to conceive that the omission of a single diagnostic test might convert a comparatively plain situation into one of grave difficulty

I am, Sirs, yours faithfully,
Henrietta street W August 18th, 1902. A. G AULD

THE ETHICAL SECTION AT THE RECENT MEETING OF THE BRITISH MEDICAL ASSOCIATION

To the Editors of THE LANCET

SIRS,—While reporting the transactions in the Section of Ethics (annual meeting British Medical Association) as stated in THE LANCET of August 9th, p 390, your representative, as a rule extremely accurate and impartial, has on this occasion, unwittingly I am certain, fallen into two errors relative to myself The first, a very minor slip on p 390, second column, third line from the top "more than £1000" should read "*nearly* £1000" The second, rather more important, p 391, is contained in the concluding paragraph, "The *motion* was carried with one dissentient vote, given by Dr W Muir Smith of Eastbourne." As a matter of fact, I did not vote either way, at least, I have no recollection of voting in favour of, and am absolutely certain I did not vote against, the resolution Certainly there was one dissentient, and the confounding myself with another may be explained by the fact that the voter in question was seated next to me. I am, Sirs, yours faithfully,
Eastbourne August 13th, 1902. WM MUIR SMITH.

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS)

Memorial Tablet to the Staff of the Welsh Hospital

THERE was unveiled on August 14th in St. David's Cathedral, by Lord Penrhyn, a memorial tablet recording the names of the members of the medical and nursing staff of the Welsh Hospital who died during the war in South Africa The inscription on the tablet was —

THE WELSH HOSPITAL
IN SOUTH AFRICA.
This Tablet was placed in
this Cathedral Church by the
Committee of the Welsh Hospital
in South Africa in Memory of
those members of the medical and
nursing staff of the hospital
who died for their country
in the Boer war in the years
1900 and 1901
Professor ALFRED WILLIAM HUGHES, M.B F R C S
Professor THOMAS JONES M.B F R C S
HERBERT DAVIES M B
THOMAS RICHARD EAMES dresser
MARION LLOYD Royal Red Cross Matron
FLORENCE LOUISE SAGE, nursing sister
Gorphwysant

The graceful eulogy of Lord Penrhyn when he handed over the memorial to the care of the Dean and Chapter and the impressive tribute of Dean Howell in accepting the charge will long be remembered by those who took part in the cathedral service. In the course of his address the Dean said that not less brave or less chivalrous than those who were stricken down by disease or the sword were those who day by day and night after night stood face to face with death within the Welsh Hospital, for with them was not the rush and excitement of the battlefield, nor the wild impulse of the fray, nor the overmastering passion for victory, but only the calm consciousness that they were doing their duty to their country and countrymen. It will be remembered that the Welsh Hospital was established in the spring of 1900 and that Professor Alfred Hughes, after acting as organising secretary in this country, went out to South Africa as chief surgeon upon the death of Professor Thomas Jones The hospital was first of all located at Bloemfontein, afterwards at Springfontein, and was finally converted into an officers' hospital at Pretoria. A total sum of about £12,000 was subscribed in support of the undertaking and of this £8000 were expended Of the balance £1200 have been given to hospitals in Wales and the remaining £2800 are to be distributed among incapacitated Welsh soldiers and the widows and orphans of those who died during the war

Small pox

During the week ending August 16th one case of small-pox occurred at Caerphilly and terminated fatally There is no means of isolating cases of infectious disease in this district, but an iron hospital has been hastily erected There were three cases of the disease reported in Neath, two of the patients being officers of the workhouse The epidemic appears practically to have subsided in Swansea, one case only having been reported during the period named, while in the previous week there were eight cases. The vaccination stations in Swansea were closed on August 14th

Maintenance of Lunatics in Workhouses

The Bristol board of guardians has decided to ask the Local Government Board to promote legislation for the purpose of securing to boards of guardians a grant of 3*s* per week towards the maintenance of lunatics, imbeciles, and epileptics who are not sent to lunatic asylums or licensed houses but who are kept in workhouses or in special institutions connected with workhouses. At present boards of guardians receive from the exchequer grants of the county council 4*s* per week towards the maintenance of each pauper lunatic in a lunatic asylum or licensed house, and the suggestion of the Bristol board embodies a recommendation of the Royal Commission on Local Taxation contained in its report dated May 28th 1901.

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[1] THE LANCET August 2nd, 1902 p 280
[2] THE LANCET August 16th, 1902, p 440.

Incorporated Society of Medical Officers of Health

Dr Richard Prichard medical officer of health of Llandaff and Dinas Powis has been elected President of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health.

Diphtheria at Bristol

In his recently issued annual report on the health of Bristol Dr D S. Davies deals with the question of the medical inspection of children attending public elementary schools, and after detailing certain information obtained from other large towns he states that no systematic supervision over school-children in order to detect early or unrecognised communicable disease appears ever to have been attempted in England. The prevalence of diphtheria among school-children in Bristol during 1900 and 1901 compelled Dr. Davies to take very definite steps to stamp out the disease and he was apparently successful in his endeavours The course which he adopted was to examine the classmates of those children who were reported to him as having developed clinical diphtheria The labour involved in this procedure may be judged from the fact that during 1901 no fewer than 2527 bacteriological examinations were made by the medical officer of health or by his deputy Mr J O Heaven. Having found that in a large percentage of these contacts there were either in the throat or nose typical diphtheria bacilli or the so-called pseudo bacilli Dr Davies was met with the administrative difficulty that in the absence of marked constitutional symptoms the patients could not be admitted into the hospital even if there had been room for the large number affected while it was probable that any treatment at home would only be imperfectly carried out. In the case of the Avonmouth outbreak it was therefore arranged for these suspected carrier" cases to attend daily at the hospital as out-patients, when antiseptic washes were applied by the nurses under medical direction. Periodical bacteriological examinations were made to determine re-admission to school and the outbreak was extinguished by the end of the year

Vaccination Expenditure

At the meeting of the St. Thomas (Exeter) board of guardians held on August 15th the report of the committee appointed to consider the question of vaccination fees was presented The committee recommended that the Local Government Board should be asked to approve of the insertion of a clause in the public vaccinators contracts to the effect that when more than one person is vaccinated at a time in an asylum hospital, or other public institution the fee shall be 2*s* 6*d* for each case if the institution is situated in the parish in which the public vaccinator is resident, and 4*s* if situated outside such parish. The report further stated that the committee was of opinion that the public vaccinator for the Exmouth district should receive 28 days notice to terminate his contract, and in conclusion the suggestion was made that the permission of the Local Government Board should be obtained for sanction to pay £18 expended by the public vaccinators in the purchase of calf lymph for revaccination. The guardians resolved to adopt the report.

Coronation Gifts by a Medical Man.

During the course of the coronation festivities at Sidmouth Devon, on August 9th Dr T H Stocker Pullin presented mugs suitably inscribed to about 1000 school-children. Dr Pullin two and a half years ago completed 50 years of medical practice at Sidmouth.

August 18th.

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

Glasgow University

THE King has been pleased, on the recommendation of the Secretary for Scotland to approve of the appointment of Mr J Graham Kerr M.A. Christ's College Cambridge to the Professorship of Natural History in the University of Glasgow vacant by the resignation of Professor John Young It is understood that for the present the chair is to include geology as well as zoology but the appointment has been made subject to the power of the University Court to separate the two subjects and to appoint either a lecturer or professor of geology In the recent grant from the Carnegie Trust a sum of £7500 was marked off for this purpose. Professor Young who now withdraws from active work, has been one of the most conspicuous figures of the medical quadrangle for many years He will take with him in his retirement the good wishes of many generations of Glasgow students.

Ether drinking in Glasgow

The chief constable of Glasgow in a special report to the magistrates committee states as a result of a recent series of inquiries that he is convinced that a considerable quantity of ether is purchased from some few chemists for drinking purposes, that the practice is limited to certain low-class localities and that the number of ether-drinkers is relatively small. As a result of this report the Parliamentary Bills Committee has been instructed to take the necessary steps to secure the inclusion of ether in the list of poisons' scheduled under the Pharmacy Act. This can only be done by the authority of the Privy Council.

The Treatment of Inebriates

An experiment in the treatment of habitual drunkards instituted by the corporation of Glasgow has now been in progress for some 18 months and a few days ago an official visit of inspection was paid by the town council to the institution in which it is being conducted. This is known as the Girgenti Home and is situated about half an hour's railway journey from the city It is built on an estate extending to about 55 acres which was purchased for the purpose by the corporation. The qualifications for admission to the home are a certificate as a habitual drunkard and the fact of conviction for drunkenness four times within 12 months. The inmates are made to engage in dairy and laundry work and in gardening and other outdoor occupations, and the products of their work are sold with the result that the working expenses for the first year have been fully met. Up to the present date 61 patients all women have been admitted. The period of residence is limited to three years, but when deemed advisable a patient may be allowed to leave on licence, and this has been possible in several instances with satisfactory results In an address delivered on the occasion of the official inspection Mr J Carswell, L.R.C.P. Edin. the chairman of the inebriates committee, claimed that the results were so far full of encouragement, more especially in view of the fact that at present they were dealing with habitual drunkards of many years standing He anticipated an even more satisfactory report when they were able to send to the institution those less habituated to vicious habits At the conclusion of the inspection an address to the inmates was given by the Lord Provost.

Aberdeen University

Dr W F Croll has been appointed to hold for one year the Phillips Scholarship in connexion with the Aberdeen University

The Caledonian Medical Society

The annual meeting of the Caledonian Medical Society was held in Inverness on August 5th. In the afternoon the members visited the Northern Counties District Asylum at the invitation of Dr J Keay who entertained them at lunch. Dr Ogilvie Grant (Inverness) president of the society occupied the chair and after lunch the annual business meeting was held The secretary reported that 25 new members had joined since the last meeting and there were 200 names on the roll There were 115 members resident in England and foreign countries and 85 in Scotland Dr H Cameron Gillies (London) was unanimously elected president and Dr George Mackay (Edinburgh) vice-president Dr Grant delivered an excellent retiring address The members dined together in the Royal Hotel. The toast of Prosperity to the Society" was proposed by the Rev Dr Norman Macleod in happy terms, and the new president (Dr Cameron Gillies) gave the standing toast of Caledonia," and Mr James Barron (Inverness) and Dr W Bruce (Dingwall) were called upon to respond. The meeting was pleasant and successful.

August 19th.

IRELAND

(FROM OUR OWN CORRESPONDENT)

Overcrowding of Monaghan and Cavan District Asylum

IT would appear from the report of Dr E M Courtenay, inspector of lunatics, that at his last inspection of this asylum (June 12th and 13th) there were 838 patients, an increase of 27 from the previous inspection. In last year's report attention had been drawn to the very serious overcrowding which then existed, and no steps have been taken to remedy this congested state of the asylum, nor had any plan been decided on by which additional accommodation could be provided There were now 115 patients in excess of the capacity of the institution The bedrooms had to be converted into dormitories, the chapel dormitory, which was occupied by the women, had to be taken from them and given to the men in order to meet the increasing numbers on the male side, and the dining hall, kitchen, and stores were insufficient for the wants of the present asylum population. Such overcrowding called for immediate attention and for immediate steps being taken to lessen it. The inspectors threaten to bring under the Lord Lieutenant's notice the condition of the asylum and to point out that the provisions of the Local Government Act have not been complied with. It would then be for his Excellency to decide whether, in the circumstances, the Government grant could be paid. Notice has been given that steps be taken to erect additional wings so as to supply the necessary accommodation. Another solution would be to build a new asylum for Cavan

Belfast District Lunatic Asylum

Dr W Graham, medical superintendent of the Belfast Asylum, has just issued his report for the year ended Dec 21st, 1901 The total number of patients under treatment was 1108 (552 males and 556 females) There were 273 admissions during the year and 107 discharges The recovery rate was 25 3 per cent., as compared with 21 4 per cent. in the previous year The deaths were 71 in number (44 males and 27 females) Eight deaths were due to phthisis and none from either accident or suicide The gross expenditure for the financial year ending March 31st, 1902, was £22,460 6*s* 7*d*, being a capitation cost of £23 1*s* 4*d* or a diminution of £1 12*s* 1*d* per head on the preceding year The most notable event of the year was the purchase of a farm abutting on the asylum grounds of 88 acres The land is of good quality and by situation and accessibility admirably adopted for the purposes required There is also a memorandum of inspection, by Sir George P O'Farrell, on Nov 20th, 1901, in which, he says, he was pleased to find every part of the asylum clean and orderly and that the general management of the institution bears distinct evidence of the zeal and ability of the medical superintendent in the discharge of his duties

County Antrim Infirmary

At the monthly meeting of the board of management of this institution, held on August 15th, a long discussion took place in reference to the greatly increased expenditure on the house, due to the fact that there is an unusually large number of patients at present, almost every bed being filled It was reported that there was a great increase in the number of patients from outlying parts of co Antrim The feeling of the board of management was that great care should be taken to investigate thoroughly whether the patients were able to contribute to their maintenance while in the institution.

Londonderry Asylum

The Londonderry board of guardians and the committee of management of the Londonderry Asylum are at cross purposes in reference to the admission of patients It seems that at present there are 100 patients in excess of the legitimate accommodation and as a result the committee of management of the asylum wrote to one of the boards of guardians in the county of Londonderry requesting it to direct its medical officers not to send lunatics to the asylum unless where absolutely compelled to do so until some accommodation was provided. About the same time, however, circulars were received from the Local Government Board directing boards of guardians to instruct their medical officers gradually to send all imbeciles in the workhouses to the asylums, which were the proper places for their treatment This suggestion of the Local Government Board was followed out by some of the boards of guardians, with the result that when lunatics were sent to the Londonderry Asylum the committee of management ordered that they should be sent back to the workhouses again The matter came to a crisis when on August 16th, at a meeting of the Londonderry board of guardians, a letter was read from the resident medical superintendent of the asylum to the effect that the committee of management had decided that owing to the excessive overcrowding of that institution it could not admit two of three patients sent from the workhouse to the asylum, but as the other was an acute one she would be admitted It was urged that, except in extremely serious cases, application for the admission of insane inmates of the workhouse to the asylum should not be made at present. The clerk of the workhouse then brought before the guardians a report of the inspection of the insane inmates there, made by Sir Plunkett O'Farrell, inspector of lunatics, who said that there were a few who certainly required more skilled attention than that afforded by the workhouse. Skilled nursing was, it was reported, absolutely necessary in the case of many old and demented patients, and it was a mistake to say that such insane patients, because they were not dangerous should be treated in a workhouse instead of a lunatic asylum The master of the workhouse pointed out that some of these patients referred to by the inspector had been sent to the asylum, which the committee of management had referred to in the letter of the medical superintendent After discussion, in which the medical officer of the workhouse stated that he would not accept the responsibility of the care of lunatics in the workhouse whom he considered should be treated in the asylum, it was finally decided to send lunatics certified by the medical officer as acute cases to the asylum for admission, and if they were refused admission the responsibility would attach to the committee of management.

August 20th

PARIS

(FROM OUR OWN CORRESPONDENT)

The Malversation of Funds at the Faculty of Medicine

THE *juge d'instruction* has just given a judgment with regard to the malversation of funds at the Faculty of Medicine which led to the arrest of the cashier, M Imoville, and also of the secretary of the Faculty, Dr Pupin, who was responsible for the treasury [1] M Imoville had drawn upon the funds which were confided to his care to the amount of some 76,000 francs, with a view to helping some of his friends who had fallen upon evil days He drew with such liberality that he practically emptied the treasury Dr Pupin, who in great part has indemnified the professors whose salaries were in abeyance owing to the action of the cashier, has been released, it being considered that there was no case to go to a higher court (*ordonnance de non lieu*) With regard to M Imoville, who has just been tried by the Correctional Tribunal on a charge of abuse of confidence, Dr Motet had been charged with the duty of examining him with regard to his mental condition and his report was that Imoville was not altogether responsible None the less, he has been condemned to 13 months' imprisonment with right of appeal and to a fine of 25 francs

The Action of Gelatin on the Plasticity of the Blood

M Lancereaux recently laid before the Academy of Medicine some researches of M Marc Laffond and M. André Lombard which tend to show that gelatin acts very vigorously as a modifier of the plasticity of the blood. This has already been proved by means of hypodermic injections and local applications in the treatment of hæmorrhages and of aneurysm, but the idea of attributing the phenomena of glycosuria, of albuminuria, and of hæmophilia, to a primary degeneration of the blood and with a certain modification of its cryoscopic properties, even if it have already been formulated, has never caused this series of symptoms to be regarded as a continuous pathogenic entity, although these symptoms are of frequent occurrence in certain morbid states This is what constitutes the original part of the treatment described by M Laffond and M.

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[1] THE LANCET, June 21st

Lombard—viz. that gelatin will act in the same manner even if given by the mouth 15 grammes divided into four doses produces a remarkable effect in hæmophilia. In albuminuria and diabetes this method of treatment appears to be very efficacious in so far that it removes the symptoms of the disease. The method of treatment can be continued for a long time and all the more readily in that giving gelatin as part of the ordinary diet is absolutely harmless.

Apollinaris and the Academy of Medicine

The Mineral Waters Committee of the Academy of Medicine, whose duty it is to advise the Minister concerned as to giving permits for the advertising and sale of mineral waters in France, has recently come to an important decision. It has decided to withdraw from the Apollinaris Company the right of selling its water in France, a right which it has enjoyed since 1868. To explain this fact it must be remembered that of late years applications for the permission to sell mineral waters have increased to an enormous extent, and the Academy accordingly some little time ago decided not to give any new permits for the sale of mineral waters except in the case where a water presented some particular novelty of composition. Stringent regulations were drawn up with a view of safeguarding the purity of the springs and of preventing pollution of the water during bottling The result is that it has become exceedingly difficult to get a mineral water accepted by the Academy and when all the French mineral water firms were bound down by these regulations it became necessary to apply them also to foreign mineral waters for it could not be expected that the Academy of Medicine should show itself more indulgent to foreign mineral waters than to French waters. So it follows that a number of so-called Hungarian purgative mineral waters artificially prepared, have had the permission of the Academy of Medicine for sale in France withdrawn despite diplomatic representations which have been made. So also, the permission to sell which the Apollinaris Company has enjoyed since 1868 was withdrawn in April by the Academy of Medicine, the reason being given that the composition of the water as sold varied in a great degree, that it was probably not identical in all respects with the natural spring water and that not sufficient precautions were taken with regard to its collection and bottling The Apollinaris Company has therefore addressed to the Minister concerned a protest containing answers to the critics of the Academy and this latter body made a fresh examination into the question and Professor Landouzy President of the Mineral Waters Committee, issued a report definitely deciding to withdraw the permission of the Academy for the sale of Apollinaris Water

Sleep and Anæsthesia produced by Electric Currents.

At the meeting of the Academy of Sciences held on July 21st M. Leduc informed his hearers that it was possible by means of electric currents to bring about almost instantaneously complete inhibition of the cerebral centres in the following manner A source of continuous current is taken and in the circuit is placed an interrupter capable of giving some 200 interruptions per second together with a milliampère meter The animal to be experimented upon has its head and back shaved the kathode electrode, wetted with salt water is placed on the head and the anode on the back. With the interrupter working the force of the current is gradually increased by bringing more and more cells into play until slight general muscular contractions are noted. The animal then falls over and its respiration stops. The current is then lessened until respiration begins again The animal then falls into a sleep respiration and circulation go on quietly but it is quite insensible to pain, only a few reflex movements being observed Dogs have been kept in this condition for two hours. Directly the current stops they wake up and appear quite happy and lively The current must be pushed rapidly up to the contraction stage if given very gradually it is painful. M Leduc found the best results to occur with a pressure of from 12 to 30 volts, with from 150 to 200 interruptions per second and with a current of from two to 10 milliampères, according to the size of the animal. Local anæsthesia can be obtained in man by placing the kathode over a nerve, the median in the wrist for example. A pricking sensation is felt which is not painful and the field supplied by the nerve becomes quite insensitive.

August 18th

BERLIN

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis Bovine and Human.

PROFESSOR MAX WOLFF chief physician to the Berlin University clinic for pulmonary diseases has made a very interesting experiment tending to prove that bovine tuberculosis (Perlsucht) and human tuberculosis are identical. Full details of the investigation are given in the *Deutsche Medicinische Wochenschrift* of August 7th. It will be remembered that in the remarkable address which Professor Koch delivered at the British Congress on Tuberculosis held in London in July 1901 he expressed the opinion that tuberculosis was very seldom communicated to the consumers of the milk of tuberculous cows and in support of this view he drew attention to the rarity of primary tuberculosis of the intestine in the human subject Inoculation of an animal is necessary for the purpose of showing whether a given case of tuberculous disease of the intestine is to be regarded as ordinary human tuberculosis or as perlsucht, according to Professor Koch human tuberculosis is not communicable to the lower animals. Professor Wolff had under his care a man suffering from primary tuberculosis of the intestine at the necropsy it was ascertained that the lungs were healthy the tuberculous infection being confined to the intestines the spleen and the peritoneum. Guinea pigs were inoculated with portions of the tuberculous spleen and on the animals being killed from seven to eight weeks afterwards they were found to show general tuberculosis of the lungs, liver and spleen the presence of tubercle bacilli being demonstrated by the usual methods. A calf five months old which had been already tested with tuberculin and found to give no reaction was immediately inoculated with tuberculous material from the guinea pigs. An emulsion made with portions of the lungs and spleen of the guinea pigs was injected into the calf's neck the result being that a large growth developed at the place of the injection and the adjacent glands became swollen. A month after the inoculation the calf was tested with tuberculin and gave a positive reaction after the lapse of a further period of seven weeks the test was repeated and again the reaction was positive. The animal was killed 83 days after the inoculation with the material obtained from the guinea pigs and at the necropsy all the symptoms of perlsucht were found. At the place of the injection there was a large growth containing caseous masses, similar formations being present in the glands in the neighbourhood the pleura was covered with numerous tumours of varying size there were also growths on the pericardium and the liver and tuberculous deposits in the lungs and kidneys Bacteriological examination demonstrated the presence of tubercle bacilli, the virulence of which was proved by inoculation of guinea pigs. As the inoculation of the calf with tuberculous material was quite successful it follows from these observations that the tuberculous deposit in the man's intestine when viewed in the light of Professor Koch's opinions must be regarded as perlsucht.

Statistics of the Medical Profession in Europe

A very interesting article embodying various statistics relative to the medical profession throughout Europe has been published by Dr Prinzing of Ulm in the *Zeitschrift für Socialwissenschaft* a journal devoted mainly to questions of political economy In Germany the total number of medical men and the proportion per 10 000 inhabitants in several specified years were as follows 13,728 (or 3 2 per 10 000) in 1876 16,824 (or 3 3 per 10,000) in 1887 24 725 (or 4 4 per 10 000) in 1893 and 27 374 (or 5 1 per 10 000) in 1900 It will therefore be seen that up to 1887 the numerical increase of the medical men only kept pace with the numerical increase of the general population but that since 1893, and especially in 1900 the former gained in numbers far more rapidly than the latter In 1898 a special investigation was made for the purpose of ascertaining how many medical men possessed of legal qualifications practised as homœopaths the result being that only 240 acknowledged themselves to be such It was remarkable that in Würtemberg 3 7 per cent of the medical men professed homœopathy the proportion in the other states varying from 0 6 to 0 9 per cent. An enumeration of the unqualified practitioners was also made in 1899 and it was found that for each 100,000 of the population they numbered 16 4 in Saxony, 5 3 in Prussia, and 1 3 in Alsace Lorraine The distribution of the medical profession according to area, or density as it might be called, was found to vary greatly in different parts of Germany In Hesse, for instance, there was one medical man for each 28 square kilometres (10 8 square miles), while in East Prussia there was one medical man for each 192 square kilometres (74 square miles) With regard to the distribution of the medical profession in the towns the article states that in towns of more than 100,000 inhabitants there was an average of 10 8 medical men per 10,000, in towns of more than 40,000 inhabitants there were 9 2 medical men per 10,000, in towns of more than 20,000 inhabitants there were 7 6 medical men per 10,000, in towns of more than 5000 inhabitants the ratio was 6 0 medical men per 10 000, whilst in towns of fewer than 5000 inhabitants the ratio was only 2 4 medical men per 10,000 The number of the medical men, of course, varied considerably according to the character of the population, for they were relatively few in towns where the bulk of the people were of the working class. For example, at Linden in Hanover, where 79 6 of the population were employed in factories, there were only 3 1 medical men per 10,000, whilst in Königsberg, where only 35 4 per cent. were factory workers, and in Dresden, where 48 1 per cent. were factory workers, the proportion of medical men per 10,000 was 10 5 and 9 1 respectively Dr Prinzing then gives figures relative to the Austro-Hungarian monarchy In Austria there were 9494 medical men, of whom no less than 5819—i e., 61 per cent — hold fixed appointments, for the Austrian law requires local authorities to provide medical aid in places where there would otherwise be no medical man. The proportion of the medical profession to the general population has not of late varied so remarkably as in Germany The following ratios of medical men per 10,000 of the total population have been recorded 3 8 in 1848 3 6 in 1858, 2 4 in 1868, 3 5 in 1876, 3 1 in 1886, and 3 6 in 1896 The corresponding ratios in Vienna were 17 0 in 1874 and 13 0 in 1896, the decrease being only an apparent one, due to the fact that the area of the metropolis has been recently enlarged by the incorporation with it of several suburbs with relatively few medical men In Hungary in the year 1897 there were 2 8 medical men per 10,000 of the general population In the other countries of Europe the number of medical men per 10,000 of the population was as follows in Italy 6 3, in Switzerland 6 1, in France 3 9, in Spain 7 1, in Belgium 5 2, in Denmark 6 4, in Norway 5 3 in Sweden 2 7, and in Russia 2 7 In England, if the medical officers of the army, the navy, and the colonial services be included, the ratio per 10,000 of the population was said to be 5 7 in 1881, 6 0 in 1886, and 6 1 in 1895, if, however, the above specified classes be excluded the ratio falls to 4 8 In Scotland the ratio was 7 7 and in Ireland it was 5 6 In London in the year 1886 the ratio was 10 6 and in 1895 it was 12 8, in Liverpool it was 6 4, in Bristol it was 8 1, and in Sheffield it was 3 8 In several European capitals the number of medical men per 10,000 of the population was as follows in Berlin 14 1, in Vienna 13·0, in Budapest 16 4, in Paris 9 7, in Brussels 14 7, in London 12 8, in Madrid 24 6, in Christiania 12 1, in Stockholm 7 7, and in Copenhagen 12 7 It must be remembered that in the above statistics the figures given for the various countries do not all belong to the same year, for the census year is not the same in each country For instance, the figures given for Italy are of the year 1885, those for France are of 1892, those for Great Britain are of 1895, and those for Germany are of 1900

August 18th

CANADA.

(FROM OUR OWN CORRESPONDENT)

Lunatics in Canada

ACCORDING to a bulletin which has been recently issued by the Census Department at Ottawa there are no less than 16,495 people of unsound mind in the total population of the Dominion of Canada In addition to this there are 6174 deaf and dumb and 3279 blind This means a total of 25,948 infirm persons in the Dominion, of whom 13 929 are males and 12,019 are females 10 years ago the record was 13,365 of unsound mind, 4819 deaf and dumb, and 3368 blind Of the total number of infirm persons to-day 5269 have been so afflicted from childhood. The seemingly great increase in the insane population in the last decade may be put down to the fact that prejudices which formerly kept down the total number of the institutional insane have been to a great extent removed.

Death of Dr Wyatt Johnston of Montreal

Dr Wyatt Johnston, one of the leading physicians of Montreal and a foremost man in sanitary science in the Dominion, died at the Montreal General Hospital on the morning of June 19th from pulmonary embolism following upon an attack of phlebitis The late Dr Johnston graduated from McGill University in 1885 and ever since has been connected with the staff of his *alma mater* He spent several years in the laboratories of Virchow and Growitz and had but recently succeeded to the chair of sanitary science at McGill rendered vacant through the resignation of Dean Craik He was an original worker in the field of pathology and a frequent contributor to English and Canadian medical journals Latterly he had given much study to medico legal matters, upon which subject he was considered an authority in Canada.

Annual Meeting of the Medical Society of Nova Scotia.

The thirty fourth annual meeting of the Medical Society of Nova Scotia was held at New Glasgow, Nova Scotia, on July 2nd and 3rd, under the active presidency of Dr John W McKay of that city A paper by Dr H P Clay of Pugwash, dealing chiefly with the injustices from which the medical profession suffer, particularly at the hands of large corporations, elicited considerable discussion and a committee was appointed to report at the next meeting Amongst others who contributed papers for discussion were Dr George E. Armstrong and Dr F G Finlay of Montreal who read the addresses in surgery and medicine respectively The next meeting of the society will take place next July at Antigonish, Nova Scotia The following were the officers elected —President Dr J J Cameron, Antigonish, First Vice President Dr W G Putnam, Yarmouth, Second Vice-President Mr Murdoch Chisholm, Halifax, and secretary-treasurer Dr Huntley Macdonald, Antigonish, Nova Scotia.

Annual Meeting of the Maritime Medical Association.

The twelfth annual meeting of the Maritime Medical Association was held at Charlottetown, Prince Edward Island, on July 9th and 10th Amongst others from a distance who were present and contributed papers were Dean W B Gleikie of Trinity Medical College, Toronto, Dr H. D Hamilton of McGill University, Montreal, and Dr Stoddart of Pueblo, Colorado, U S A. The following officers were elected for the ensuing year President, Dr Murray McLaren, St John, New Brunswick, Vice President for Prince Edward Island, Dr P C Murphy, Tignish, Vice President for New Brunswick, Dr R. L Botsford, Moncton, Vice-President for Nova Scotia, Dr G M Campbell, Halifax, secretary, Dr T D Walker, St. John, New Brunswick, and treasurer, Dr O A. McPhail, Summerside, Prince Edward Island

Living 50 Feet below the Surface of the Earth

The *Canadian Journal of Medicine and Surgery* has the following interesting report of an extraordinary case of burial alive, the issue of which was surprisingly fortunate —

> On June 24th a well-digger named Joshua Sanford, owing to the collapsing of the brick casing of a well at the Scott farmhouse near Paris (Ont.) was imprisoned in the well for close on 100 hours In order to rescue Sanford a shaft 50 feet in depth was made parallel to the well in which he lay When on a level with the position occupied by the man a tunnel was constructed from the shaft to the well large enough to permit the passage of a man s body and the first nourishment that he received in nearly 80 hours was given him On Friday night June 27th it was found that his right leg was held tightly in a mass of brick, so that it could not be moved A second tunnel three feet beneath the first one was put in and cased The rescuers John Carnie William Hamilton and Richard Doyle introduced scantling through the lower tunnel so as to support the weight of the mass of collapsed brick and sand surrounding Sanford s body and then picked out the bricks so that the imprisoned leg could be released without causing the mass of débris to fall lower down Sanford s head was then lowered to the same level as his feet and he was withdrawn from the well through the lower tunnel and carried up to the surface in a bucket at 6.30 Saturday, 99½ hours after the accident had occurred After he had been placed in bed he was examined by Drs R Dunton, Burt Sinclair and Loggie of Paris Addison of St George and Stanley of Brantford They found that Sanford had suffered comparatively little during his incarceration and long period of abstinence from food There were a number of slight scalp wounds on his head caused by falling bricks There were wounds and bruises all over the body and several contusions on the right leg which anchored the man in the well and around which a rope had been fixed in an effort to drag him out of the hole This leg was apparently paralysed and this condition

was expected to exist for some time. His speech was nearly normal. His pulse was 140, his temperature 98° F, and the respirations 44.

Everything points to Sanford being a man of extraordinary pluck and endurance who owes his life to the exhibition of his manly qualities.

Toronto, August 7th.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and having conformed to the by-laws and regulations have been admitted Members of the College and have received their diplomas:—

Joseph Ebenezer Adams, St. Thomas's Hospital; Alfred Cole Ambrose, Cambridge University and Guy's Hospital; Cauldwell Hamilton Anderson, Melbourne University and St. Thomas's Hospital; Kenneth Anderson, Guy's Hospital; George James Smith Atkinson, St. Mary's Hospital; Harold William Atkinson, M.A. Camb., Cambridge University and St. Bartholomew's Hospital; Leslie Baldwin Aveling, B.A. Camb., Cambridge University and London Hospital; Charles Harrison Barber, B.A. Oxon., Oxford University and King's College Hospital; Edward Augustus Bell, King's College Hospital; Charles Birch, Birmingham University and King's College Hospital; Anthony Bourchier Bradford, Durham University and St. Thomas's Hospital; Charles Bramhall, London Hospital; William Kenneth Dudolt Breton, St. Mary's Hospital; Frederick William Cheese and Noel Alfred William Conolly, St. Bartholomew's Hospital; George Brooke Forbes Churchill and Reginald Thomas Collins, Guy's Hospital; William Walter Claridge, Middlesex Hospital; James Duncan Clay, King's College Hospital; Charles Cordell, University College and Royal Infirmary, Bristol; Hugh Pennington Croly, Arthur Sydney Downton, and Thomas Scarborough Dudding, London Hospital; Charles Woolmer Davies, St. Thomas's Hospital; William James Davies, Guy's Hospital; John Thomas D'Ewart, Owens College and Royal Infirmary, Manchester; Stanley Dodd, Westminster Hospital; George Grigson Elliott, Cambridge University and St. Bartholomew's Hospital; Francis Heygate Ellis, David Haydn Evans, and Gerald Sydney Ewen, St. Bartholomew's Hospital; Charles Wesley Forsyth, Owens College and Royal Infirmary, Manchester, and University College Hospital; James Bernard Chalmers Francis, Westminster Hospital; Samuel Newall Foulkes and Philip Anthony Mark Green, London Hospital; William Gillitt, Middlesex Hospital; Charles Hebblon Gregory, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Charles Frederick Hardie, M.A. Camb., Cambridge University and University College Hospital; Maurice Willoughby Haydon and Christopher Tredwell Holford, St. Thomas's Hospital; Percy Alfred Hayne and Lawrence Charles Hunt, St. George's Hospital; Frederick Aylmer Hort, L.S.A. Lond., Cambridge University and Middlesex Hospital; David Morgan Hughes, Cardiff and University College Hospital; Edmund Octavius Hughes, St. Bartholomew's Hospital; Geoffrey Wallace Grainger Hughes, King's College Hospital; Thomas Hutchinson, Birmingham University; Charles Uncles Ind, St. Thomas's Hospital; William Watkin Cadwaladr Jones, Guy's Hospital; Gerald Ainslie Kempthorne, B.A. Camb., Cambridge University and St. Thomas's Hospital; Richard Ernest Howell Leach, B.A. Oxon., Oxford University and St. Thomas's Hospital; Harold Ashton Leth, University College Hospital; Herbert Love, Norman Macfadyen, Edward Lister Martin, and Alban Anderson Meaden, St. Bartholomew's Hospital; James Bennett McCord, M.D. Chicago, North Western University, U.S.A., and St. Thomas's Hospital; William Thomas McCowen and Arthur Orril Motta, St. Mary's Hospital; William Chisholm Macdonald, M.B., B.Ch. Edin., New Zealand and Edinburgh Universities; Anthony Mavrogordato, B.A. Oxon., Oxford University and St. Thomas's Hospital; Thomas Frederick Gisborne Mayer, London Hospital; George Whitley Micklethwait, Cambridge University and St. Bartholomew's Hospital; Ernest Henry Mulson, St. Mary's and Guy's Hospitals; Thomas Morgan, Guy's Hospital; William Herbert Neil, University College Hospital; Loraine Orton, Cambridge University and St. Bartholomew's Hospital; James Matthew O'Brien and Archibald Oates Payne, L.D.S. Eng., Charing Cross Hospital; Harold Thornbury Palmer, Guy's Hospital; Burnet Graham Patch, St. Thomas's Hospital; Fred Baily Penfold, L.D.S. Eng., Middlesex Hospital; Daniel Pettigrew, L.S.A. Lond., Sheffield, Glasgow, and University College Hospital; Harry Pierpoint, University College and Royal Infirmary, Liverpool; John Isaac Pratt, M.B. Toronto, L.C.P. & S. Ontario, Toronto University and London Hospital; Ernest George Pringle, St. Bartholomew's Hospital; Alan Carpmael Randford, William Owen Roberts, and Carrick Hey Robertson, Guy's Hospital; William Arthur Rees, Middlesex Hospital; Thomas Harper Rice, Pennsylvania, King's College Hospital and Edinburgh University; John Cecil Rix, Cambridge University and Middlesex Hospital; Christian Cathcart Robinson, St. Bartholomew's Hospital; Thomas Corrie Rutherford and Henry William Sexton, St. Thomas's Hospital; Richard Harvey Sankey, M.A. Oxon., Oxford University and St. Bartholomew's Hospital; Edward Spencer Scott and Hugh Bernard Willoughby Smith, London Hospital; Ralph Davies Smedley, Cambridge University and Guy's Hospital; Frederick Morton Vincent Smith and Clayton Warwick Smith, Guy's Hospital; James Smith, University College, Bristol, Guy's and King's College Hospitals; Hugh Ellis Stanger-Leathes, St. Bartholomew's Hospital; Frederick Joseph Stansfield, Yorkshire College and General Infirmary, Leeds; John Leeming Stephenson, St. Mungo's College, Glasgow; Basil Nelson Tebbs, M.A. Camb., Cambridge University and St. George's Hospital; Daniel Jenkins Thomas, University College, Cardiff, and Middlesex Hospital; Joseph Bernard Thompson, University College Hospital; Livesey Tong, Owens College and Royal Infirmary, Manchester; John Arthur Topham, B.A. Camb., Cambridge University and London Hospital; Edward Newbury Thornton, Charles Leonard Traylen, Moses Thomas Williams, and Geofrey Plumpton Wilson, London Hospital; Henry Charles Wales, M.B. Toronto, Toronto University; Bernard Joseph Ward, Birmingham University; Frank Ernest Welchman and Marmaduke Cordeux Wetherell, M.B., B.S. Durh., Guy's Hospital; Charles Wheen, B.A. Oxon., Oxford University and St. Thomas's Hospital; Henry Curror Williams, B.A. Cantab., Cambridge University and St. Thomas's Hospital; and Edward Allan Wilson, Yorkshire College and General Infirmary, Leeds.

SOCIETY OF APOTHECARIES OF LONDON.—In August the following candidates passed in the subjects indicated:—

Surgery.—W. Ball (Section II.), Westminster Hospital; S. Bentley (Sections I. and II.), Sheffield; A. E. Benton (Sections I. and II.), St. Mary's Hospital; G. A. Jones (Sections I. and II.), St. George's Hospital; J. D. Keir (Sections I. and II.), St. Mary's Hospital; D. E. Lockwood (Section II.), Royal Free Hospital; and A. R. McEnnery (Sections I. and II.), St. Mary's Hospital and Bristol.

Medicine.—W. Ball (Section II.), Westminster Hospital; I. Griffith (Section I.) and A. T. Harvey, London Hospital; A. R. McEnnery (Sections I. and II.), St. Mary's Hospital and Bristol; F. H. Noney (Sections I. and II.), Calcutta; C. H. Osmond (Section II.), Glasgow; and O. M. Woods (Section II.), Charing Cross Hospital.

Forensic Medicine.—W. C. P. Bremner, Toronto; A. R. McEnnery, St. Mary's Hospital and Bristol; E. H. Noney, Calcutta; H. F. B. Roberts, St. Bartholomew's Hospital; and F. O. Whitmore, Guy's Hospital and Bristol.

Midwifery.—W. Ball, Westminster Hospital; G. J. Humphreys, St. Bartholomew's Hospital; A. R. McEnnery, St. Mary's Hospital and Bristol; J. P. Nettell, London Hospital; E. H. Noney, Calcutta; S. Northwood, Birmingham; and H. F. B. Roberts, St. Bartholomew's Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery:—W. Ball, G. A. Jones, D. E. Lockwood, A. R. McEnnery, H. F. B. Roberts, and O. M. Woods.

FOREIGN UNIVERSITY INTELLIGENCE.—*Algiers*: Dr. Soulié has been appointed to the Chair of General Pathology.—*Barcelona*: Dr. A. G. Prats has been appointed *privat-docent* of Medical Pathology.—*Berlin*: Professor von Leube of Würzburg has been offered the chair of Medicine held by the late Dr. C. Gerhardt. Dr. Gustav Brühl has been recognised as *privat docent* of Otology and Dr. Franz Müller as *privat docent* of Pharmacology.—*Breslau*: Dr. Victor Klingmüller has been recognised as *privat docent* of Dermatology.—*Chicago* (*Rush Medical College*): Dr. A. D. Bevan has been appointed Professor of Surgery in place of the late Dr. Fenger.—*Erlangen*: Dr. R. Fuchs has been recognised as *privat-docent* of Physiology.—*Greifswald*: Dr. Klapp has been recognised as *privat-docent* of Surgery.—*Heidelberg*: Dr. Sötbeer has been recognised as *privat-docent* of Children's Diseases.—*Marburg*: Dr. O. H. Hess has been recognised as *privat docent* of Medicine and Dr. Seemann as *privat docent* of Physiology.—*Moscow*: Dr. A. Bernstein has been recognised as *privat docent* of Neurology and Psychiatry.—*Munich*: Dr. Wilde has been recognised as *privat docent* of Hygiene.—*New York* (*College of Physicians and Surgeons*): Dr. L. Emmett Holt has been appointed Professor of Pædiatry in succession to Dr. Jacobi, resigned.—*Odessa*: The following appointments to Professorships in the new medical faculty are announced: Anatomy, Professor Batuieff of St. Petersburg; General Pathology, Professor Podvysotski; Physiology, Professor Verigo; Physiological Chemistry, Professor Medviedoff; Diagnosis, Professor Michailoff; Pharmacology, Professor Borisoff of St. Petersburg; Surgery, Professor Sapeshko; Operative Surgery, Professor Lysenkoff; Pathological Anatomy, Professor Kishenski; and Gynæcology, Professor Masen.—*Padua*: Dr. Bolognini of Bologna has been recognised as *privat docent* of Children's Diseases.—*Prague* (*German University*): Dr. Hermann Schloffer has been appointed Extraordinary Professor of Surgery. Dr. Margulies has been recognised as *privat docent* of Neurology.—*Rio de Janeiro*: Dr. Magalhães has been appointed Assistant Professor of Pathology and Clinical Medicine.—*Rome*: Dr. L. Zoja of Parma has been recognised as *privat docent* of Medicine.—*St. Petersburg* (*Military Medico-Chirurgical Academy*): Dr. Paul Avrorov has been recognised as *privat-docent* of General and Experimental Pathology.—*Vermont*: Dr. D. Shirres of Montreal has been appointed Professor of Diseases of the Nervous System.—*Vienna*: Dr. Otto Grosser has been recognised as *privat-docent* of Anatomy and Dr. Roland Grassberger as *privat docent* of Hygiene.—*Würzburg*: Dr. Burkhardt has been recognised as *privat-docent* of Surgery.

HOSPITAL SATURDAY —The amount raised for the Hospital Saturday Fund at Newton Abbot, Devon, was £130

MEDICAL MAGISTRATES —Mr J Montgomerie Alston, M D Glasg, L.R.C S Edin., and Mr James Kirkland, L.R.C P Edin., L F P S Glasg, have been placed on the Commission of the Peace for the county of Lanark

EXETER SEWAGE SCHEME —The new works which have been constructed at Exeter for the disposal of the city sewage by the septic tank system invented by the surveyor of Exeter were formally opened on August 13th in the presence of a large gathering The works are constructed to deal with the present population of 47,000 and were commenced in April, 1900 The area of the works is about four acres and they consist of six septic tanks and 12 bacterial filters The total cost of the undertaking is about £40,000

JOURNAL OF TROPICAL MEDICINE PRIZE ESSAYS ON SUBJECTS CONNECTED WITH TROPICAL DISEASES —1 A prize of the value of £10, entitled the Sivewright prize, presented by the Hon Sir James Sivewright, K C M.G, LL D, for the best article on the Duration of the Latency of Malaria after Primary Infection, as proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood, has been awarded to Dr Attilio Caccini, Assistant Physician, Hospital of Santo Spirito in Sassia, Rome 2 A prize of the value of £10, entitled the Belilios prize, presented by the Hon E R Belilios, C M G, for the best article on the Spread of Plague from Rat to Rat, and from Rat to Man by the Rat-flea, has been awarded to Dr Bruno Galli Valerio, Professor in the University of Lausanne, Switzerland.

CENTENARIANS — Mrs M Short died at St Austell, Cornwall, on August 4th, at the age of 106 years and eight months. St. Austell still has a centenarian in the person of William Lemin, who was born at Warleggan, near Bodmin, in 1799 —Mrs Mary Taylor Morgan, who attained the age of 102 years on June 23rd last, died at 16, High street, Marylebone, W, on August 14th. Her last days were rendered particularly happy owing to a gracious act on the part of Her Majesty the Queen, who on August 8th caused a sympathetic letter to be addressed to the old lady and sent her a box of tea and one of the Coronation cups —The *Times* of August 20th stated that the Viscount Barbacena, a distinguished Brazilian, celebrated his hundredth birthday at Rio de Janeiro on July 20th. The proceedings included a special meeting of the Brazilian Historical and Geographical Society at which Viscount Barbacena was present and expressed his acknowledgment of the honour shown him. The British residents in Rio de Janeiro had already presented him with a gold medal on the occasion of the Diamond Jubilee of Queen Victoria He was at school in England when a boy, was present at the coronation of George IV, and in 1828 was appointed secretary of the Brazilian Legation in London under his father, the Marquis Barbacena.

THE LATE PROFESSOR LEOPOLD SCHENK —It is announced from Vienna that Dr Leopold Schenk formerly a professor at the University and director of the Embryological Institute in that city, died on August 18th Professor Schenk's name became quite a household word in 1898 owing to the peculiar views which he held with respect to the factors that determine the sex of a fœtus He considered that if the urine of a woman contained any sugar whatever even an amount so small as to be recognisable only by the phenylhydrazin reaction, there was a high probability that her offspring would be females rather than males. In order that she might have male progeny the state of her nutrition must be improved to the extent of causing the total disappearance of the sugar, the means to this end being the use of a diet in which nitrogenous and fatty components preponderated and carbohydrates were limited as much as possible Professor Schenk expounded these ideas in a book which was reviewed in THE LANCET of May 28th, 1898, p 1472. We advised expectant couples who thought of trying this system not to be over sanguine. Professor Schenk's opinions met with no acceptance in Vienna and his persistence in maintaining them led to his being removed from both the University and the Embryological Institute. He does not seem to have been daunted by the opposition his professional brethren and by his failure to make co verts, for he upheld his views in an address delivered at congress in Berlin in the summer of 1901, but the speake who took part in the ensuing discussion did not give him a encouragement.

DONATIONS AND BEQUESTS —By the will of Mi Blackman of Ramsgate, whose estate has just been prove £10,000 each are bequeathed to Guy's Hospital and the Ke and Canterbury Hospital, and £1000 to the Seamen's Hon at Ramsgate.

A NOVEL PATENT —A Swiss inventor ha patented an appliance for comparing handwritings or oth objects Its action seems to be mainly optical, it contai a mirror in part reflecting and in part transparent diagram and the specification will be found in the *Offici Gazette* of the United States Patent Office issued August 5th, 1902

DEATHS OF EMINENT FOREIGN MEDICAL MEN The deaths of the following eminent foreign medical me are announced —Dr Cesare Taruffi, formerly Professor Pathological Anatomy in Bologna.—Dr Iwan Nowack formerly Professor of Clinical Surgery in the University Moscow, at the age of 75 years —Dr Walther, of St. Peter burg Medico-Chirurgical Academy, translator of sever Russian physiological works into German, suddenly, whi on a journey in Western Russia.—Dr J Maizner formerl Professor of Midwifery in Clausenburg —Dr J Eastma Professor of Gynæcology in Indianapolis —Dr Otto Braehme of Berlin, who was a leading authority on matters co nected with railway hygiene, both civil and military H was 64 years of age and his death was due to cardia disease.—Dr Friedrich Reineboth, Professor of Medicine the University of Halle He took great interest in the bett housing of the poor as a means of diminishing deaths fro tuberculosis. He was only 35 years of age —Dr Reily Halle, the eminent anatomist and alienist.—Professor S Schenk, whose name will be remembered in connexion wit the question of the determination of sex After the di cussion referred to he resigned his chair of Histology an Embryology in the University of Vienna.

BOOKS, ETC, RECEIVED

ALLEN GEORGE 156 Charing Cross road W C

A Pack of Poems Sixteen couple and a half of Sporting Songs an Sonnets By John Lawrance Longstaffe author of Diversitie in Verse" Price 1s net

BAILLIÈRE TINDALL AND COX 8 Henrietta street Coven garden W C

Aids to Dental Anatomy and Physiology By Arthur S Underwood M R C S L D S Professor of Dental Surgery at King College London Second edition Price 2s 6d.

CLOWES WILLIAM AND SONS Limited 23 Cockspur-street S W

Transactions of the British Congress on Tuberculosis for th Prevention of Consumption London July 22nd to 25th, 1901 Four volumes Price 24s the set or 12s 6d per volume.

GREEN WILLIAM AND SONS, Edinburgh

Encyclopædia Medica. Under the general editorship of Chalmer Watson M B, F R C P E Vol xi Sciatica to Syncope Price no stated

'**KNOWLEDGE OFFICE** 326, High Holborn W C

Wireless Telegraphy A Popular Exposition By G W d Tunzelmann B Sc. Consulting Engineer Third edition Pric 1s 6d

LEWIS H K. 136 Gower-street W C

Ligaments: their Nature and Morphology By J Bland Sutton Third edition. Price 4s 6d

MACMILLAN AND CO, Limited, London and New York.

Clinical Psychiatry A Text-book for Students and Physicians Abstracted and adapted from the Sixth German Edition o Kraepelin's Lehrbuch der Psychiatrie By A. Ross Defendorf M.D Lecturer in Psychiatry in Yale University Price 15s net

WRIGHT, JOHN AND CO Bristol

Medical Ethics A Guide to Professional Conduct By Robert Saundby M.D Edin Price 3s 6d net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

Appleby, E. Bertram, M.B., B.S. Durh., has been appointed Senior Resident Surgeon to the Nottingham General Dispensary.

Bennett, J., M.B., Ch.B., B.A.O. R.U.I., has been re-appointed Medical Officer of Health for the Borough of Hyde, Cheshire.

Coaker, F. W. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Bromsgrove Rural District.

Collie, R. J., M.D. Aberd., Medical Examiner to the London County Council and Assistant Medical Officer to the London School Board, to be employed in the work of the Medical Department, but chiefly in connexion with the examination of children requiring special instruction—viz., feeble-minded, cripple, blind, or deaf.

Ewart, David, M.B., Ch.B. Edin., F.R.C.S.E., has been appointed Honorary Surgeon to West Sussex, East Hampshire, and Chichester General Infirmary.

Fenton, W. R., B.A., M.B. Univ. Dublin, has been appointed Acting Principal Medical Officer in Mashonaland during the absence on leave of Dr. Fleming, C.M.G.

French, G. W. H., F.R.C.S., has been appointed an Assistant Surgeon to St. Paul's Hospital for Skin and Genito-Urinary Diseases, Red Lion-square, W.C.

Hill, W. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health to the Clevedon Urban District Council, vice Dr. Stephen Skinner, deceased.

Jenkins, G. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health to the Usk Urban District Council, Mon.

McGachen, Fred. Wm. Dobson, M.D., D.P.H. Lond., has been appointed Medical Officer to the Weymouth and Westham District and Public Vaccinator, Weymouth and Melcombe Regis, vice Dr. H. N. Pridmore, M.B. Lond., resigned.

Peacock, W. B., M.D. Durh., has been appointed Medical Officer of Health to the Felling Urban District Council.

Steinhauser, J. R., M.B., B.Sc. Lond., has been re-appointed Medical Officer for the Borough of Lewes.

Walker, J. W. Thomson, M.B. Edin., F.R.C.S., has been appointed Assistant Surgeon to the North-West London Hospital.

Wharton, John, B.A., B.C. Cantab., has been appointed House Surgeon to the Manchester Eye Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bethnal Green Infirmary.—Third Assistant Medical Officer. Salary £100 per annum, with apartments, board, washing, &c.

Birmingham Workhouse Infirmary.—Assistant Resident Medical Officer. Salary £100 per annum, with apartments, rations, &c.

Bournemouth Royal Boscombe and West Hants Hospital.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Bristol General Hospital.—Medical Officer. Salary £250, non-resident.

Cancer Hospital, London.—Pathologist. Salary £250 per annum.

Cancer Research Fund, Examination Hall, Victoria Embankment, London, W.C.—General Superintendent.

Cardiff Infirmary.—Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

Cheltenham General Hospital.—Assistant House Surgeon, unmarried. Salary £112 per annum, with board, lodging, and washing.

City of London Hospital for Diseases of the Chest, Victoria-park, E.—Second House Physician for six months. Salary at rate of £30 per annum, with board, washing, and residence.

City (Fever) Hospital, Aberdeen.—Resident Physician. Salary £100, with board and rooms.

Cumberland Infirmary, Carlisle.—Resident Medical Officer and House Physician and House Surgeon. Salary at rate of £80 and £100 per annum respectively, with board, lodging, and washing.

Denbighshire Infirmary, Denbigh.—House Surgeon. Salary £100, with board, residence, and washing.

Devonport Royal Albert Hospital.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

East London Hospital for Children and Dispensary for Women, Glamis-road, Shadwell, E.—House Surgeon for six months. Honorarium of £25, with board, residence, &c.

Edinburgh Victoria Hospital for Consumption.—Resident Physician for six months. Residence, board, and washing, with nominal honorarium.

Hospital for Sick Children, Great Ormond-street, London, W.C.—*House Physician,* unmarried, for six months. Salary £20, with washing allowance, board, and residence.

Isle of Thanet Union.—Medical Officer for Minster District Workhouse, and Cottage Homes, Manston. Salary £78 per annum. Also Medical Officer for Birchington District. Salary £34 per annum.

Lanark Middle Ward Isolation Hospital.—Resident Physician. Salary £140 per annum, with board, &c.

Leith Hospital.—House Physician, Assistant House Physician, House Surgeon, Assistant House Surgeon, and Surgeon, all for six months.

Liverpool, City of, Infectious Diseases Hospital.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

Liverpool Workhouse, Brownlow Hill.—Assistant Medical Officer. Salary £100 per annum, with board and residence.

London Throat Hospital, 204, Great Portland-street, W.—Anæsthetist. Also House Surgeon.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £70 per annum, with board and residence.

Manchester Children's Hospital.—Junior Resident Medical Officer, unmarried, for six months. Salary at rate of £80 a year, with board and lodging.

Middlesex Hospital, W.—Medical Officer in charge of the Finsen and X Ray Department. Salary £150 per annum.

North Lonsdale Hospital, Barrow-in-Furness.—House Surgeon. Salary £80, with board, residence, and attendance.

Portsmouth, Portsea, and Gosport Royal Hospital.—Assistant House Surgeon. Honorarium at rate of £50 per annum, with board, &c.

Reading Royal Berkshire Hospital.—House Surgeon. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

Roxburgh District Asylum, Melrose, N.B.—Assistant Medical Officer. Salary £120 per annum, with board, rooms, and washing.

Royal Devon and Exeter Hospital, Exeter.—Junior Assistant *House Surgeon for six months. Salary at rate of £70 per annum,* with board, lodging, and washing.

Sheffield Corporation City Hospitals (three).—Second Assistant Medical Officer. Salary £150 per annum, with board, lodging, and attendance.

Southport Infirmary.—Resident Junior House and Visiting Surgeon, unmarried. Honorarium at the rate of £80 per annum, with residence, board, and washing.

***Stockport Infirmary.**—Junior Assistant House Surgeon* for six months. Salary at rate of £40 per annum, with board, washing, and residence.

Tadcaster, Goole, Riccall, and Selby Rural Districts and Selby Urban District.—Medical Officer of Health. Salary £420 per annum.

Tiverton Devonshire Infirmary and Dispensary.—House Surgeon and Dispenser, unmarried. Salary £80 and all found.

***Weston-super-Mare Hospital and Dispensary.**—Medical Officer.* Salary £100 per annum, with board, lodging, and washing.

West London Hospital, Hammersmith-road, W.—House Surgeon, also House Physician, both for six months. Board and lodging provided.

West Riding Asylum, Wadsley, near Sheffield.—Assistant Medical Officer and Pathologist. Salary £140 per annum, rising to £160, with board, &c.

Withington Urban District Council Hospital for Infectious Diseases.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, apartments, and washing.

Births, Marriages, and Deaths.

BIRTHS

Fooks.—On August 18th, at the New Infirmary, Isleworth, W., the wife of W. Pemberton Fooks, M.A., M.B. Cantab., of a daughter.

Lander.—On August 13th, at Hathersage, Derbyshire, the wife of *H. W. G. Lander,* M.B. Edin., of a daughter.

Plummer.—On August 17th, at Old Elvet, *Durham,* the wife of Selby Plummer, M.D., of a daughter.

MARRIAGES

May—Young.—On August 19th, at Havant parish church, by the Rev. E. Geoffrey May, brother of the bridegroom, assisted by the Rev. S. G. Scott, rector of Havant, Henry James May, M.B., B.C. Cantab., M.R.C.S., L.R.C.P., of Ivanhoe, Archers-road, Southampton, to Maud Landale Young, widow of the late Malcolm G. Young, Indian Staff Corps, and daughter of the late Captain Richard Cumberland, of the 7[illegible]th Foot. No cards.

Phillips—Jenkin.—On August 14th, at Landewednack church, The Lizard, Cornwall, by the Rev. L. W. Edwards, brother-in-law of the bridegroom, assisted by the Rev. C. S. Vyvyan, rector, and the Rev. P. G. Chamberlain, *Harry Harding Phillips,* M.R.C.S. Eng., L.R.C.P. Lond., of Hamilton House, Penge, to Frances Mary, third daughter of Pearse Jenkin, of Trewirgie, Redruth, and Tregullas House, The Lizard.

Thyne—Young.—On the 6th August, at Metheringham, by the Rev. J. Sinker (brother-in-law of the bride), the Rev. D. W. Barrett, M.A., rector of Chipping Barnet, and the Rev. W. Ignatius S. B[illegible]son, vicar, William Thyne, M.A., M.D., Barnet, to Kate Christian, youngest daughter of the late *Thomas Young* and Mrs. Young, of Roewath, Cumberland.

DEATHS

Gasquet.—On August 1[illegible]th, at College-gate, Brighton, Joseph Raymond Gasquet, M.D. Lond., aged [illegible] years.

Lyon.—On the 1[illegible]th inst., at 40, City-road, E.C., [illegible] Leigh, aged [illegible], surgeon. For many years in practice at [illegible]8, Barbican, E.C.

Wyman.—On August 1[illegible]th, at [illegible] Brae, Putney-hill, S.W., William Sanderson Wyman, M.D. St. And., F.R.C.S., L.S.A., in his [illegible] year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DIFFICULTIES UNDER THE INFECTIOUS DISEASES (NOTIFICATION) ACT

To the Editors of The Lancet

Sirs —Can you tell me if a medical practitioner is entitled to his 2*s* 6*d* if he notifies a case that has already been notified by his locum tenens—that is 5*s* for the same case? This particular case was notified by the locum tenent The principal returned and notified the *same case being unaware that his locum tenent had done so* On the previous notification being pointed out to him he said that he was entitled to the fee I take it, at any rate that it is contrary to the spirit of the Act

I am Sirs yours faithfully

August 18th, 1902. X. Y Z

*** There are occasions when two certificates of notification are sent and when payment on both is due There can be no reason for a medical practitioner notifying a case already notified by the person whom he has appointed to act as his deputy but as we understand our correspondent the second notification was made by inadvertence It must be remembered that the principal being ignorant that his locum tenent had notified the case, would have broken the law and incurred a fine for all he knew to the contrary had he not made the notification We do not say that he should be paid the fee because the notification was made in good faith but we think his view should be put before the Local Government Board The interpretation of this Act constantly gives rise to difficulties as all our readers know In our issue of August 9th we stated that a house surgeon was bound to certify cases of infectious disease sent for admission to a hospital of which he was the medical officer It appears, however on reconsidering the letter of House Surgeon that infectious disease must be notified by a hospital medical officer who becomes aware of it and that he is entitled to a fee for doing so but *not* if he is the medical officer of a hospital in which *persons suffering from* infectious disease are received and is acting in that capacity According to this ' House Surgeon would notify and receive a fee if he originally discovered or became aware of the infectious disease, but he would not notify or receive a fee if another medical man had already done so and sent the patient to the hospital as to a hospital in which persons suffering from infectious diseases are received The point however is obscure and we are not aware of any judicial decision dealing with it —Ed L

HOME OR INSTITUTION WANTED

To the Editors of The Lancet

Sirs,—Can any of your readers inform me of any institution or home that would take a boy aged 13 years given to masturbation and educate him His parents are willing to pay any reasonable amount

I am Sirs yours faithfully

August 19th 1902. M D

THE ' Y" FUND

Surgeon General H S Muir begs thankfully to acknowledge additional donations towards the above Fund from Colonel A M Branfoot C I E, I M.S Major D Simpson I.M S and the following officers of the Royal Army Medical Corps Lieutenant-Colonels R H. Forman, R C K. Laffan W J R Rainsford, C I E, and S J Rennie Majors T G Lavie V H. W Davoren S Powell, H E Cree Macdonald J K. Ritchie C R Bartlett, and E Swan Marder Captains H Hewetson R W Clements, and S O Hall and Lieutenants A R Greenwood F MacLennan and A H M. Mitchell The fund now amounts to £550 It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly 'handing on" to *confrères*) Should any reader of The Lancet desire further particulars with a view to expressing *practical sympathy* a copy of the letter will be forwarded on application to Surgeon General Muir 26 Kensington gardens-terrace Hyde Park, London W

WANTED—A HOME

To the Editors of The Lancet

Sirs,—I should be obliged if you would insert the following in The Lancet as some of your correspondents may be able to assist me in the *matter* I am attending an old man aged 80 years suffering from senile dementia He is quite harmless but a great trouble to his family as he has incontinence of fæces and is constantly passing his motions about the room. Is there any inexpensive institution where he can be *taken?* I have been unable to find anything intermediate between a Poor law institution and one much above the means of my patient s friends

I am Sirs yours faithfully

101, Northcote-road, New Wandsworth S W Jas Watts
August 15th 1902

THE CASE OF DR W C RAINSBURY

To the Editors of The Lancet

Sirs —At the Nottingham Assizes on July 17th Dr Rainsbury of Skegby was sued by a collier employed at the Teversal Colliery for damages for alleged unskilful treatment of an injury to his arm sustained in November 1900 The trial resulted in a verdict for the plaintiff for £25 damages and costs It would serve no useful purpose now to enter at length into the merits of the case as judgment has been given The case was commented on in a leading article which appeared at p 228 of The Lancet of July 26th From perusal of the reports of the trial it appears that Dr Rainsbury has suffered a great hardship by reason of the judgment The expenses of defending the action were borne by the Medical Defence Union of which Dr Rainsbury is a member But by the regulations of that union it cannot pay the damages or costs which are adjudged against a defendant The judgment debt and costs amount to £182 6*s* 2*d* Dr Rainsbury has made no appeal to the Midland Medical Union for assistance but in view of the special nature of the circumstances and of the apparent injury which he has sustained the President and Council recommend that a fund be raised by subscription in order to assist Dr Rainsbury in discharging the judgment debt and costs Medical men are accordingly earnestly invited to subscribe to the fund The matter is most urgent and pressing I therefore venture to ask that donations intended to be made be sent to me at the earliest opportunity

I am Sirs, yours faithfully
George S O'Rorke,
Secretary Midland Medical Union

Albion Chambers King-street Nottingham August 13th 1902.

TWO QUERIES

To the Editors of The Lancet

Sirs,—I should feel obliged if you would give me the following information in The Lancet 1 Have the new regulations for the D.P H diploma altered those which were in force as regards the course necessary for those persons who had qualified in 1889? 2 I should feel much obliged if you would inform me where I could obtain the papers written by Professor Koch on malaria particularly those which were the outcome of his visit to Africa and the eastern world and are these papers to be obtained translated into English?

I am Sirs, yours faithfully,

August 1st 1902. Biceps

*** 1 The new rules are expressly stated not to apply to medical practitioners *registered, or entitled to be registered, on or before* Jan 1st, 1890 The rules as originally designed will be found in The Lancet Dec. 15th 1900 p 1772 while the debate upon them will be found in our issue of June 7th (p 1638) and 14th (p 1734), 1902 2. *Professor Koch s papers* appeared over a year ago in the *Deutsche Medicinische Wochenschrift*, published by Georg Thieme Leipsic. We do not know of their having been translated into English —Ed L

THE LAW FUND

TRUSTEES THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON

The following additional subscriptions have been received by Dr Paramore 2, Gordon square, W C —Dr William Craig, £1 1*s*, Mr James Blaney 10*s* 6*d*. H. S C, 2*s* R T N, 2*s* 6*d* Dr Morton Burnett, 2*s* 6*d*

At the meeting to be held at the Holborn Restaurant on August, 1902, to present to Dr Law the results of this subscription the chair will be taken at 5 P.M

"COCOA POWDER"

Referring to our analytical notice in The Lancet of July 26th 1902, of a cocoa powder for which they are agents Messrs de Beer Brothers and Co, *of* 28 *Minories London, E C*, represent *to* us that the amount of fat found—viz 34 80 per cent —is excessive We cannot find any inaccuracy in the result, but may add that in a subsequent sample sent to us the amount of fat found was 29 70 per cent The quantity *of fat in prepared cocoas varies* between these figures according to our experience

SANATORIUMS FOR PHTHISICAL PATIENTS

To the Editors of The Lancet

Sirs,—I should feel obliged if any of your readers could inform me of any open-air sanatorium for the treatment of phthisis where a man 40 years of age could be taken in free or for payment of a small *fee*. He *is not* able to afford much, but I imagine would have a good chance of being cured were he placed under better conditions Thanking you in anticipation,

I remain, Sirs yours faithfully
W Ewart Maw

86, Carlton vale, Maida vale, N W, August 16th, 1902.

MOUSTACHES AND KISSING

To the Editors of The Lancet

Sirs —May I ask your advice? Is it not a recognised fact that a moustache is nature s filter of the atmosphere before it passes through the mouth *to* the lungs and that it absorbs and retains large quantities of noxious microbes and disease germs? I take it that this is so and that under the microscope it presents anything but an attractive group of animalculæ In these circumstances is it not more than probable that in the case of a man with a moustache imprinting a kiss on the lips of another person there is great danger that he might at the same time implant the seeds of disease and perhaps death? My object for asking these questions is that I have several children and my moustached friends are in the habit of kissing them on the lips. Should I be justified on sanitary grounds in requesting them to desist?

I am Sirs yours faithfully

August 18th 1902. PATER.

*** Kissing on the lips is to be avoided A moustache is not the completely insanitary appendage that our correspondent thinks.—ED L.

BACTERIOLOGICAL TECHNIQUE

To the Editors of THE LANCET

SIRS —I shall be glad to know if it is the usual custom in bacteriological laboratories to put Petri dishes after inoculation into a sterilised Foster s box " which is incubated with them *in situ*

I am Sirs yours faithfully

August 17th, 1902. MICROBE.

*** Though the methods of each laboratory differ considerably yet so far as our experience goes, it is certainly *not* the custom to use a Foster's box We know of no laboratory in London where such a plan is customary " the Petri dishes being placed in the incubator without any special sterilised box —ED L.

◆

Zero.—The details are not quite clear (*a*) If the discharge was for one month— discharged on trial for one month —the patient would still be under the jurisdiction of the Commissioners in Lunacy and removeable to the asylum within that period; (*b*) if discharged simply to the care of relatives—i.e., not "on trial —the jurisdiction ceases *ipso facto* and he is thenceforth as any ordinary citizen There is therefore nothing necessary 'to establish his *status quo ante* legally it is established automatically and at once. The data given in our correspondent s communication as to "the proprietor" are obscure. The term should be "medical superintendent."

Puzzled.—The question is a legal one; it is impossible to say what view a County Court Judge might take. Our correspondent is advised to consult a trustworthy solicitor

Equity—Will our correspondent kindly forward us his name and address?

G L. A —Our correspondent must consult his usual medical attendant

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS

MONDAY (25th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M) St. George s (2 P.M.), St. Mary's (2.30 P M) Middlesex (1.30 P.M.) Westminster (2 P.M) Chelsea (2 P M) Samaritan (Gynæcological, by Physicians, 2 P.M) Soho-square (2 P.M.), Royal Orthopædic (2 P.M), City Orthopædic (4 P.M); Gt. Northern Central (2.30 P.M) West London (2.30 P.M.), London Throat (9.30 A.M.) Royal Free (2 P.M.), Guy s (1.30 P.M).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M), St. Thomas's (3.30 P.M), Guy's (1.30 P.M), Middlesex (1.30 P.M.), Westminster (2 P.M), West London (2.30 P.M), University College (2 P M) St. George's (1 P.M.) St. Mary's (1 P.M) St. Mark's (2.30 P.M), Cancer (2 P.M.) Metropolitan (2.30 P.M.), London Throat (9.30 A.M.) Royal Ear (3 P.M), Samaritan (9.30 A.M and 2.30 P.M.) Throat, Golden-square (9.30 A.M) Soho-square (2 P.M)

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.) University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing-cross (3 P.M) St. Thomas's (2 P.M) London (2 P.M), King's College (2 P.M.), St. George s (Ophthalmic, 1 P M) St. Mary's (2 P.M) National Orthopædic (10 A.M) St. Peter's (2 P.M.), Samaritan (9.30 A.M and 2.30 P M) Gt. Ormond-street (9.30 A.M) Gt. Northern Central (2.30 P.M), Westminster (2 P.M) Metropolitan (2.30 P.M) London Throat (9.30 A.M.) Cancer (2 P.M) Throat, Golden-square (9.30 A.M) Guy s (1.30 P.M.)

THURSDAY (28th).—St. Bartholomew's (1.30 P.M) St. Thomas s (3.30 P.M.), University College (2 P M.), Charing-cross (3 P.M) St. George s (1 P.M), London (2 P.M), King's College (2 P.M) Middlesex (1.30 P.M.) St. Mary's (2.30 P.M.) Soho-square (2 P.M) North-West London (2 P.M), Chelsea (2 P.M.) Gt. Northern Central (Gynæcological, 2.30 P M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) St Mark s (2 P.M.) Samaritan (9.30 A.M and 2.30 P M) Throat Golden-square (9.30 A.M) Guy's (1.30 P.M.).

FRIDAY (29th).—London (2 P.M) St. Bartholomew's (1.30 P.M.) St Thomas s (3.30 P.M) Guy s (1.30 P M) Middlesex (1.30 P.M), Charing-cross (3 P.M) St. George s (1 P.M) King College (2 P M), St. Mary's (2 P.M.) Ophthalmic (10 A M) Cancer (2 P.M.) Chelsea (2 P M) Gt Northern Central (2.30 P.M), West London (2.30 P.M) London Throat (9.30 A.M) Samaritan (9.30 A M and 2.30 P.M) Throat, Golden-square, (9.30 A.M) City Orthopædic (2.30 P.M.) Soho-square (2 P M)

SATURDAY (30th).—Royal Free (9 A.M) London (2 P.M) Middlesex (1.30 P.M) St. Thomas's (2 P M), University College (9.15 A.M) Charing-cross (2 P.M) St. George's (1 P M.) St. Mary s (10 P.M.) Throat, Golden-square (9.30 A.M) Guy's (1.30 P.M)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M) the Royal Westminster Ophthalmic (1.30 P M) and the Central London Ophthalmic Hospitals operations are performed daily

LECTURES, ADDRESSES DEMONSTRATIONS, &c.

MONDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road W.).—3.30 P.M Dr Russell: Demonstration in Medical Wards.

TUESDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W) —5 P.M. Lecture:—Dr Ball: Throat Cases.

WEDNESDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road W) —5 P.M Lecture:—Mr Eccles Hydrocele

THURSDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W) —4.30 P.M Mr Paget: Demonstration in Surgical Wards

FRIDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital Hammersmith road, W).—4.30 P M. Lecture:—Dr Abraham: Skin Cases.

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this Office

Lectures original articles, and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed To the Sub-Editor

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready Bound in cloth, gilt lettered, price 18s, carriage extra.

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METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 21st 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Aug 15	29·97	S.S.E.	—	110	73	60	60	62	Overcast
" 16	29·84	W.		117	70	66	65	63	Cloudy
" 17	29·7[illegible]	S.E.	0·06	80	75	61	59	61	Cloudy
18	29·78	S.W.	0·70	81	66	61	62	65	Cloudy
" 19	29·66	W.	1·00	116	[illegible]4	60	61	63	Cloudy
" 20	29·81	S.W.	0·11	113	71	64	54	67	Cloudy
" 21	30·05	N.W.	—	107	69	66	64	69	Cloudy

During the week marked copies of the following newspapers have been received —*Pratica Medica de S. Paulo, Hove [illegible] Courier Glasgow Evening News, Blackpool Herald, Airdrie and Coatbridge Advertiser Oban Times and Argyllshire Advertiser Burton Chronicle Dundee Advertiser Lincolnshire Advertiser [illegible] Chronicle Kent Messenger [illegible] Aberdeen Free Press Western Daily Mercury Yorkshire Post, [illegible] Leeds [illegible] Newcastle Journal, [illegible] Kent Examiner Daily Chronicle Surrey Advertiser [illegible] Mercury [illegible] Express, Times of India Bradford Observer [illegible] Huddersfield Examiner Sanitary Record, Local Government Chronicle &c*

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THE LANCET.

LONDON SATURDAY AUGUST 30 1902

An Address to Students

Year by year as the autumn comes round, anxious thoughts are roused in many breasts by the approaching opening of the medical schools on October 1st. Old students anticipate their return to work, some with pleasure, others with regret, while those who are about to enter upon their medical career are for the most part stirred by hopes fears, and ambitions. Some drift into what is to be their life s work almost involuntarily their choice having been determined by the will of a parent or guardian , some obey a pronounced predilection ; others become medical students as the result of chance—sometimes of happy chance and sometimes the reverse. The motives leading to the choice of a career are very various but of course the primary one is the necessity which comes home to the majority of earning a living. As to those which specially influence men to enter the medical profession we are indebted to Dr ARTHUR KEITH of the London Hospital, lecturer on anatomy in the London Hospital Medical School, for a most interesting inquiry as to how 100 men at his hospital came to take up medicine as a means of livelihood. The result of Dr KEITH s inquiry which took into account men of all sorts, qualified and unqualified, some of them teachers, most of them students appeared in the *London Hospital Gazette* and his analysis showed that ' seven had their profession chosen for them 30 were born in the profession and grew up in it , 10 adopted it as a boyish ideal at a very early age , 12 adopted it by a process of exclusion—it was the profession they had the least objection to seven chose it because it was the nearest akin to their favourite subjects—zoology or chemistry 31 were led to adopt medicine from some accidental circumstance ' while ' three drifted into it—[they] could not tell why

But whatever the motive whatever the circumstances determining the adoption of medicine as a career whether from the love of humanity and the wish to alleviate suffering or because it promises the best prospect of giving some leisure hours to a favourite branch of natural science, or simply as being what the chooser thinks the preferable means of obtaining his daily bread—all men agree that when followed honestly and with a true heart it is the noblest of secular callings. So that those who find themselves in it as the creatures of circumstance, or drift into it they know not why may be happy in the thought that they have chosen an excellent career In early life it is somewhat rare for a lad to have any very definite ideas as to his future. The real work of life seems to all but a few lads in whom environment or an innate seriousness has implanted an unusual sense of responsibility so vague and distant that they do not regard it with any particular gravity Anxiety is generally absent, though hope may irradiate the path before them with the golden light of fancy which, alas, as they press onward, is too apt to fade away Yet Dr KEITH'S analysis shows that 10 out of 100 medical votaries resolved to take medicine as their profession when aged only six or seven years. It is interesting to learn that these 10 children made no mistake in their precocious choice of a profession, for all of them have proved successful or are in a fair way of becoming so. This group of early devotees to medicine might probably have been enlarged as Dr KEITH suggests, from the 30 who were born in the profession. The son of a medical practitioner who sees his father beloved and notes the position of delicate responsibility that he holds in the neighbourhood is very likely to wish to enjoy the same privileges. The father whose professional career has brought him the sweets of success, is certain to encourage in his son any early desire that may appear to follow in the parental footsteps

But although chance plays so large a part in determining the choice of a career among medical students the medical profession is by no means one that should be lightly entered upon. To become a legally qualified practitioner is to-day a more arduous undertaking than it was 40 or even 20 years ago A curriculum involving five years of hard work with its multitude of subjects to be got up " for examination, each one of them important enough to occupy the best years of a man s life, shows clearly enough that, however it may have been with the heroes of the famous novels by DICKENS COCKTON and ALBERT SMITH *the medical student of to-day has no time for* idleness. From the first day of October the man who would be successful, not merely in passing his examinations but in obtaining such a preparation as will make him worthy of the confidence and respect of his patients and of the honourable competence he hopes to secure must make up his mind to lead a diligent and even a laborious life. Not that he has any need to be a melancholy man. The secrets of abstract lore can be wrestled with in sad solitude, but a profession that requires a knowledge of life and a sympathy with all forms of human ill is not to be thoroughly mastered by a recluse. The attitude in which a man approaches his work is not wholly a matter upon which he can exercise free will, for it must depend, of course, somewhat on his natural temperament but, assuming that he is working steadily he has the right to cultivate a cheerful way of looking at things and to take every opportunity of exchanging his experiences with his fellows that he may gain the breadth of opinion and charity of view so essential to the medical practitioner The student s optimism need not be of the exaggerated variety but it should spring from the consciousness that he is doing his duty by making the best efforts that he can to master each day s work as it comes before him feeling sure that regular labour means regularly progressive results.

If there is one virtue more than charity which the medical practitioner and therefore the medical student, must make his own it is self management—the power to order the scheme of living in accordance with what produces the best working day To cultivate habits of regular study properly interleaved with regular exercise should be one of the first aims of the medical student. When he is master of his methods of work, even though he starts slowly, he will find that he is surely ascending the hill of knowledge And a slow start is not a bad thing, as we all know from experience as well as from proverbial teaching Mountains cannot be ascended with a rush, but by climbing patiently, little by little, the end is achieved Medical studies must, the student will find, be planned out systematically, according to the requirements of the curriculum, while the counsel of his teachers will be readily given on all points as to books for private reading and courses of practical work. In the days to which some of us can look back aids to study were very different, and as the curriculum was much simpler so the establishment provided by a medical school for students was much more meagre Even 20 years ago the chemical laboratories then to be found were very primitive and incompletely equipped. Physiological and pathological laboratories scarcely existed. There were no facilities for bacteriological research, for bacteriology was not merely an unexplored but an unknown continent. PASTEUR and LISTER were great names to the medical student, but in the seventies and early eighties they were but names. He learned in books and lectures the enormous significance of their work, but he had no practical lot in it. Now every medical student is required to make himself thoroughly familiar with such simple bacteriological procedures as may be called for from him in his after professional career if his patients are to enjoy the benefits of recent research

It is well, we think, that parents should realise more clearly than was formerly required of them how exacting a career their sons have embarked upon and how easily a temporary failure may follow upon honest endeavour For if the facilities for learning have enormously increased the multiplicity of subjects now embraced in a medical education has magnified the difficulties of the student in proportion. The subjects for study being so numerous and their extent so great, a feeling almost of despair may sometimes arise in the student's head He fears that he will not be able to master them in the allotted time, and when a young man thinks that he cannot get through a certain amount of work in such a huge space of time as five years appear to him it may be taken for granted that his feelings of anxiety are very real. They are often so real that he may be tempted to put aside his medical ambition and turn to some other calling where not so much will be required of him. To our younger readers, who are now about to begin their medical careers, we would especially say that when they feel in this despondent mood is exactly the time when they should try the magic recipe of orderly restrained work in accordance with a laid-down plan. Let them make a vow and keep it that within a certain time some small province of knowledge shall be annexed With conquest will come the lust of conquest, with the habit of work will come skill in working, so that they will be able instinctively to plot out their time, whether in the medical school or in their rooms, to the best advantage In a very short space of time depression will be removed and confidence restored. The student should take care to complete each day's task as it comes and to review systematically what he has done, so as to secure the steps that he has already made

We hesitate to recommend the student to limit his work strictly to the curriculum, although if he should have occasion to seek the help of any private tutor that is the first advice that will be given to him But it is not good to aim too low, to attempt to acquire the minimum knowledge necessary for passing Students who do this run risks of missing their mark and rarely acquire any true interest in their pursuits. It is necessary to strive to know fully and thoroughly the various subjects required for examination, but if medical practice is the student's aim it will be cautious to watch against misplaced zeal. While it is unwise to try to enter on a medical career with the scantiest possible equipment, it is equally unwise to start in that career loaded with unnecessary baggage There is a mean to be preserved What is required by the curriculum should be known thoroughly, but before the student seeks to specialise in one of the ancillary sciences he should realise that in doing so he may be wasting his time. The preparatory subjects in modern medical education are so fascinating that to a man fond of chemistry, for example, there is a danger of being led astray and of following its tempting by paths to the detriment of other studies. TROUSSEAU, we believe, said that medical men are *tristes chimistes*, but we have known students waste a great deal of time, which ought to have been otherwise employed, in developing a taste for chemistry which conducted them nowhere, not even to any real knowledge of their favourite subject. In the same way the subjects of minute anatomy, physiology, and biology afford vistas so attractive that the young philosopher may yield to their charms and follow them beyond the limit that prudence indicates For it is clearly, or ought to be, the purpose of the serious student to obtain a knowledge of the various branches of his profession as full and accurate as possible during the five years of the medical curriculum If this is to be done successfully there will not be much time for excursions In these days specialisation has become a fashion, and indeed the continued growth of knowledge in the various branches of medicine and surgery makes it almost unavoidable if any one branch is to be followed beyond the threshold. But the time for becoming a specialist is, at any rate, not during the period of medical studentship The best thing to do, whether medicine, surgery, or gynæcology is the aim, is to become a well-equipped all round man before picking, or drifting into, some special branch of practice. And even then prudence may suggest delay unless there are private means sufficient to tide over the period of waiting—often the weary hopeless waiting—for opportunity and success But for the encouragement of the average student it may be said that the possession of fair mental endowments, with steadiness and determination of character, are more valuable than a supposed gift of genius—a gift, by the way, which it is rarely safe for even the youngest of us to imagine as his own The steady worker will not, as a rule, be left far behind the erratic genius

There is one respect in which a lad who in the old days had chosen, or had been chosen for, the calling of a medical man had some initial advantage over the student of to-day He had an opportunity as an apprentice of acquiring a rough preliminary knowledge of his professional subjects that is now denied him until he is actually enrolled in a class at a medical school. In the days of apprenticeship to a general practitioner a conscientious master would usually aid his pupil by introducing him to the elements of anatomy The pupil also learned to dispense and became familiar with materia medica as it was known at that time. And he gradually became acquainted with what may be called the routine of practice. Such measures as come under the head of first aid he grew familiar with and he was often taken to interesting cases to give some help in or to watch operations and to see cases of midwifery Perhaps of more value still to him afterwards, he became acquainted with men, women and children as patients while if his master were a gentleman of kindly feeling he had invaluable lessons in the art of dealing with suffering humanity of sympathising with and encouraging the nervous and despondent, of firmly and quietly controlling the wayward, and of taking into the sick room an atmosphere of cheerfulness and hope. He learned also to respect the confidences of patients and to practise that golden rule of medical ethics—to keep silence as to their weaknesses and ailments. All this was, of course, preparatory to entry at a medical school before as the phrase was, the student began to walk the hospitals" This familiarity with medical matters, though acquired in a haphazard and desultory manner was often of value, not only later in commencing private practice, but also in enabling the student to apprehend many things in hospital work which would have been strange and unfamiliar to one fresh from school or college. There are students who have the strongest objection to being convicted of complete ignorance in front of their fellows. This may imply vanity, but vanity is a failing from which no class of young men is exempt, or it may mean shyness. Such men shirk demonstrations lest they should be asked questions and do not themselves seek information because they do not desire to betray their complete lack of it To such students the system of apprenticeship was peculiarly valuable. By the time that they began to pit themselves against their fellows their shyness was gone and they had a certain familiarity with their subjects. However the system of apprenticeship is dead and this is no place to discuss its merits and its demerits. Our concern is to give a few words of counsel to the student on the threshold of his career and this seems a convenient place to urge upon him the value of curiosity Let him always ask questions Let him never fear to display ignorance. Let him never be ashamed to attract attention by wanting to know As a rule, he will find that his inquisitive attitude is recognised at once as the right one by his teachers and his more sensible fellow students. It must be remembered that though guidance will be freely given such help does not lessen the amount of work that the student must do to make the knowledge acquired his own. Lightly come lightly go" is true of knowledge as well as of money and what is easily learned by asking a question is easily forgotten unless pains are taken to retain it. And so we get back to the point that we have already made, that medical knowledge can only be acquired by careful mapping out of the ground, by systematic advance and by frequent revision Steady diligence is needed to master the many subjects and the great detail of a medical education

And here the question arises as to how many hours a day should be given to work. No answer is applicable to all cases, but as a general statement better work is done in eight hours than in a greater number and if the attention is given closely they are as many as most students can bear without injury to health. Men are often said to work 12, 14 or 16 hours a day, but such diligence cannot be kept up long if there is really any concentration of mental force. These debauches of study are habitually indulged in by those who have been slack and want to cram their subjects for an examination but they seldom help the student much in his desire to cheat the examiner into that proof of diligence, a pass-certificate Eight hours work is a high average for any man to maintain, and the student who approaches it nearly will not find much trouble in satisfying his examiners while such diligence will show that his subjects appeal gratefully to him And while storing the mind it does not answer to neglect the body a due proportion of time must be given to sleep, to meals, and to recreation. The old division of the 24 hours into eight hours for sleep, eight for work and eight for meals and recreation has never been much improved on Nothing is more important than a due proportion of sleep. Exercise is necessary for health but the student must use discretion as to its amount. There are obvious dangers in excessive devotion to athletics but the medical student at a school situated in a town is not exposed to them in the way that the lad at the university or one of the public schools is exposed to them. The medical student, if he is a student in anything more than name, will not be able to give up whole days week after week to games, he will not be able to play any game regularly or often. The value of games such as cricket or football is increased by the discipline required of their exponents by the need for learning how to work with others for a common object. There is no fear that the genuine medical student will ever sink into the mere devotee of athletic against whom Mr RUDYARD KIPLING has waxed so wroth. The genuine medical student has only occasional hours to spend away from his work, but when those hours come we advise him to use them in hardening his muscles and cultivating his self-control in the mimic strife of games

The medical life like every other, has its pleasures and its pains and the latter cannot be disregarded. It is not likely that the student has reckoned up the troubles or that he will pay much heed to them when we allude to them. Nothing is further from our wishes than to discourage him, but we have a reason for wishing to allude to the circumstances that make the medical practitioner's life often a hard one. And in many respects it is a very hard one, while the pecuniary reward is comparatively small. A few large incomes are made and a few titles gained but the great majority must be content with a moderate competence. The complete immunity enjoyed in this country by quackery and the system of contract payment under which medical men are grossly sweated are the two factors which combine to make our arduous and responsible calling so poor a calling from the pecuniary point of view. And the reason why we think it opportune to point this out to students is as follows. Many of the drawbacks to the medical life spring from want of professional union. If the medical profession were at one upon the questions which concern their professional welfare, if they were not apathetic, and especially if the leaders of medicine would show practical interest in what are termed medical politics, reforms—and not only trivial but important reforms—would follow in large number. The student of to day is the practitioner of to-morrow and, if he have the proper making and the fitting opportunities, the leader of a few years later. Hence we wish to impress upon the student that he should be ready when his time comes to combine with his professional colleagues in securing for himself and them proper recognition of the services to the community discharged by medical men, and that he should not consider medical politics a subject in which it is a little undignified—say, a little tradesman like—for him to be interested. The student cannot too early be taught that it will be as a medical man his duty to study medical politics and to help his professional brethren to an understanding of them, while we can assure him that by the effective union of the profession that would follow such understanding most of the difficulties that now beset the general practitioner's path would be removed.

And having frankly alluded to the drawbacks of the medical profession as real in the present, however far they may be removeable in the future, let us conclude none the less by congratulating our recruits upon having enlisted among us. Though many causes are at work, such as the prevalence of quackery, the abuse of hospitals, the medical aid societies that sweat the medical man, the keen competition in a crowded profession, which all tend to lower medical incomes, a modest return may always be counted on and some of the fortunate ones may look for more. And though the work is often hard, and busy days are followed by busy nights, there are rewards of infinite sweetness. What though the medical man occasionally meet with meanness, rudeness, and ingratitude. These things are not the rule, and to no other body of men is it given so often to deserve the heartfelt thanks of their fellows, to be brothers to the weak and helpers to the fallen. And apart from the grand feeling that merely to do the duty of the day is to discharge functions of the greatest gravity and cope with situations of the most delicate responsibility, the practice of medicine has intellectual fascinations that are surpassed in no walk of life. No other pursuit can equal ours in variety and interest, and when followed conscientiously none will bring to the mind so unalloyed a sense of pleasure.

And so we bid welcome to those who this year reinforce our ranks. If they are of the right stamp they have chosen a life which for all its hardships has many counterbalancing charms, especially for those who can learn to value the peace of mind that a well-spent life will surely bring, and can pray with sincerity as a wise man once prayed "Remove far from me vanity and lies, give me neither poverty nor riches."

THE STUDENT'S LIBRARY

WE have for many years been in the habit of suggesting for the benefit of the medical student a list of books which he will find useful in the course of his professional career. This list was originally designed to be helpful to him in a choice of the treatises which he should read before he can hope to obtain a place on the Medical Register. Of late years the making of this list has become very difficult. Many new books have been written and a great general advancement in certain valuable qualities has been imparted into their writing. The English medical text book of modern days has become as orderly as its French and German predecessors were wont to be, and an effort has been made all round towards perfect clearness. We have had few books where the teaching was not founded upon the practical knowledge of the author and where the lessons which the author desired to convey have not been definite and intelligible. The purely book making treatises have been to a considerable extent of American manufacture, but in saying this we must not lose sight of the fact that to American enterprise, industry, and erudition we now owe an extensive medical literature. In particular do the authors and publishers of the United States excel in the production of great dictionaries, and encyclopædic compilations of monographs by many writers. From these three things—the large supply of text-books, their excellent and authoritative nature, and the addition of many valuable American works to our library—arises a great difficulty for anyone who should attempt to suggest to the student what should and what should not be the book he ought to buy. The reviewers in our columns have reported equally well upon two or three different text-books of surgery and two or three different text-books of medicine, and in the more special branches of professional knowledge it is even more difficult than when dealing with comprehensive treatises to say which book *par excellence* should be recommended to the student. Year by year we have found our list of recommended books growing larger and larger. Our knowledge that in many cases there was almost nothing to choose between works from the standpoint of their efficiency led us to include several written with the same purpose and scope rather than to exercise an opportunity of choice that would appear to have been taken invidiously. The list at length became unwieldy, and we have lately adopted an entirely different plan.

BOOKS RECOMMENDED FOR THE DOUBLE QUALIFICATION OF THE ENGLISH ROYAL COLLEGES.

We have taken the examinations for the double diplomas of the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England as the type of the tests which every student works to pass. He may not do so much and he may do more, the above mentioned qualification is a good representative one. The following are the text-books that are recommended by the consensus of opinion of a well known group of London teachers for the examinations of the London Conjoint qualification, the list being almost identical with the one which we published in the Student's Number last year:—

FIRST EXAMINATION

Chemistry.—LUFF'S *Chemistry*; Cassell, 7*s* 6*d*.—This book was written with a view to this examination and contains exactly the right material. ATTFIELD'S *Chemistry* (Gurney and Jackson, 15*s*.) is also recommended. It is in its seventeenth edition. A new edition of DUPRÉ and HAKE'S *Inorganic Chemistry* (C. Griffin and Co., 9*s* net) is also specially adapted to the needs of medical students. Third edition.

Physics.—DANIELL'S *Physics*, Macmillan and Co., Limited, 4*s* 6*d*.—ALDOUS'S *Physics*, Macmillan and Co., Limited, 7*s* 6*d* —The student will only require selections which should be made in accordance with the advice of his teachers.

Pharmacy.—HALE WHITE'S *Materia Medica* J & A. Churchill, 7*s*. 6*d* A new edition (the seventh) was published this year

Biology.—P CHALMERS MITCHELL'S *Outlines of Biology* Methuen, 6*s*.—The book was written with a view to this examination but we strongly recommend the medical student of the present day to extend his biological reading if only in a desultory manner to the works of among others, HUXLEY and BEALE

SECOND EXAMINATION

Anatomy.—GRAY'S *Anatomy* Longmans, 32*s* net.—QUAIN'S *Anatomy* Longmans, in nine parts at different prices.—MORRIS'S *Anatomy* A new edition (the third) will be issued in time for the Autumn Session. J & A Churchill, 36*s*.—The first of these treatises is sufficient by itself, while the article in it upon osteology is unequalled. The books of QUAIN and MORRIS contain matter that is not essential for the examination under consideration, but all who aspire to the honour examinations must have and read them. The same may be said for the *Manual of Practical Anatomy* by the late Professor ALFRED HUGHES and Dr ARTHUR KEITH which is now completed (J & A. Churchill Part. II and Part III published this year 8*s* 6*d* and 10*s* 6*d* respectively)

Physiology.—HALLIBURTON'S *Kirkes Physiology* (fourth edition) J Murray 14*s*.—The omission of FOSTER'S *Physiology* here may strike some as extraordinary It is the best text-book in English and written in perfect literary style, but it does not supply the medical student with sufficiently cut-and-dried answers to questions which are sure to be set him at this examination. HALLIBURTON'S *Kirkes* is therefore the book to be recommended for the average student, but by all means let him enlarge his knowledge by reading FOSTER'S or STEWART'S book if he finds that he can swim in deeper water.—HALLIBURTON'S *Chemical Physiology* Longmans 28*s*.—SCHÄFER'S *Course of Practical Histology* Smith and Elder 7*s* 6*d*.—SCHÄFER'S *Essentials of Histology*, Longmans, 8*s*.—BRODIE'S *Essentials of Physiology* Longmans 6*s*. 6*d*.—These four books should be read to supplement HALLIBURTON'S *Kirkes Physiology*

THIRD EXAMINATION

Medicine.—OSLER'S *Principles and Practice of Medicine* (fourth edition thoroughly revised) Henry Kimpton, 18*s* net.—A clear and well arranged book perfectly up to date. It has taken the place of that admirable book, BRISTOWE'S *Theory and Practice of Medicine* which has now fallen a little behind the times.—TAYLOR'S *Manual of the Practice of Medicine* J & A. Churchill 16*s* All students who can afford it should possess this book too.—CARTER'S *Elements of Practical Medicine* will serve as a sound foundation a new and thoroughly revised edition was issued recently H. K. Lewis 10*s* 6*d*

Applied Anatomy.—TREVES'S (Assisted by ARTHUR KEITH M D) *Surgical Anatomy* (new edition, Cassell) 9*s*.—HOLDEN'S *Landmarks Medical and Surgical* (J & A. Churchill, 3*s*. 6*d*) also thoroughly deserves the popularity it has so long enjoyed as a book on applied anatomy while the supplementary volume on Surgical Anatomy in QUAIN'S *Anatomy* by THANE and GODLEE (Longman 6*s* 6*d*) is excellent.

Pathology.—GREEN'S *Pathology* Renshaw 17*s*.—LAZARUS BARLOW'S *General Pathology* J & A. Churchill, 21*s*.—BOWLBY'S *Surgical Pathology* J & A. Churchill, 10*s* 6*d*.—CURTIS'S *Essentials of Bacteriology* Longmans 9*s*.—Of course it will be well if the student can find time to read the larger works of Crookshank and Sternberg

Materia Medica.—MITCHELL BRUCE'S *Materia Medica* Cassell 7*s* 6*d*

Forensic Medicine.—LUFF'S *Forensic Medicine* Longmans 24*s*.—AUBREY HUSBAND'S *Forensic Medicine* Simpkin 10*s* 6*d*.—Both books fit the examination but we recommend the student also to read the larger treatises by TAYLOR and STEVENSON (J & A. Churchill, 31*s*. 6*d*) or DIXON MANN (C Griffin and Co, third edition 21*s*) Forensic medicine is interesting reading so that a big book should have no terrors.

Public Health.—PARKES and KENWOOD'S *Hygiene* second edition in September Lewis 12*s*.—This book is based on Dr Louis Parkes *Hygiene* fifth edition. WHITELEGGE'S *Hygiene* Cassell, 7*s* 6*d*.—Each of these books is good and contains more than is required for the examination.—*A Book of Hygiene* (C Griffin and Co Limited 8*s* 6*d* net) by A M DAVIES, Lieutenant-Colonel R.A.M C. is also a most useful and comprehensive treatise.

Surgery.—ROSE and CARLESS'S *Manual of Surgery* Baillière Tindall and Cox, 21*s*.—This book contains all that is necessary for the examination, and has been regularly kept up to date but a student with any ambition will supplement his reading by consulting one of the three more comprehensive treatises which follow He must also read JACOBSON'S and STEWARD'S *Operations of Surgery* (J & A Churchill 42*s*) or TREVES'S *Operative Surgery* (Cassell 42*s*). A fourth edition of JACOBSON'S and STEWARD'S work is issued this year.—ERICHSEN'S *Science and Art of Surgery* (Longmans, 48*s*) TREVES'S *System of Surgery* (Cassell, 48*s*) and TILLMAN'S *Surgery* (Kimpton, 63*s*) must be consulted as books of reference, while every student will find SPENCER'S *Outlines of Practical Surgery* (Baillière, Tindall, and Cox, 12*s* 6*d*.) of great help to him.

Midwifery.—GALABIN'S *Midwifery* (J & A. Churchill 15*s*) or DAKIN'S *Midwifery* (Longmans 18*s*) is most exactly fitted for this examination. In Gynæcology we recommend, as on previous occasions LEWERS'S *Diseases of Women* (Lewis, 10*s* 6*d*)—HERMAN'S *Diseases of Women* (Cassell 25*s*) and HERMAN'S *Difficult Labour* (Cassell, 12*s* 6*d*) should also be read.

The student should also read HARE'S *Practical Diagnosis* fourth edition (Kimpton 21*s* net) which explains the use of symptoms in the diagnosis of disease. This book will, of course only be valuable to those in the fifth year of the curriculum but to them it will prove very useful and suggestive He must also read a Text-book of Ophthalmic Surgery SWANZY'S book (Lewis 12*s* 6*d*) is suggested as containing all that he is required to know He should also read MALCOLM MORRIS'S *Diseases of the Skin* (Cassell 10*s* 6*d*) and a *Manual of Bacteriology* by HEWLETT (J & A. Churchill, 12*s* 6*d*.). With regard to the literature of bacteriology the student will probably be required by his teachers to use certain text books and our recommendation is not intended to supersede their advice The student must work in accordance with his class mates.

This does not seem a very large library for a working man to read in a curriculum extending over five years but if the books are read properly they will amply suffice For they have to be thoroughly mastered and completely assimilated All passages in them not perfectly clear at the first or even the tenth reading must be made so ultimately if there is to be no doubt about the result of an examination, and from the first word to the last of every book it must be treated as the handmaiden of practical work. Now it should indicate how to begin practical work, now it should explain practical processes and now and most frequently it should form a *memoria technica* whereby practical lessons learned in the dissecting room the laboratory or the ward can be recalled in a moment either for practical or examination purposes

THE BOOK AND THE STUDENT

As we have often had occasion to point out the uses that different students are able to make of books vary so much with their order of mind that no [illegible] library can ever be the best possible library for all [illegible] one man the elementary [illegible] may be [illegible] reading. He will be able to use it as the skeleton of his knowledge and will endow it with tissues and life from his personal observation, by practical courses in his school, by clinical work in the wards, and by thoughtful attendance at lectures. This is the student into whose work books do not largely enter. But inasmuch as it is easy to examine fairly and thoroughly upon book-work, while it is difficult to lay down proper standards and discover adequate tests for the appraisement of practical work the result of examinations must more or less depend upon the ability of the student to answer somewhat in text-book language questions framed somewhat upon text-book lines. Therefore it will be well for the student whose practical order of mind enables him, as it were, to write his own text-book by grafting his practical work on to an elementary manual, to revise his knowledge before entering for an examination by the light of a first-class text-book. This is the best and most feasible way of combining books and practical and clinical work for the formation of a medical education. But it is not in the power of every student to obtain an education in this manner. Practical work is easier to some men than to others, and lectures mean more to some men than to others. The receptive man will benefit by teaching, which only arouses opposition in the critical man. The reading of a large text-book by the critically minded man—the man whose first impulse on hearing a fact is to doubt it or the deductions from it—may very often be the best way in which such a man can gain a knowledge of his subject. He gets an all round look at it, and though he may not entirely understand everything that he reads he will obtain a general familiarity with the topic and see the fallacy of the objections which rise in his mind. The bald statements for which alone the small manual can find room arouse in him nothing but opposition, and he will be well advised to go straight to the big book where the explanations are included with the facts. But he *must* supplement his wider range of reading with as honest and as earnest a course of practical work as his less literary fellow students. When confronted with examinations he will find, as hundreds of the most promising students of medicine have found to their considerable discomfiture, that practical work is absolutely necessary, that without it book-work is as nothing, that even to pass in the written part of the examination (for which he feels so amply equipped) will be almost impossible unless his knowledge is fortified and made alive by some measure of practical experience, and, lastly, that no amount of book-work will ever enable him to answer questions by word of mouth.

BOOKS RECOMMENDED FOR THE HIGHEST QUALIFICATIONS.

The list of books given above as necessary to be read before the student can make certain of obtaining the diploma of the Conjoint Board will if absolutely mastered go very far to take him through any honour examination—especially if his practical work be good and if he have an orderly mind and a ready wit, so that he is at his best during his tests, but in certain directions the aspirant for the medical degree of the University of London and the Fellowship of the Royal College of Surgeons of England must read more advanced works. The degrees of other universities, especially those of Oxford and Cambridge, will also require from their candidates a larger range of reading, but in these it is chiefly for the final examination, the standard of which is (or is expected to be) higher than the standard of the pass examinations of the various corporations. In the case of London University the increased stringency of the tests is felt from the beginning, while the first examination for the Fellowship of the Royal College of Surgeons of England is one of the hardest and most uncertain examinations known to us. In making the suggestions which follow we premise in the student a complete knowledge of the simpler works.

For the Preliminary Scientific Examination of London University RIDEAL'S *Practical Organic Chemistry* (Lewis, 2s. 6d.), TILDEN'S *Inorganic Chemistry* (J. & A. Churchill, 10s.), REMSEN'S *Organic Chemistry* (Macmillan and Co., Limited, 6s. 6d.), and BERNAYS' *Practical Chemistry* (J. & A. Churchill, 4s. 6d.) are recommended. DANIELL'S *Text book of Physics* (Macmillan and Co., Limited, 21s.) should be supplemented by DESCHANEL'S well known volumes and such books as CATCHPOOL'S *Sound* (Clive, 3s. 6d.), LOWSON'S *Botany* (Clive, 6s. 6d.), and WELLS and DAVIES'S *Zoology* (Clive, 6s. 6d.). MUDGE'S *Biology* (Arnold and Co.) is a book which is intended exactly to fit the needs of this examination, while the course of botanical reading should include SCOTT'S *Structural Botany* (Adam and Charles Black, two vols., 3s. 6d. each). For the first M.B. of the University of London and for the first Fellowship of the Royal College of Surgeons of England MORRIS'S *Anatomy* (J. & A. Churchill, 36s.) is, on the whole, the best text book, but the student should also read Embryology by SCHÄFER and Splanchnology by SCHÄFER and SYMINGTON in QUAIN'S *Anatomy* (Longmans, 9s. and 16s. respectively) and revise his osteology from time to time by GRAY'S *Anatomy* (Longmans, 36s.) and his practical work by CUNNINGHAM'S *Practical Anatomy* (two vols., Young J. Pentland, 12s. 6d. each) or BRODIE'S *Dissections Illustrated* (Whittaker and Co., 42s.). Professor CUNNINGHAM has also published this year a splendid *Text-book of Anatomy* (Young J. Pentland) written by himself and nine other competent contributors. The book is profusely illustrated with original drawings and much in it which deals with the topographical relations of the viscera departs considerably from convention. This is a book from which the able student can derive much suggestive information. For both these examinations STEWART'S *Physiology*, fourth edition (Baillière, Tindall, and Cox, 15s.) or FOSTER'S *Physiology* (Macmillan and Co., Limited, in four parts, 10s. 6d. each, and appendix, 7s. 6d.) should be read.

For the final medical examinations of the great universities no different text-books are absolutely required to those suggested for the final examination of the Conjoint Board, but the student's reading should be regularly supplemented by studying the valuable monographs in ALLBUTT'S *System of Medicine*, the pages of the medical journals, and such works as POWELL'S *Diseases of the Lungs and Pleura* (Lewis, 18s.), GOWERS'S *Treatises on Neurology* (J. & A. Churchill, vol. i., 15s., vol. ii., 20s.), VON JAKSCH'S *Clinical Diagnosis*, fourth English edition (Griffin and Co., 24s.), and JUDSON BURY'S *Clinical Medicine*, second edition (C. Griffin and Co., 21s.). A sound knowledge of bacteriology will also be expected of the medical graduates of the principal universities, who will be expected to be familiar with the modern views of the etiology and prevention of infective diseases. STERNBERG'S *Bacteriology* and CROOKSHANK'S *Text book of Bacteriology* (H. K. Lewis, 21s. net) are the best modern works. For the final surgical examination of the University of London (that for the degree of M.S.) and for the final F.R.C.S. the first thing for the candidate to remember absolutely is that his anatomical knowledge must be as perfect as it was at his previous tests. If it be taken for granted that the student has a thorough knowledge of such a text-book as that of ROSE and CARLESS, then the book to read is TILLMANN'S *System of Surgery* (Kimpton, 63s.). The book is thoroughly well written, comprehensive, and completely up to date, which can no longer be said of HOLMES'S *System* or even of ERICHSEN'S splendid work. *A Manual of Surgical Treatment*, by W. WATSON CHEYNE and F. F. BURGHARD, has been issued in parts at prices varying from 10s. 6d. to 18s. by Longmans. This is a valuable work, sound, practical, and up to date, and the same may be said of WALSHAM'S *Surgery* now in its seventh edition (J & A. Churchill, 15s) Such monographs as those by BLAND-SUTTON on *Tumours* and on *Ligaments* (H K Lewis, 4s 6d) by TREVES on *Intestinal Obstruction* (Cassell and Co., 21s) by TUBBY on *Deformities* by MORRIS on the *Surgical Diseases of the Kidney and Ureter* (Cassell and Co. 2 vols 42s net.) by WARING on *Operative Surgery* and by MARSH on *Joints* should also be read

RECENT MEDICAL LITERATURE.

During the past student's year some excellent works have appeared which have been highly reviewed in our columns but which cannot be called essential to the library of the student A certain proportion of these text-books have been and will be, read by very many students and if they are kept up to date where necessary will very possibly take the place in popularity of those now occupied by other works. A text-book in these days of medical progress requires almost annual revision explanations once necessary become no longer, so new discoveries entail large additions, doubt is thrown upon accepted theories importance is given in the medical curriculum to subjects which had previously been barely noticed, and so on. From any or all of these reasons a book that is to appeal to students from year to year must be revised almost annually It follows from this that text books which we now recommend as essential—as far as any one text book can be essential to the student's education—may easily drop behind and its place be taken by another book more carefully brought up to date and more *directly written to suit the immediate exigencies of the* Examination Board

A new edition has recently appeared of FAGGE'S famous *Text-book of Medicine* the book being entirely revised and largely re-written by Dr P H PYE-SMITH (J & A. Churchill, 21s.) FAGGE'S work is almost the only text-book of its kind which at the present day presents the clinical aspect of disease in a style which SYDENHAM—that great master of descriptive medicine—would have approved. A second edition of the valuable treatise on Surgery edited by Dr ROSWELL PARK which was published a few years ago has also appeared during the year (*A Treatise on Surgery by American Authors for Students and Practitioners of Surgery and Medicine* edited by ROSWELL PARK. Henry Kimpton, 25s) It was felt that the book in its original form was rather large and expensive for the average practitioner or student, and therefore it was decided to issue a smaller edition while at the same time the opportunity has been taken of revising numerous points The chief effect of *the contraction of the size of* the treatise has been *to* make it more readable and more handy in use

Quain's Dictionary of Medicine by Various Writers has also made another appearance, the third edition being largely re-written and revised throughout under the editorship of Dr MONTAGUE MURRAY assisted by Dr JOHN HAROLD and Dr CECIL BOSANQUET (Longmans, Green, and Co. 21s). Quain's Dictionary of Medicine continues to be a wonderfully comprehensive encyclopædic work. It is well illustrated and well arranged for facility of reference and the practitioner and student of medicine will assuredly find it of great practical value as a trustworthy and available book for the purpose alike of guidance and ready reference in the diagnosis and treatment of disease

A further issue has taken place of *Nothnagel's Encyclopedia of Practical Medicine* the section dealing with typhoid and typhus fevers being issued from the pen of Dr H. CURSCHMANN Professor of Medicine Leipsic edited with additions by Professor WILLIAM OSLER (authorised translation from the German under the editorial supervision of ALFRED STENGEL, M D W B. Saunders and Co £1 1s). The excellence of the series of monographs issued under the editorship of Professor Nothnagel has been recognised by medical practitioners sufficiently familiar with German to read these works and the publication of an English edition will doubtless be most favourably received. A set of 10 volumes will be issued representing the most practical part of the work.

Several excellent examples of surgical and medical monographs have appeared during the past year One such book is *Diseases of the Stomach and their Surgical Treatment* by A W MAYO ROBSON and B G A MOYNIHAN (*Baillière* Tindall, and Cox, price 15s net) In 1900 Mr Mayo Robson delivered the Hunterian Lectures at the Royal College of Surgeons of England on the Surgery of the Stomach, and this has formed the foundation on which this book has been built though the two authors hold themselves jointly responsible for every statement in the book. There are many other matters dealt with in this volume besides the surgery of the stomach which are of eminently medical interest and importance

Another book that will prove of service to the medical profession is *A Text-book of Medical Jurisprudence Toxicology and Public Health* by Dr JOHN GLAISTER (E. and S Livingstone 15s). In this work the plan has been adopted of combining in a single text-book the subjects of medical jurisprudence toxicology and public health. We consider this method a good one both for practitioners and students. All three subjects imply relationships subsisting between the medical man and the State and at most of the qualifying examining boards the subjects are now conjoined for examining purposes Dr Glaister modestly remarks that on none of the subjects does the volume pretend to be exhaustive He has, however produced an excellent manual fully carrying out all that is claimed for it—that is to say that in its pages will be found a consideration of the most important problems in each of the departments of which it treats

We would also recommend to the notice of the student *Human Embryology and Morphology* by Dr ARTHUR KEITH (Edward Arnold 12s *6d*) No doubt can be entertained of the great value of a knowledge of embryology to the student of medicine It supplies to the anatomist a satisfactory key to many anomalies and peculiarities in the distribution of nerves and blood vessels and affords an explanation of many malformations, cysts, tumours and the like that the surgeon is called upon to treat. We venture to say that all the main facts of human embryology could be mastered by the student in the course of a month steady application to Dr Keith's treatise and we recommend the work as a trustworthy guide to human embryology The illustrations are numerous and if roughly drawn have one excellent feature—that the names of the several parts are printed at the side and well-defined lines are drawn from them to the objects specified.

A new edition has appeared of Dr DAWSON TURNER'S *Manual of Medical Electricity X Rays and Finsen Light* (Baillière Tindall, & Cox 7s *6d* net) The book has been revised and largely re-written and deals with subjects concerning which the well-equipped student ought to have knowledge

It will be gathered that the output of medical literature during the last 12 months has not been so large or important as usual, but we do not regard this fact with anxiety Some excellent books have been brought up to date, and with few exceptions our medical authors have felt the responsibility that lies upon them and have only written with great care from personal experience First-hand familiarity with the subject is the greatest essential to the manufacture of a good book—a fact which, we think, is becoming more widely recognised.

SESSION 1902–1903

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GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION OF THE UNITED KINGDOM

Registration of Medical Students —The following are the General Medical Council's Regulations in reference to the registration of students in medicine —

Every medical student shall be registered in the manner prescribed by the General Medical Council. The registration of medical students shall be placed under the charge of the branch registrars Every person desirous of being registered as a medical student shall apply to the branch registrar of the division of the United Kingdom in which he is residing, and shall produce or forward to the branch registrar a certificate of his having passed a preliminary examination as required by the General Medical Council, and evidence that he has attained the age of 16 years and has commenced medical study The branch registrar shall enter the applicant's name and other particulars in the Students' Register, and shall give him a certificate of such registration Each of the branch registrars shall supply to the several qualifying bodies, medical schools, and hospitals in that part of the United Kingdom of which he is registrar, a sufficient number of blank forms of application for the registration of medical students The commencement of the course of professional study recognised by any of the qualifying bodies shall not be reckoned as dating earlier than fifteen days before the date of registration Applications for special exceptions are dealt with by the Students' Registration Committee, which reports all such cases to the Council

The Preliminary Examination in General Education, required to be passed previously to registration as a medical student, shall be as follows —

1. English language including grammar and composition. 2. Latin, including grammar, translation from unprescribed Latin books, and translation of English passages into Latin 3 Mathematics comprising (*a*) arithmetic (*b*) algebra, including easy quadratic equations, (c) geometry the subject matter of Euclid Books I., II, and III, with easy deductions. 4 One of the following subjects (*a*) Greek, (*b*) a modern language

In many cases the Council will not accept certificates of pass in Preliminary Examination in General Education unless the whole of the subjects included in the Preliminary Examination required by the Council for Registration of Students of Medicine have been *passed at the same time*

Professional Education —The course of professional study after registration shall occupy at least five years The Final examination in Medicine Surgery, and Midwifery must not be passed before the close of the fifth academic year of medical study

The following is a list of Examining Bodies whose examinations in general education are recognised by the General Medical Council as qualifying for registration as a medical or dental student the applicant producing satisfactory evidence that he has passed them —

I —UNIVERSITIES IN THE UNITED KINGDOM

University of Oxford —Junior Local Examinations Senior Local Examinations. Responsions Moderations Final Examination for a degree in Arts

University of Cambridge —Junior Local Examinations Senior Local Examinations Higher Local Examinations. Previous Examination. General Examination. Final Examination for a degree in Arts

University of Durham —Examination for Certificate of Proficiency Senior Local Examinations Final Examination for a degree in Arts

University of London —Matriculation Examination Final Examination for a degree in Arts or Science

Victoria University —Preliminary Examination Final Examination for a degree in Arts or Science

University of Birmingham —Matriculation Examination

University of Wales —Matriculation Examination. Final Examination for a degree in Arts or Science

University of Edinburgh —Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science for Medicine and Surgery Final Examination for a degree in Arts or Science

University of Aberdeen —Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery Final Examination for a degree in Arts or Science.

University of Glasgow —Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery Final Examination for a degree in Arts or Science

University of St Andrews —Preliminary Examination of the Joint Board of Examiners for Graduation in Arts or Science or Medicine and Surgery Final Examination for a degree in Arts or Science or for the diploma of L L A

University of Dublin —Public Entrance Examination Examination for the first, second, third, or fourth year in Arts. Final Examination for a degree in Arts

Royal University of Ireland —Matriculation Examination Final Examination for a degree in Arts or Science.

Oxford and Cambridge Schools Examination Board — Lower certificate (to include all the required subjects at one time) Higher certificate (to include the required subjects)

II —MEDICAL LICENSING BODIES

Royal Colleges of Physicians and Surgeons in Ireland — Preliminary Examination

III —EDUCATIONAL BODIES OTHER THAN UNIVERSITIES

College of Preceptors —Examination for a First Class Certificate, Preliminary Examination for Medical Students

Intermediate Education Board of Ireland —Middle Grade Examination, Senior Grade Examination

Educational Institute of Scotland — Preliminary Medical Examination

Scottish Education Department —Leaving Certificates in Lower and Higher Grades and in Honours

Central Welsh Board —Senior Certificate Examination

IV —INDIAN, COLONIAL, AND FOREIGN UNIVERSITIES AND COLLEGES

The Certificates from Indian, Colonial, and Foreign Universities and Colleges must contain evidence that the Examination has been conducted by or under the authority of the Body granting it, must include all the subjects required by the General Medical Council, and must state that all the subjects of Examination have been passed in at one time, copies of the form of the required Certificate are supplied by the Registrar of the Council for the purpose In the case of Natives of India or other Oriental countries whose vernacular is other than English an Examination in a Classical Oriental Language may be accepted instead of an Examination in Latin

H E Allen, LL.B, Registrar of the General Council and of the Branch Council for England, 299, Oxford-street, London, W —James Robertson, Registrar of the Branch Council for Scotland, 48 George-square, Edinburgh —S W Wilson, L R C P Irel, Registrar of the Branch Council for Ireland, 35 Dawson street, Dublin.

POWERS AND DUTIES OF THE GENERAL MEDICAL COUNCIL.

As there is apparently, even among members of the medical profession, a great amount of ignorance as to the powers and duties of the General Medical Council, we think it well to lay clearly before our readers what the General Medical Council is and also what it is not

Many of the false ideas on the subject are due to the use of the shortened title, "General Medical Council" The full title is, "General Council of Medical Education and Registration of the United Kingdom" This title is in accordance with the Medical Act of 1858, by which the General Medical Council was established to enable persons requiring medical aid to distinguish qualified from unqualified practitioners Registrars were to be appointed by the General Council and by the Branch Councils to keep registers of qualified persons Registrars were bound by Section XIV of the Act to keep their registers correctly, a duty which, mainly owing to the apathy of members of the medical profession, has not been adequately performed

It will thus be seen that the General Medical Council is primarily a body of gentlemen charged with looking after the education and registration of medical practitioners The sole penalty it can inflict is to strike a man's name off the Medical Register It is as well here to put down the advantages, such as they are, of being duly registered A duly registered practitioner may sue in the courts of law for the recovery of charges for medical attendance or advice, or surgical attendance or advice, or for the supply of medicine, or for the performance of any operation—provided that he is not debarred from suing by being a Fellow or a Member of any corporation which objects to its Fellows or Members so suing He may be exempted, if he so desire, from serving on juries from serving sundry corporate and parochial offices, and from serving in the Militia Only a registered practitioner can hold appointments in the navy, army and sundry Poor law and other institutions Only a registered person can sign a valid medical certificate Removal of the name from the Register debars a man from all the above mentioned privileges

Let us now consider what the General Medical Council is not. Unfavourable comparisons are often drawn between the General Medical Council and the Incorporated Law Society The two bodies are not in the very least upon the same footing The Incorporated Law Society is a society composed of such practitioners as apply for membership and are elected by the Council It is by statute the keeper of the roll of solicitors who have to pay a fee each year to obtain renewal of certificate to practise which certificate has then to be stamped by the Inland Revenue authorities on payment of the annual duty The society is also intrusted with the duty of inquiring into professional misconduct and reports thereon to the High Court which may or may not agree with the report. The offender is struck off the rolls by the court not by the society Only a minority of solicitors are members of the society The society has a charter and is governed by a council The somewhat analogous body in the medical profession is the British Medical Association which however has none of the legal powers possessed by the Incorporated Law Society

The General Medical Council is in no way a medical protection society or a medical defence union It is not a professional union or a guild charged with looking after the interests of the medical profession after the manner of the old trades guilds *excep in so far as it is* concerned with the education of medical students It has no powers over any *member of the medical profession* except to remove the name of any offending member from the roll of the *profession or Medical Register* It cannot take away any degree or diploma, or licence and even if a practi *tioner is struck off* the Medical Register there is nothing in the existing state of the law to prevent such practitioner continuing to practise provided that he does not use any name or title implying that he is registered. Practitioners *may be removed* from the Medical Register (1) if convicted of felony or misdemeanour in England or in Ireland or in *Scotland of* any crime or offence and (2) on being adjudged by the General Medical Council to have been guilty of infamous conduct in a professional respect. The words infamous conduct are certainly unfortunate for they cover such a comparatively trivial offence as advertising and such a truly infamous offence as that committed by a medical man who committed adultery with a married woman whom he was attending professionally

The General Medical Council is primarily a body charged with looking after medical education It is but little concerned with medical politics Inspection of the report of the sessions held in February and May 1902, shows that the time of the Council was almost entirely taken up with considering educational and registration matters the latter including the penal cases of removal from the Register A matter which perhaps comes under the head of medical politics was the case of Dr Robert Rendall, which was considered at the May session The Midwives Bill also received attention at the special session held in February The Council at present consists of 31 members, of whom as will be seen by the annexed list, all but 10 are representatives of some corporate body Five members are chosen by the Crown on the advice of the Privy Council and five others are elected by the members of the medical profession as Direct Representatives

President of the General Council.—Sir William Turner Members of the General Council —Dr Norman Moore chosen by the Royal College of Physicians of London Mr Thomas Bryant Royal College of Surgeons of England Sir Hugh Reeve Beevor Apothecaries Society of London Dr Joseph Frank Payne University of Oxford Dr Donald MacAlister University of Cambridge, Sir George Hare Philipson University of Durham Dr Philip Henry Pye-Smith University of London, Dr Alfred Harry Young Victoria University and Dr Bertram C A Windle, University of Birmingham. Sir John Batty Tuke chosen by the Royal College of Physicians of Edinburgh Dr Patrick Heron Watson Royal College of Surgeons of Edinburgh, Sir Hector Clare Cameron Faculty of Physicians and Surgeons of Glasgow Sir William Turner, University of Edinburgh Sir William Tennant Gairdner *University of Glasgow* D Davi White Finlay, University of Aberdeen and Dr John Yule Mackay, University *of St Andrews* Dr Lombe Atthill chosen by the Royal College of Physicians of Ireland Dr Charles Bent Ball Royal College *of Surgeons* in Ireland Mr Charles R C Tichborne Apothecaries Hall of Ireland Dr Edward Hallaran Bennett University *of Dublin* and Sir Christopher John Nixon, Royal University of Ireland Nominated by His Majesty with the advice of his Privy Council Mr Charles Sissmore Tomes Mr William Henry Power, Sir John Williams Dr David Caldwell McVail and Dr James Little Elected as Direct Representatives Mr George Brown Sir Victor Alexander Haden Horsley Dr William Bruce, Sir William Thomson and Mr George Jackson. Treasurers of the General Council Mr Thomas Bryant and Dr Philip Henry Pye Smith. Registrar of the General Council and of the Branch Council for England Mr Henry E. Allen LL.B B A. Registrar of the Branch Council for Scotland Mr James Robertson Registrar of the Branch Council for Ireland Mr S Wesley Wilson

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REGULATIONS
OF THE
MEDICAL EXAMINING BODIES IN THE UNITED KINGDOM.

UNIVERSITY OF OXFORD

THERE are two degrees in Medicine B M and D M. and two degrees in Surgery B Ch and M Ch.

The B M and B Ch degrees are granted to those members of the University who have passed the Second Examination Graduates in Arts (B A. or M A) are alone eligible for these two degrees In order to obtain the degrees of B M and B Ch the following examinations must be passed —1. Preliminary subjects Mechanics and Physics Chemistry Animal Morphology and Botany 2. Professional (*a*) First Examination Subjects — Organic Chemistry unless the candidate has obtained a first or second class in Chemistry in the Natural Science School Human Physiology unless he has obtained a first or second class in Animal Physiology in the Natural Science School Human Anatomy, and Materia Medica with Pharmacy (*b*) Second Examination: Subjects — Medicine, Surgery Midwifery Pathology Forensic Medicine with Hygiene The approximate dates of the examinations are as follows —Preliminaries—Mechanic Physics and Chemistry, December and June Animal Morphology December and March Botany March and June Professional (First and Second B M) June and December

The First Examination for the degrees of B M and B.Ch. may be passed as soon as the Preliminary Scientific Examinations have been completed The subjects of this examination may be presented separately or in any combination or in any order provided Anatomy and Physiology be passed together

The Second Examination may be passed after the completion of the first but Pathology may be professed before with or after the remaining subjects Before admission to the Second Examination candidates must present Certificates of instruction in Infectious and Mental Diseases and of attendance on Labours, and of proficiency in the practice of Vaccination

The degree of D M is granted to Bachelors of Medicine of the University—(1) who took the degree of B.M previously to the end of Trinity Term, 1886, provided they have spent three years in the practice of Medicine after taking that degree, and have composed a dissertation on some medical subject approved by the Regius Professor of Medicine, before whom it must be read in public, (2) who took the degree of B M subsequently to the end of Trinity Term 1885 provided they have entered their thirty ninth term and have composed on some medical subject a dissertation which is approved by the professors in the Faculty of Medicine and examiners for the degree of B M whose subject is dealt with A book published within two years of the candidate s application for the degree may be substituted for a dissertation The Regius Professor may direct the dissertation to be read in publi The degree of M Ch is granted to Bachelors of Surgery of the University who have entered their twenty seventh term, who are members of the surgical staff of a recognised hospital, or have acted as Dresser or House Surgeon in such a hospital for six months, and who have passed an examination in Surgery, Surgical Anatomy, and Surgical Operations This examination is held annually, in June at the end of the Second B M. Examination

Scholarships, &c —Scholarships in some branch of Natural Science (Chemistry, Physics, Biology) of the average value of £80 per annum, tenable for four years and renewable under certain conditions for a fifth year, as well as Exhibitions of a less annual value, are awarded after competitive examination every year by some of the Colleges Notices of vacancy, &c , are published in the *University Gazette* In February there is competed for annually by those who, having obtained a first-class in any school (Moderations or final), or a Scholarship or Prize open to general competition in the University, have passed all the examinations for the degree of B M one Radcliffe Travelling Fellowship It is tenable for three years and is of the annual value of £200 The examination is partly scientific, partly medical The holder must travel abroad for the purpose of medical study A Rolleston Memorial Prize is awarded once in two years to members of the Universities of Oxford and Cambridge of not more than ten years' standing *for an original research in some* Biological *subject including Physiology or Pathology*

More detailed information may be obtained from the University Calendar , from the Examination Statutes, 1902, which contain the official schedules of the several subjects of examination in both Arts and Medicine , from the Student's Handbook to the University (all of which are published by the Clarendon Press) , from the Regius Professor of Medicine , and from the Professors in the several departments of medical science

The Lecturers for the various subjects are as follows — Regius Professor of Medicine Sir J S Burdon Sanderson, Bt , D M Pathological Histology and Practical Bacteriology The Reader in Pathology, J Ritchie, D M Edin Professor of Human Anatomy A Thomson, M A Waynflete Professor of Physiology F Gotch, M A., D Sc University Lecturer on Physiology J S Haldane, M A. Practical Physiology and Histology G Mann, D M Edin Physiological Chemistry Walter Ramsden, M A Lichfield Lecturer in Clinical Medicine W T Brooks, M A Lichfield Lecturer in Clinical Surgery H P Symonds, F R C S Edin Organic Chemistry in Relation to Medicine, &c , followed by Practical Work W W *Fisher, M.A* , (Aldrichian Demonstrator), and J E *Marsh*, M A. Lecturer in Materia Medica and Pharmacology W J Smith Jerome, B M Lond Linacre Professor of Comparative Anatomy, W F R Weldon, M A , D Sc Lee's Reader in Anatomy, J B Thompson, M A Elementary Animal Morphology (Practical) the Aldrichian Demonstrator E *Goodrich*, M A , and assistants Sherardian Professor of Botany S H Vines, M A. Waynflete Professor of Chemistry W Odling, M A Lees Reader in Chemistry A. G Vernon Harcourt, M.A Laboratory Instruction W W Fisher, M A J Watts, M A , V H Veley, M A , D Sc , and J E Marsh, M A Wykeham Professor of Physics, J S E Townsend, M A Professor of Experimental Philosophy R B Clifton, M A Instruction in Practical Physics R B Clifton, M A , J Walker, M A., P I Watkin, M.A , and W W Taylor, M A. Elementary Heat and Light Lees Reader in Physics R E Baynes, M A Elementary Mechanics F J Jervis Smith, M A.

UNIVERSITY OF CAMBRIDGE

The student must enter at one of the Colleges, or as a *non-collegiate student, and* keep nine terms (three years) by residence in the University He must pass the Previous Examination in Classics, Mathematics, &c., which may, and should if possible, be done before coming into residence in October, or he may obtain exemption through the Oxford and Cambridge Schools Examination Board or the Cambridge Senior Local Examinations He *may then* devote himself to medical study in the University, attending the hospital and the medical lectures, dissecting, &c Or he may, as nearly all students now do, proceed to take a degree in Arts, either continuing mathematical and classical study and passing the ordinary examinations for B A., or going out in one of the Honour Triposes The Natural Sciences Tripos is the most appropriate, as some of the subjects are practically the same as those for the first and second M B examinations.

For the degree of *Bachelor of Medicine (M B)* five years of medical study are required This time may be spent in Cambridge or at one of the recognised Schools of Medicine. The first three or four years are usually spent in Cambridge, the student remaining in the University till he has passed, say, the examination for the Natural Sciences *Tripos* and the first and second examinations for M B Cambridge being now a complete School of Medicine, all the requisite lectures and hospital practice may be attended here, and many students remain to attend lectures and hospital practice until they have passed the first part of *the third examination for* M.B The supply of subjects *for Dissection* is abundant and the laboratories for Pathology, Bacteriology, and Pharmacology are well equipped Addenbrooke's Hospital provides for the necessary clinical training

There are three examinations for M B The *first* includes Chemistry and other branches of Physics, and Elementary Biology These parts may be taken together or separately The *second* includes Human Anatomy and Physiology The *third* is divided into two parts—viz , (1) Pharmacology and General Pathology , (2) Principles and Practice of Surgery, Midwifery and Diseases peculiar to Women, Principles and Practice of Physic The examinations are partly in writing, partly oral, and partly practical, in the hospital, in the dissecting-room, and in the laboratories. *An Act has then to* be kept in the Public Schools, by the candidate reading an original dissertation composed by himself on some subject approved by the Regius Professor of Physic

As Operative and Clinical Surgery now form parts of the third M B examination candidates who have passed both parts of that examination are admitted to the registrable degree of *Bachelor of Surgery (B C)* without separate examination and without keeping an Act

The degree of *Doctor of Medicine* may be taken three years after that of M B or four years after that of M A. An Act has to be kept, consisting of an original Thesis sustained in the Public Schools, with *vivâ-voce* examination , and an extempore Essay has to be written on some subject relating to Physiology, Pathology, the Practice of Medicine, or State Medicine

For the degree of *Master of Surgery (M C)* the candidate must have passed all the examinations for B C , or if he is an M A. have obtained some other registrable qualification in surgery He is required *either* (1) to pass an examination in Surgical Anatomy and Surgical Operations, Pathology, and the Principles and Practice of Surgery, and to write an extempore Essay on a Surgical Subject , or (2) to submit to the Medical Board original contributions to the advancement of the Science or Art of Surgery Before he can be admitted to the examination two years at least must have elapsed from the time when he completed all required for the degree of B C Before submitting original contributions he must have been qualified at least three years

An abstract of the Regulations and Schedules of the range of the examinations in Chemistry, Physics, Biology, Pharmacology, and General Pathology may be obtained upon sending a stamped directed envelope to the Registrary, Cambridge

UNIVERSITY OF LONDON

The Matriculation Examination —Candidates must have passed the Matriculation examination. No exemption either from Matriculation or from subsequent examinations is allowed on account of medical degrees obtained at other Universities or of examinations of other medical examining bodies that may have been passed The examinations take place twice in each year—on the second Monday in January and the second Monday in June , and may be held not only at the University of London, but also, under special arrangement, in other parts of the United Kingdom or in the colonies Every candidate must, on or before April 25th for the June examination, and on or before Nov 25th for the January examination, apply to the Principal for a form of entry, which must be returned on or before May 1st or Dec 1st respectively, accompanied by a certificate showing that the candidate has completed his sixteenth year and by his fee for the examination A certificate from the Registrar General in London or from the superintendent registrar of the district, or a certified copy of the baptismal register, is required in every case in which it can possibly be obtained In other cases a declaration of the candidate's age, made before a magistrate by his parent or guardian, or by the candidate, if of full age, will be accepted. As candidates cannot be admitted after the list is closed, any candidate who may not have received a form of entry within a week after applying for it should communicate immediately with the Principal, stating the exact date of his application and the place where it was posted Every candidate must pay a fee of £2, and if he withdraws his name, or fails to present himself at the examination, or fails to pass it, the fee shall not be returned to him, except in the case of candidates who entered for a Matriculation examination before that of June, 1902 Candidates must show a competent knowledge of 1 Latin. 2. English Language History to the end of the seventeenth century with the Geography relating thereto 3 Mathematics (Elementary) 4 General Elementary Science 5 Any one of the following languages or sciences Greek French, German, Sanskrit, Arabic, Elementary Mechanics, Elementary Chemistry Elementary Sound, Heat and Light Elementary Magnetism and Electricity and Elementary Botany (No credit will be given for more than one of these subjects and candidates desiring to be examined in Sanskrit or Arabic must give two months notice to the Principal The examination in Botany is only held in the United Kingdom. Candidates in any one of the optional Branches of Science will find it an advantage to have obtained some elementary instruction in the practical use of apparatus.) A pass certificate signed by the Principal is delivered to each successful candidate after the report of the examiners shall have been approved by the Senate The first six candidates in the Honours Division, of not more than twenty years of age at the commencement of the examination, shall respectively receive an exhibition or a prize Any candidate obtaining a place in the Honours Division at the Matriculation examination in January shall be admissible to the Intermediate examination either in Arts or in Science in the following July

Provincial Examinations for Matriculation.—These examinations are appointed by the Senate from time to time upon the application of any city institution, or college desiring to be named as a local centre for one or more examinations, and are carried on simultaneously with the examinations in London under the supervision of sub-examiners also appointed by the Senate Candidates wishing to be examined at any provincial centre must give notice upon their forms of entry to the Principal of the University who will then make all necessary arrangements Besides the University fee a fee usually varying from £1 to £2 is charged by the local authorities, and must be paid *at the local centre* immediately before the commencement of the several examinations The answers of the candidates at the provincial examinations are reviewed by the examiners at the same time as the answers of the candidates examined in London, and a list of the candidates who have passed at each provincial examination is published at the time fixed by the regulations at the place where such examination has been held

Preliminary Scientific Examination.—Professional studies pursued before the whole of this examination has been passed will not count towards the course required for the M B degree. Candidates must have passed the Matriculation examination The examination takes place twice in each year once for Pass and Honours, commencing on the second Monday in July and once for Pass candidates only commencing on the third Monday in January Every candidate must apply by post-card to the External Registrar for a form of entry on or before May 24th for the July examination or on or before Dec 15th for the January examination which must be returned on or before June 1st and Dec 22nd respectively accompanied by the candidate's fee of £5 The subjects of the Preliminary Scientific Examination are divided into two sections: (1) Chemistry and Physics, and (2) General Biology Chemistry includes a written examination in Chemistry and a practical examination in Qualitative and Simple Volumetric Analysis Physics implies a knowledge of acoustics, heat magnetism, electricity and optics General Biology comprises a knowledge of the elements of zoological (vertebrate or invertebrate) and botanical morphology physiology and embryology Candidates shall be allowed to enter for the whole examination or for either section Candidates who present themselves for the two sections together shall be credited with either section in which they may have passed, although they may have failed to pass in the other but no such candidate shall be placed in the Honours List Candidates must bear in mind that the standard of attainment for the Honours examination is much higher than that for the Pass examination, and they should therefore exercise due caution in making their choice to which they will be required to adhere. Candidates for Honours in Botany and Zoology must take the Pass examination in General Biology, in other respects no candidate may take both the Pass and the Honours papers in the same subject The fee of £5 covers the whole of the examination, whether taken altogether or in sections

Provincial Examinations for the Preliminary Scientific Examination.—The Pass examination (except the practical examinations) may be held not only at the University of London but also under special arrangements in other parts of the United Kingdom All Honours papers, some of which under former arrangements used to be given out at the provincial centres must now be taken only at the University of London

Bachelor of Medicine—Every candidate for the degree of Bachelor of Medicine will be required—1. To have passed the Matriculation examination in this University not less than five years previously 2 To have passed the Preliminary Scientific examination not less than four years previously 3. To have been engaged in his professional studies during five years subsequently to Matriculation and four years subsequently to passing the Preliminary Scientific examination at one or more of the medical institutions or schools recognised by this University one year at least of the four being spent in one or more of the recognised institutions or schools in the United Kingdom. 4 To pass two examinations in Medicine.

Intermediate Examination—The Intermediate examination in Medicine takes place twice in each year—once for Pass and Honours commencing on the first Monday in July and once for Pass candidates only commencing on the third Monday in January The subjects of the examination are Anatomy Physiology and Histology Organic Chemistry Materia Medica, and Pharmaceutical Chemistry The standard of attainment required for Honours is much higher than for a Pass No candidate shall be admitted to this examination unless he have passed the Preliminary Scientific examination at least two years previously and have produced certificates to the following effect—1. Of having completed his nineteenth year 2 Of having subsequently to having passed the Preliminary Scientific examination, been a student during two years at one or more of the medical institutions or schools recognised by this University and of having attended a course of lectures on each of three of the subjects in the following list Descriptive and Surgical Anatomy Physiology and Histology Pathological Anatomy Materia Medica and Pharmacy General Pathology General Therapeutics, Forensic Medicine Hygiene, Obstetric Medicine and Diseases Peculiar to Women and Infants, Surgery Medicine 3 Of having subsequently to having passed the Preliminary Scientific examination, dissected during two sessions 4 Of having subsequently to having passed the Preliminary Scientific examination, attended a course of Practical Chemistry comprehending practical exercises in conducting the more important processes of general and pharmaceutical chemistry in applying tests for discovering the adulteration of articles of the *Materia Medica* and the presence and nature of poisons, and in the examination of mineral waters animal secretions urinary deposits, calculi, &c. 5. Of having attended to Practical Pharmacy and of having acquired a practical knowledge of the preparation of medicines These certificates (as is the case also with all the certificates hereinafter mentioned) must be transmitted to the Registrar at least four weeks before the commencement of the examination Fee for this examination £5

M B Examination.—The M B examination takes place twice in each year—once for Pass and Honours, commencing on the last Monday in October and once for Pass candidates only commencing on the first Monday in May The subjects of the examination are *General Pathology* General Therapeutics, Hygiene, Surgery Medicine, Obstetric Medicine, and Forensic Medicine. No candidate will be admitted to this examination within twenty-one months of the time of his passing the Intermediate examination unless he be a registered medical practitioner of not less than three years standing in which case he must produce certificates of having gone through the required course of training at any time previously Every candidate must produce certificates —1. Of having passed the Intermediate examination 2 Of having attended a course of lectures on each of two of the subjects enumerated above in the regulations for that examination for which the candidate had not on that occasion presented certificates 3 Of having conducted at least twenty labours Certificates on this subject will be received from any legally qualified practitioner in Medicine 4 Of having attended the Surgical Practice of a recognised hospital or hospitals during two years, with clinical instruction and lectures on Clinical Surgery 5 Of having attended the Medical Practice of a recognised hospital or hospitals during two years, with clinical instruction and lectures on Clinical Medicine, including Infectious Diseases and Lunacy 6 Of having, after having attended Surgical and Medical Hospital Practice for at least twelve months subsequently to passing the Intermediate examination in Medicine, attended to Practical Medicine, Surgery, or Obstetric Medicine, with special charge of patients, in a hospital, infirmary, dispensary, or parochial union during six months, such attendance not to be counted as part of either the Surgical or the Medical Hospital Practice prescribed in Clauses 4 and 5 7 Of having acquired proficiency in Vaccination Certificates on this subject will be received only from the authorised vaccinators appointed by the Privy Council The fee for this examination is £5

Bachelor of Surgery —The examination for the degree of Bachelor of Surgery takes place once in each year and commences on the Tuesday following the first Monday in December Candidates must produce certificates to the following effect —1 Of having passed the examination for the degree of Bachelor of Medicine in this University 2 Of having attended a course of instruction in Operative Surgery and of having operated on the dead subject The subjects of the examination are Surgery and Pathology and Surgical Anatomy Fee £5

Master in Surgery —The examination for the degree of Master in Surgery takes place once in each year and commences on the first Monday in December Candidates must produce certificates to the following effect —1 Of having taken the degree of Bachelor of Surgery in this University 2 Of having attended, subsequently to having taken the degree of Bachelor of Surgery in this University (*a*) to Clinical or Practical Surgery during two years in a hospital or medical institution recognised by this University, or (*b*) to Clinical or Practical Surgery during one year in a hospital or medical institution recognised by this University, and of having been engaged during three years in the practice of his profession , or (*c*) of having been engaged during five years in the practice of his profession, either before or after taking the degree of Bachelor of Surgery in this University One year of attendance on Clinical or Practical Surgery, or two years of practice, will be dispensed with in the case of those candidates who at the B S examination have been placed in the first division 3 Of moral character, signed by two persons of respectability The examination is conducted by means of printed papers and *vivâ-voce* interrogation, and the subjects are Mental Physiology (especially in its relations to mental disorder) and Surgery Any candidate for the degree of M S may transmit to the External Registrar, not later than Oct. 1st, a printed dissertation, thesis, or commentary, written in view of candidature, or published within two academical years immediately preceding, treating scientifically some special department of Surgical Science , and if the thesis be approved by the examiners the candidate will be exempt from the written examination in Surgery The fee is £5

Doctor of Medicine —The examination for this degree takes place once in each year and commences on the first Monday in December Candidates may present themselves for examination either in Medicine or State Medicine Those presenting themselves for the M D examination in Medicine must produce certificates to the following effect —1 Of having attended, subsequently to having taken the degree of Bachelor of Medicine in this University (*a*) to Clinical or Practical Medicine during two years in a hospital or medical institution recognised by this University; (*b*) or to Clinical or Practical Medicine during one year in a hospital or medical institution recognised by this University, and of having been engaged during three years in the practice of their profession , (*c*) or of having been engaged during five years in the practice of their profession, either before or after taking the degree of Bachelor of Medicine in this University 2 Of moral character, signed by two persons of respectability. One year of attendance on Clinical or Practical Medicine, or two years of practice, will be dispensed with in the case of those candidates who at the M B Examination have been placed in the First Division Candidates presenting themselves for the M D examination in State Medicine must produce certificates to the following effect —1 Of having attended, subsequently to having taken the degree of Bachelor of Medicine in this university (*a*) to State Medicine during two years, including six months' practical instruction in a laboratory and six months' outdoor sanitary work, (*b*) or to State Medicine during one year, and of having held for a period of two years the position of medical officer of health in any sanitary district, (*c*) or of having held for a period of three years the position of medical officer of health in any sanitary district 2 Of moral character One year of attendance on State Medicine or one year of holding the position of medical officer of health will be dispensed with in the case of those candidates who at the M B examination have been placed in the First Division The examination is conducted by means of printed papers and *vivâ voce* interrogation, and the subjects are Medicine (or State Medicine) and Mental Physiology (especially in its relation to mental disorder) Any candidate for the degree of M D may transmit to the External Registrar, not later than Oct 1st, a printed thesis, written in view of candidature, or published within two academical years immediately preceding, treating scientifically some special department of Medical Science , and if the thesis be approved by the examiners the candidate will be exempt from the written examination in Medicine (or State Medicine) The fee is £5

UNIVERSITY OF DURHAM

One Diploma and six degrees are conferred — viz , the Diploma in Public Health and the degrees of Bachelor in Medicine, Bachelor in Surgery, Master in Surgery, Doctor in Medicine, Bachelor in Hygiene, and Doctor in Hygiene These degrees are open both to Men and Women

For the degree of *Bachelor in Medicine* (*M B*) there are four professional examinations

The subjects of the First Examination are—Elementary Anatomy and Elementary Biology, Chemistry, and Physics

The subjects of the Second Examination are—Anatomy, Physiology, Materia Medica, Therapeutics, Pharmacology, Pharmacy

The subjects of the Third Examination are—Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology

The subjects of the Fourth Examination are—Medicine, Clinical Medicine and Psychological Medicine, Surgery and Clinical Surgery, Midwifery and Diseases of Women and Children

N B —It is required that at least one of the five years of professional education shall be spent in attendance at the University College of Medicine, Newcastle upon-Tyne Candidates who have passed the First and Second Examinations of the University will be exempt from First and Second Examinations of the Conjoint Board

For the degree of *Bachelor in Surgery* (*B S*) every candidate must have passed the examination for the degree of Bachelor in Medicine of the University of Durham and must have attended one course of lectures on Operative Surgery and one course on Regional Anatomy Candidates will be required to perform operations on the dead body and to give proof of practical knowledge of the use of surgical instruments and appliances

For the degree of *Master in Surgery* (*M S*) candidates must not be less than twenty four years of age and must satisfy the University as to their knowledge of Greek. In case they shall not have passed in this subject at the Preliminary Examination in Arts for the M B degree they must present themselves at Durham for examination in it, at one of the ordinary examinations held for this purpose before they can proceed to the higher degree of M S They must also have obtained the degree of Bachelor in Surgery of the University of Durham and must have been engaged for at least two years subsequently to the date of acquirement of the degree of Bachelor in Surgery, in attendance on the practice of a recognised hospital, or in the naval or military services, or in medical or surgical practice

The subjects of examination are —Principles and Practice of Surgery, Surgical Pathology Surgical Anatomy Surgical Operations, Clinical Surgery

For the degree of *Doctor in Medicine (M D)* candidates must be not less than twenty four years of age and must satisfy the University as to their knowledge of Greek In case they shall not have passed in this subject at the Preliminary Examination in Arts for the M B degree they must present themselves at Durham for examination in it at one of the ordinary examinations held for this purpose before they can proceed to the higher degree of M D They must also have obtained the degree of Bachelor in Medicine of the University of Durham and must have been engaged for at least two years subsequently to the date of acquirement of the degree of Bachelor in Medicine in attendance on the practice of a recognised hospital, or in the military or naval services, or in medical and surgical practice. Each candidate must prepare an essay, which must be typewritten based on original research or observation on some medical subject selected by himself, and approved of by the Professor of Medicine and must pass an examination thereon, and must be prepared to answer questions on the other subjects of his curriculum so far as they are related to the subject of the essay

The University of Durham has instituted a special examination whereby the degree of Doctor of Medicine may be obtained without residence. Candidates shall not be under 40 years of age and shall have been in active practice for 15 years as registered medical practitioners They shall produce certificates of moral character from three registered members of the medical profession, and if they have not, passed an examination in Arts previously to the Professional Examination in virtue of which they have been placed on the Register they shall be required to pass in Classics and Mathematics Candidates who have passed an examination in Arts previously to being placed on the Register are required to pass an examination in Latin They will be examined in the Principles and Practice of Medicine including Psychological Medicine, Hygiene, and Therapeutics, the Principles and Practice of Surgery Midwifery, and Diseases of Women and Children, Pathology (Medical and Surgical) Anatomy (Medical and Surgical) Medical Jurisprudence, and Toxicology The fee will be 50 guineas of which 20 guineas will be retained if the candidate fails to satisfy the examiners

Candidates for any of the above degrees must give at least 28 days notice to Professor Howden Secretary College of Medicine, Newcastle-on Tyne

VICTORIA UNIVERSITY (MANCHESTER).

Colleges of the University Owens College, Manchester, University College, Liverpool, and Yorkshire College Leeds

Matriculation, which consists in signing the University Register must precede entry upon any course of study in a College of the University if that course is to be counted towards the required minimum of attendance for a degree Those only can matriculate who are registered students of a College of the University

Four degrees in Medicine and Surgery are conferred by the Victoria University—viz. Bachelor of Medicine and Bachelor of Surgery (M B and Ch B.) Doctor of Medicine (M D) and Master of Surgery (Ch M)

All candidates for degrees in Medicine and Surgery are required to pass an examination called the Preliminary Examination (Faculty of Medicine) or to have passed such other examination as may be recognised by the University for this purpose.[1]

Degrees of Bachelor of Medicine and Bachelor of Surgery —Before admission to the degree of M B or Ch.B candidates are required to present certificates that they will have attained the age of 21 years on the day of graduation and that they have pursued the courses of study required by the University Regulations during a period of not less than five years subsequently to the date of their registration by the General Medical Council, two of such years having been passed in a College of the University and one year at least having been passed in a College of the University subsequently to the date of passing the First M B Examination All candidates for the degrees of Bachelor of Medicine and Bachelor of Surgery are required to satisfy the examiners in the several subjects of the following examinations the First Examination, the Second Examination, and the Final Examination

The First Examination —The subjects of examination are as follows —(1) Chemistry, (2) Elementary Biology, (3) Physics Candidates must have attended during at least one year courses both of lectures and of laboratory work in each of the above-named subjects The Examination is divided into two parts Part 1, Physics and Chemistry, Part 2, Biology, and the candidates may pass in these parts separately

The Second Examination —The subjects of examination are as follows —A (1) Anatomy, (2) Physiology including Physiological Chemistry and Histology, B: (3) Materia Medica and Pharmacy Candidates may pass in A and B separately

The Final Examination —The subjects of examination are as follows —(1) Pharmacology and Therapeutics (2) General Pathology and Morbid Anatomy (3) Forensic Medicine and Toxicology and Public Health (4) Obstetrics and Diseases of Women. (5) Surgery Systematic, Clinical and Practical. (6) Medicine Systematic and Clinical, including Mental Diseases and Diseases of Children.

Candidates may either present themselves in all the six subjects of examination on the same occasion or may pass the examination in two parts, the first part consisting of *two* or *three* of the subjects (1) (2) and (3) the second part of the remaining subjects

Candidates who fail to satisfy the examiners in the first part must either present themselves again in the subjects as selected or in all the three subjects of the First part or in all the six subjects of examination

Candidates for the first part of the examination must have completed the *fourth winter* of medical study

Candidates for the second part of the examination, or for the whole examination, must have completed the fifth year of medical study

Degree of Doctor of Medicine —Candidates are not eligible for the degree of Doctor of Medicine unless they have previously received the degrees of Bachelor of Medicine and Bachelor of Surgery and at least one year has elapsed since they passed the examination for those degrees. Candidates for the degree of Doctor of Medicine are required to present a printed dissertation embodying the results of personal observations or original research, either in some department of medicine or of some science directly relative to medicine No candidate will be admitted to the degree unless his dissertation shall have been recommended by the General Board of Studies to the Council for acceptance Candidates may be examined on any subject connected with their dissertations.

Degree of Master of Surgery —Candidates are not eligible for the degree of Master of Surgery unless they have previously received the degrees of Bachelor of Medicine and Bachelor of Surgery and at least one year has elapsed since they passed the examination for those degrees The subjects of examination are as follows (1) Surgical Anatomy (2) Surgery (3) Operative Surgery (4) Clinical Surgery (5) Ophthalmology, and (6) Pathology and Bacteriology

Communications should be addressed to the Registrar Victoria University Manchester

UNIVERSITY OF BIRMINGHAM

The University of Birmingham grants the degrees of M B, B.Ch M D, M Ch and also a B Sc, and a [illegible] diploma in Public Health In order to obtain any of these degrees it is necessary that a student shall have passed at least the first four years of his curriculum in attendance upon the classes of the University

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[1] The examinations at present recognised are:—1 Graduation in this or some other university of the United Kingdom provided that Latin has formed part of one of the Degree Examinations 2. London Matriculation. 3 Higher Certificate of the Oxford and Cambridge Schools Examination Board. (Certificates must show that the candidate has satisfied the Examiners in Latin, Elementary and Additional Mathematics, English or History and in either Greek French or German. The Mechanical Division of Natural Philosophy will satisfy the requirements in Mechanics.) 4. Senior Oxford Locals (Honours). (Certificates must show that the candidate has satisfied the Examiners in Latin, Pure Mathematics English Essay English History and in either Greek, French German, or Spanish Applied Mathematics (Section D) or Mechanics and Hydrostatics (Section E) will satisfy the requirements in Mechanics) 5. Senior Cambridge Locals (Honours). (Certificates must show that the candidate has satisfied the Examiners in Latin, Euclid, and Algebra, English Composition, and English History and in either Greek French German, or Spanish Applied Mathematics (Section H) or Statics Dynamics, and Hydrostatics (Section K) will satisfy the requirements in Mechanics. Provided that the subjects included in each of the above examinations shall include all the subjects required by the General Medical Council If Mechanics has not been included among the subjects of examination so accepted [illegible] in that subject must be passed before the [illegible] the First M B Examination The Board of Studies has discretionary power to accept other [illegible]

Degrees of Bachelor of Medicine and Bachelor of Surgery —The student must have passed either the Matriculation Examination of the University or one of the following examinations For the present the University will recognise any one of the following examinations, in lieu of its own Matriculation, in the case of medical students provided always that such examination shall have included the subjects of English, Latin, Mathematics, and any one of the following Greek, French German or any other modern foreign language, and that all the subjects have been passed at one examination (*a*) the previous examination of the University of Cambridge, (*b*) responsions of the University of Oxford, (*c*) the Preliminary or Matriculation Examination of any recognised University, (*d*) the (Higher) Certificate of the Oxford and Cambridge Examinations Board, (*e*) the Oxford or Cambridge Junior Local Examinations, with First or Second Class Honours, or with Distinctions in two subjects, which may be either languages or mathematics, (*f*) the Oxford or Cambridge Senior Local Examination, (*g*) the College of Preceptors' Examination for First Class Certificate A Matriculation Examination will be held on Sept 15th, 1902, and succeeding days First Examination — Chemistry and Physics Second Examination — Anatomy, Comparative Anatomy, and Physiology Third Examination —Materia Medica and Pharmacy Fourth Examination (at the end of the fourth year) —Pharmacology, Pathology Forensic *Medicine*, *Toxicology*, and Public Health Two years' hospital work must have been accomplished Final Examination —Medicine, Surgery, Midwifery, Gynæcology, Mental Diseases and Ophthalmology Attendance at a general hospital for a year after the passing of the fourth examination will be required, also attendance at a fever hospital and lunatic asylum Vaccination instruction must be taken out and courses of Ophthalmology, Medical and Surgical Anatomy and Operative Surgery,

Degrees of Doctor of Medicine and Master of Surgery —Candidates for either of these degrees will be required either (*a*) to present a thesis embodying original observations in some subject embraced in the medical curriculum and approved by a board of medical examiners to whom the thesis will subsequently be submitted, on the report of which board the degree will be awarded or withheld (the candidate may be examined on the subject which he has chosen for his thesis and the examiners may require to see the notes of original observations on which the thesis is based), or (*b*) to pass a general examination (written and practical) in Medicine or Surgery, according to the degree desired, and, in addition to show special proficiency in any one of the following subjects to be chosen by the candidate For the degree of M D (*a*) Infectious Diseases (*b*) Diseases of the Chest (*c*) Diseases of the Abdomen, (*d*) Nervous Diseases, (*e*) Diseases of Children, (*f*) Midwifery, (*g*) Pathology, (*h*) Bacteriology, (*i*) Medical Jurisprudence and Toxicology, (*j*) Public Health (*l*) Mental Diseases or (*l*) Diseases of the Skin For the degree of M Ch (*a*) Regional Surgery (*b*) Gynæcology, (*c*) Ophthalmology, or (*d*) Diseases of the Ear, Nose and Throat

Degree in Public Health —For the regulations for this degree and for the diploma in the same subject see p 621

Fees —Matriculation, £2, First Examination, £5, Second Examination, £5 Third Examination, £1, Fourth Examination, £3, Final Examination, £5

UNIVERSITY OF EDINBURGH

Four Degrees in Medicine and Surgery are conferred by the University of Edinburgh—viz, Bachelor of Medicine (M B), Bachelor of Surgery (Ch B), Doctor of Medicine (M D) and Master of Surgery (Ch M) The degree of Bachelor of Surgery cannot be conferred on any person who does not at the same time obtain the degree of Bachelor of Medicine, and similarly the degree of Bachelor of Medicine is not conferred on any person who does not at the same time obtain the degree of Bachelor of Surgery

A special University certificate in Diseases of Tropical Climates is also granted to qualified medical practitioners and others specially interested after approved attendance on the courses of instruction in Tropical Diseases and Practical Bacteriology, including the Micro organisms of Tropical Diseases.

Before commencing his medical studies each student must pass a preliminary examination in (1) English, (2) Latin, (3) Elementary Mathematics, and (4) Greek or French or German Provided always that, in the case of a candidate whose native language is not English, an examination in the native language of the candidate may be substituted for one in either French or German, and an examination in any other classical language for one in Latin or Greek.

No one is admitted to the degrees of Bachelor of Medicine and Bachelor of Surgery who has not been engaged in Medical and Surgical study for five years No course of lectures will be allowed to qualify unless the lecturer certifies that it has embraced at least 100 lectures, or 50 lectures, as may be required by the regulations, and that the student has also duly performed the work of the class

Candidates for the degrees of M B and Ch B must have attended for at least three academic years the medical and surgical practice either of the Royal Infirmary, Edinburgh, or of a general hospital elsewhere which accommodates not fewer than 80 patients and possesses a distinct staff of physicians and surgeons They must have attended Clinical Surgery during a course or courses extending over not less than nine months These courses may be conducted by the professor of clinical surgery, or by professors or lecturers appointed for the purpose by the University Court, or by the ordinary surgeons of the Royal Infirmary, Edinburgh, or of a general hospital defined and recognised as hereinbefore provided, and shall consist of regular instruction at the bedside, along with clinical lectures A similar course of clinical medicine during a course or courses extending over not less than nine months is required The candidate must have attended a course of instruction in Mental Diseases given by the University Lecturer, or by a recognised Teacher, consisting of not less than six Class room meetings for lectures and demonstrations and ten meetings in the Wards of a recognised Asylum for the insane The candidate must have attended a course of 25 meetings on Practical Pharmacy in a university or recognised school of medicine, or have dispensed drugs for a period of three months in a hospital or dispensary, or in an establishment recognised by the Pharmaceutical Society The candidate must have attended for at least six months, by apprenticeship or otherwise, the out-practice of a hospital, or the practice of a dispensary, or of a physician or surgeon, or of a member of the London or Dublin Society of Apothecaries He must have acted as clerk in the medical wards and dresser in the surgical wards of a public hospital for a period of six months in each case, and must also have availed himself, to such an extent as may be required by the Senatus, with the approval of the University Court, of opportunities of studying at a hospital or dispensary *Post-mortem Examinations, Fevers, Diseases of* the Eye, Operative Surgery, and one of the three following, viz —Diseases of Children, and Diseases of the Larynx, Ear, and Nose, and Diseases of the Skin, or such other special departments as may from time to time be determined The candidate must have attended, under the superintendence of a registered medical practitioner twelve cases of labour, or such additional number as the Senatus, with the sanction of the University Court, may from time to time determine; or have attended for three months the practice of a lying-in hospital, or of the maternity department of a general hospital or other public charitable institution, and have conducted personally six or such an additional number of cases of labour as the Senatus, with the approval of the University Court, may from time to time determine The candidate must have been properly instructed in Vaccination at a public vaccination station, by a public vaccinator, authorised by the proper Government authority to grant certificates of proficiency in vaccination

Next, with respect to the places and institutions at which the studies of the candidate may be prosecuted, the following regulations have effect —Two of the five years of medical study must be spent in the University of Edinburgh The remaining three years may be spent in any University of the United Kingdom, or in any Indian, Colonial, or Foreign university recognised for the purpose by the University Court, or in such medical schools or under such teachers as may be recognised for the purpose by the University Court Of the subjects of study, 16 in number—viz, Anatomy Practical Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, Practical Physiology Practice of Medicine, Surgery, Midwifery and Diseases of Women, Pathology, Practical Pathology, Physics, Botany, Zoology, Medical Jurisprudence, and Public Health—not less than eight must be taken in the University of Edinburgh or in some other university of the United Kingdom, or in some Foreign or Colonial university entitled to confer the degree of Doctor of Medicine, recognised for the purpose by the University Court, or in a college incorporated with, or affiliated to a university entitled to confer the degree of Doctor of Medicine, recognised for the purpose by the University Court.

Women are admitted to graduation in medicine under practically the same conditions as men, excepting that until provision is made in the University for instruction of women in all subjects of the medical curriculum the regulations as to places of study contained in the foregoing paragraph do not apply to them. The Medical College for Women, 30, Chambers-street, Edinburgh, has been recognised as a medical school whose courses of instruction qualify for graduation.

Each candidate is examined both in writing and orally and clinically where the nature of the subject admits:—First, in Chemistry, Zoology, Botany, and Physics; second, in Anatomy, Physiology, Materia Medica and Therapeutics; third, in Pathology; and fourth, in Surgery, Medicine, Midwifery, Forensic Medicine, and Public Health, and clinically in Medicine and Surgery in a hospital. The examinations are conducted, as far as possible, by demonstrations of objects placed before the candidates. Candidates who profess themselves ready to submit to an examination in the first division of these subjects may be admitted to examination therein at the first period of examination after they have completed their attendance on the necessary classes. Candidates who have passed their examination in the first division of these subjects may be admitted to examination in the second division at the end of their third winter session. Candidates who have passed their examinations in the subjects comprised in the first and second divisions may be admitted to examination in the third division at the end of the fourth winter session. Candidates who have passed their examinations in the subjects comprised in the first, second, and third divisions may be admitted to examination in the fourth or final division when they have completed the fifth year of study.

The fee to be paid for the degrees of Bachelor of Medicine and Bachelor of Surgery is £23 2*s*., and the proportion of this sum to be paid by a candidate at each division of the examination shall be as follows—viz.: For the First Division of the Examination (Botany, Zoology, Physics, and Chemistry), £6 6*s*.; for the Second Division (Anatomy, Physiology, and Materia Medica and Therapeutics), £6 6*s*.; for the Third Division (Pathology), £4 4*s*.; and for the Final Division (Surgery and Clinical Surgery, Medicine and Clinical Medicine, Midwifery and Forensic Medicine and Public Health), £6 6*s*. The fee to be paid for the degree of Doctor of Medicine is £10 10*s*., and the fee to be paid for the degree of Master of Surgery is £10 10*s*.

UNIVERSITY OF GLASGOW.

The University of Glasgow is both a teaching and a degree-granting body, but admits to graduation only candidates whose preliminary examination and course of study conform to its own regulations. Within certain limits instruction given by recognised medical schools and teachers may be accepted, but eight of the subjects other than clinical must be taken in this or some other recognised university entitled to confer the degree of M.D., and at least two years of the course must be taken in Glasgow University. Under the new regulations four degrees, open both to men and women, are conferred: M.B. and Ch.B. (always conjointly), M.D., and Ch.M. A Preliminary Examination must be passed in (1) English, (2) Latin, (3) Elementary Mathematics, and (4) Greek, or French, or German, with possible options to students whose native language is not English in the case of the fourth subject. Candidates taking the University preliminary examination are not obliged to pass in all the four subjects at one examination, but must do so at not more than two occasions. For the degrees of M.B. and Ch.B. a curriculum of five years is required, in each of the first four of which the student must attend at least two five months courses, or alternatively one five months course and two courses of two and a half months. The minimum of attendance in the first four years includes five months courses in the following subjects:—Anatomy, Practical Anatomy (two courses), Chemistry, Materia Medica and Therapeutics, Physiology, Practice of Medicine, Surgery, Midwifery and Diseases of Women and Infants, and Pathology; and courses of two and a half months in the following:—Practical Chemistry, Physics, Botany, Zoology, Practical Physiology, Practical Pathology, Medical Jurisprudence and Public Health. Candidates must attend at least three years the Medical and Surgical Practice of a recognised hospital accommodating at least 80 patients and having a distinct staff of physicians and surgeons. At least nine months hospital attendance is required on both Clinical Surgery and Clinical Medicine, and the student must have acted as clerk in medical and dresser in surgical wards, and must have had six months' out-door practice; he must also have attended a course of Mental Diseases and of Practical Pharmacy (25 meetings), must have been properly instructed in Vaccination at a public vaccination station, and must have attended at least 12 cases of labour, or three months of the practice of a Lying-in Hospital, six cases being personally conducted. The University also requires further study in Post-Mortem Examinations, Fevers, and Ophthalmology, and recommends study in other special subjects. If a candidate has completed in a University of the United Kingdom a course of study and passed an examination in Botany, Zoology, Physics, or Chemistry qualifying for a degree in Science or in Arts, he is held to have passed the examinations in such subject or subjects.

There are four Professional Examinations, the first comprising Botany, Zoology, Physics, and Chemistry, to be taken after the completion of the included courses (candidates being at liberty to take two subjects at a time); the second comprising Anatomy, Physiology, and Materia Medica and Therapeutics, to be taken at the end of the third winter session; the third comprising Pathology, Medical Jurisprudence and Public Health, to be taken at the end of the fourth winter session; and the fourth or final, comprising Surgery, Clinical Surgery, Practice of Medicine, Clinical Medicine, and Midwifery, to be taken on completion of the fifth year of study.

The degrees of M.D. (Doctor of Medicine) and Ch.M. (Master of Surgery) are higher degrees in Medicine and Surgery respectively, and candidates (not under 24 years of age) who have previously obtained the double bachelorship may be admitted to either M.D. or Ch.M. on completing the after course prescribed, including an examination in Clinical Medicine for M.D., and an examination in Surgical Anatomy, operations on the dead body, and Clinical Surgery for Ch.M.

Fees.—The fees for M.B. and Ch.B. are £23 2*s*. The class fee in each subject of the curriculum for M.B. and Ch.B. is £3 3*s*., and the present fees for hospital attendance are £21. The fee for M.D. is £10 10*s*. (stamp duty being now abolished), and for Ch.M. £10 10*s*.

During last academic year there were 602 men and 71 women attending University courses in the Faculty of Medicine—a total of 673. The great majority of the students take their hospital course at the Western Infirmary, where clinical instruction is given by professors of the University and other physicians and surgeons. Clinical instruction on Fevers is given at Ruchill and Belvidere Hospitals, while special courses largely of a practical nature and embracing work in Hospital or Asylum wards, are conducted by University Lecturers on the Eye, the Ear, the Throat and Nose, and Insanity. Queen Margaret College, hitherto conducted as a separate institution for the higher education of women, has now been made over to the University, and in it medical classes for women are conducted under University professors and other lecturers appointed by the University Court, whilst for clinical instruction female students are admitted to the Royal Infirmary. Since 1894, the year in which the University first conferred degrees on women, [illegible]0 women have graduated in Medicine.

Bursaries and Prizes to the annual amount of about £[illegible] are appropriated to medical students, and Scholarships and Fellowships to the annual amount of about £1[illegible] may be held by medical students who have gone through the Arts course.

UNIVERSITY OF ABERDEEN.

The curricula for the several degrees conferred are exactly the same as in the Universities of Edinburgh and Glasgow.

Professional Examinations are held twice in each year—

namely, in March and July, directly after the close of the winter and summer sessions

The fees for graduation are the same as in the University of Edinburgh Matriculation fee, including all dues, for the winter and summer sessions, £1 1*s*, summer session alone, 10*s* 6*d*

Besides the Royal Infirmary, students have the opportunity of attending the following institutions General Fever Hospital, Sick Children's Hospital, General Dispensary, and Lying in and Vaccine Institutions daily, Royal Lunatic Asylum, Eye Institution, in which is given clinical instruction on Diseases of the Eye, and on the application of the Ophthalmoscope for their diagnosis

A diploma in Public Health is granted by the University to graduates in Medicine of a University in the United Kingdom, after a special examination The diploma can be entered on the Register of the General Medical Council

Application for further information should be addressed to the Secretary of the Medical Faculty

UNIVERSITY OF ST ANDREWS (UNITED COLLEGE, ST ANDREWS AND UNIVERSITY COLLEGE, DUNDEE)

The following are extracts from the Regulations for Degrees in Medicine contained in Ordinance No 45 (St Andrews, No 4) of the Commissioners under the Universities (Scotland) Act, 1889 These regulations came into force on April 19th, 1897 Four Degrees in Medicine and Surgery shall be conferred by the University of St Andrews—viz, Bachelor of Medicine (M B), Bachelor of Surgery (Ch B), Doctor of Medicine (M D) and Master of Surgery (Ch M) The degrees of M B and Ch B shall always be conjoined Before commencing his medical studies each student shall pass a Preliminary Examination in, (*a*) English, (*b*) Latin, (*c*) Elementary Mathematics, and (*d*) one of the following optional subjects —(*α*) Greek, (*β*) French, (*γ*) German, (*δ*) Italian, (*ε*) any other Modern Language, (*ζ*) Logic A degree in Arts or in Science in any of the universities of the United Kingdom and in some colonial or foreign universities shall exempt from the Preliminary Examination The Preliminary Examination for graduation in Medicine and Surgery, Arts or Science, of the University of St Andrews is accepted as equivalent to the Registration Examination required by the General Medical Council (the certificate to include the required subjects) Also the Final Examination for a degree in Arts or Science and the final examination for the Diploma of L L A

Candidates for the degree of Bachelor of Medicine and Bachelor of Surgery must have been engaged in medical study for at least five years In each of the first four years the candidate must have attended at least two courses of instruction in one or more of the subjects of study specified below, each course extending over a session of not less than five months, either continuous or divided into two terms, or, alternatively, one such course along with two courses, each extending over a session of not less than two and a half months During the fifth or final year the candidate shall be engaged in clinical study for at least nine months at the Infirmary of Dundee or at one or more of such public hospitals or dispensaries, British or foreign, as may be recognised for the purpose by the University Court The candidate must have received instruction in each of the following subjects of study including such examinations as may be prescribed in the various classes—viz Anatomy, Practical Anatomy, Chemistry, Materia Medica Physiology, or Institutes of Medicine, Practice of Medicine, Surgery, Midwifery and the Diseases peculiar to Women and Infants, Pathology, Practical Chemistry, Physics (including the Dynamics of Solids, Liquids, and Gases, and the Rudiments of Sound, Heat, Light, and Electricity), Elementary Botany, Elementary Zoology, Practical Physiology, Practical Pathology, Forensic Medicine and Public Health The candidate must have attended for at least three years the Medical and Surgical Practice either of the Infirmary of Dundee or of a General Hospital elsewhere which accommodates not fewer than 80 patients and possesses a distinct staff of physicians and surgeons and is recognised for the purpose by the University Court Additional subjects of study are Practical Pharmacy, Mental Diseases, Practical Midwifery (12 cases of labour), Vaccination, Children's Diseases, Fevers, Ophthalmology, and Post mortem Examinations

With respect to the places and institutions at which the studies of the candidate may be prosecuted the following regulations shall have effect —1 Two of the five years of medical study must be spent in the University of St Andrews 2 The remaining three years may be spent in any University of the United Kingdom or in any Indian, Colonial, or Foreign University recognised for the purpose by the University Court, or in such medical schools or under such teachers as may be recognised for the purpose by the University Court

Women shall be admitted to graduation in Medicine, subject to the provisions of Ordinance No 18 [General No 9—Regulations for the Graduation of Women and for their Instruction in the Universities] Provided always that every candidate for graduation shall produce evidence of having satisfied the conditions herein laid down with respect to the Preliminary Examination, and shall be examined in all the subjects necessary for graduation by the Examiners of the University of St Andrews All the classes necessary for graduation shall be taken in the University of St Andrews, except in so far as instruction obtained elsewhere is allowed by the said Ordinance

Professional Examinations for the Degrees of Bachelor of Medicine and Bachelor of Surgery —Each candidate shall be examined both in writing and orally, and also clinically where the nature of the subject admits, in the following divisions—viz, First, in Botany, Zoology, Physics, and Chemistry, Second, in Anatomy, Physiology, and Materia Medica, Third, in Pathology, and Forensic Medicine and Public Health, Fourth, in Surgery and Clinical Surgery, Practice of Medicine and Clinical Medicine and Midwifery

The fee to be paid for the degrees of Bachelor of Medicine and Bachelor of Surgery shall be 22 guineas, and the proportion of this sum to be paid by a candidate at each division of the examination shall be regulated from time to time by the University Court The fee to be paid for the degree of Doctor of Medicine shall be 10 guineas, exclusive of any stamp duty which for the time may be demanded The fee to be paid for the degree of Master of Surgery shall be 10 guineas

The whole medical curriculum can be taken in University College or the first two years in United College

Bursaries United College, St Andrews —Fourteen Taylour Thomson Bursaries for female Medical students of the annual value of from £20 to £30 each, tenable for one or two years The Bursaries are awarded in the order of merit, the most valuable ones being given to those students who obtain the highest marks in the Preliminary Examination, and who are prepared to take two Anni Medici at the United College, St Andrews

University College Dundee —(*a*) Open to either sex Eleven Entrance Bursaries of £15 tenable for one year (*b*) Open to either sex Four £20 and three £15, second year (*c*) Four £20 and two £15 third year (*d*) Bute Bursary, founded in 1893 by the late Most Honourable the Marquis of Bute K T This Bursary consists of the free proceeds of £1000 (*e*) Two Bursaries of the annual value of £25 tenable for three years at either University College, Dundee, or at any Scottish University (local candidates only)

For further particulars apply to the Dean of the Medical Faculty, University College, Dundee, N B

UNIVERSITY OF DUBLIN (TRINITY COLLEGE)

Matriculation —All students in the School of Physic intending to practise Physic must be matriculated, for which a fee of 5*s* is payable No student can be admitted for the winter course after Nov 25th.

Degrees in Medicine (M B), Surgery (B Ch), and Midwifery (B A O) —Candidates for these degrees must be of B A standing and must be for at least five academic years on the books of the Medical School, reckoned from the date of matriculation The Arts course may be concurrent with the medical course, and the B A degree need not be taken before the final medical examinations, but the medical degrees are not conferred without the Arts degree The following courses must be attended —(1) Lectures — Systematic, Practical and Applied Anatomy, Chemistry and Practical Chemistry Surgery and Operative Surgery, Histology Botany, Zoology, Physics, Physiology and Practical Physiology, Practice of Medicine, Midwifery, Pathology, Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene, (2) three courses of nine months' attendance on the Clinical Lectures of

Sir Patrick Dun's or other recognised Dublin Hospital (one year at a recognised London or Edinburgh hospital before the commencement of the Dublin curriculum may be counted as one year spent in such Dublin hospital) (3) Practical Vaccination, one month's instruction (4) Mental Disease, three months', (5) Practical Midwifery with Clinical Lectures, including not less than 30 cases six months', (6) Ophthalmic Surgery three months Two examinations have to be passed The Previous Medical or Half M B Examination, including Physics and Chemistry Botany and Zoology Anatomy and Institutes of Medicine (Practical Histology and Physiology), may be passed when credit has been obtained for the corresponding subjects, and these may be taken separately if desired The Final Examination is subdivided into five sections comprising Applied Anatomy (Medical and Surgical) Applied Physiology Jurisprudence and Hygiene, Materia Medica and Therapeutics, Medicine Surgery Pathology Midwifery Gynæcology Obstetrical Anatomy Clinical Medicine Mental Diseases, Clinical Surgery Operations Clinical Ophthalmology The first seven of these subjects may be passed in the fourth year and the last eight in the fifth year Fee for the *Liceat ad Examinandum* £10 Fee for the degrees, £17

Doctor in Medicine —A Doctor in Medicine must have passed all the qualifying examinations and must be a B A. of three years standing He must also read a thesis before the Regius Professor of Physic. Total amount of fees for this degree, £13

Master in Surgery —A Master in Surgery must be a Bachelor in Surgery of the University of Dublin of not less than three years standing and must produce satisfactory evidence of having been engaged for not less than two years from the date of his registration in the study or study and practice, of his profession He must then pass an examination in the following subjects —1 Clinical Surgery 2 Operative Surgery 3 Surgical Pathology 4 Surgery 5 Surgical Anatomy (on the dead subject) and one of the following optional subjects —1 Surgery in one of the following branches—viz. Ophthalmic and Aural, Gynæcological, and Dental. 2. Mental Disease 3 Medical Jurisprudence and Hygiene. 4. Advanced Anatomy and Physiology 5 Comparative Anatomy Fee for the degree of Master in Surgery, £11

Master in Obstetric Science —A Master in Obstetric Science must be fully qualified and produce a certificate of having attended a summer course in Obstetric Medicine and Surgery[1] He is then required to pass an examination in the following subjects —1 Practice of Midwifery 2. Gynæcology 3. Anatomy of Female Pelvis and Elementary Embryology 4 Clinical Gynæcology Fee for the degree of Master in Obstetric Science £5

University Diplomas —Candidates for the diplomas in Medicine, Surgery or Obstetric Science must be matriculated in Medicine, and must have completed two years in Arts and five years in Medical Studies The Course and Examination necessary for the diplomas are the same as for the degrees, except that the candidate is not required to attend the Lectures on Botany and Zoology nor to pass the Previous Medical examination in those subjects. A diplomate, on completing his course in Arts and proceeding to the degree of B A., may become a Bachelor by attending the Lectures on Botany and Zoology passing the Previous Medical examination in those subjects, and paying the degree fees Fee for the *Liceat ad Examinandum*, £10 Fee for the diplomas in Medicine, Surgery and Midwifery £11

ROYAL UNIVERSITY OF IRELAND

All Degrees Honours, Exhibitions, Prize Scholarships and Studentships in this University are open to students of either sex

Candidates for any degree in this University must have passed the Matriculation Examination Students from other universities and colleges are included in this rule.

The following degrees, &c. are conferred by the University in this Faculty —Bachelor of Medicine. Doctor of Medicine, Bachelor of Surgery Master of Surgery Bachelor of Obstetrics and Master of Obstetrics in Sanitary Science a special diploma and in Mental Disease a special diploma.

The Medical Examinations except those for the diplomas in Sanitary Science and Mental Diseases are held twice yearly —namely in April or May and in September or October The examination for the diploma in Sanitary Science is held in June or July

The course for degrees in Medicine &c., is of at least five years duration.

The First Examination in Medicine —Students may be admitted to this examination after the lapse of one academical year from the time of their matriculation They must also have previously passed the First University Examination and completed the first year of the medical curriculum. The subjects of this examination are Natural Philosophy Systematic Chemistry Zoology and Botany The examination in each subject will comprise three parts:—(1) a written examination, (2) an oral examination, and (3) a practical examination For Chemistry the practical examination forms part of the Second Examination in Medicine Particular weight will be given to the practical part of the examination Candidates at the First Examination in Medicine who at the First University Examination did not obtain 30 per cent of the marks assigned to French or German will be required to present themselves for a qualifying examination in French or German. Failure to obtain 30 per cent of the marks assigned to either of those languages will involve the loss of the examination.

The Second Examination in Medicine —Students will be admitted to this examination after the lapse of one medical year from the time of passing the First Examination in Medicine, provided they have completed the second year of the medical curriculum The subjects for this examination are Anatomy Physiology and Practical Chemistry

The Third Examination in Medicine —Students will be admitted to this examination after the lapse of one medical year from the time of passing the Second Examination in Medicine, provided they have completed the third year of the medical curriculum The subjects for this examination will be Anatomy Physiology and Materia Medica (Pharmacology and Therapeutics)

The Examination for the Medical Degrees —Students will be admitted to this examination after the lapse of not less than one medical year from the time of passing the Third Examination in Medicine provided they have completed the course of medical studies prescribed for the entire medical curriculum The examination consists of three parts or divisions —(*a*) Medicine, including Therapeutics and Pathology Mental Diseases, Medical Jurisprudence and Hygiene (*b*) Surgery Theoretical, Clinical, Operative Surgical Anatomy with Ophthalmology and Otology Surgical Pathology (*c*) Midwifery and Gynæcology with Diseases of Children. Each part of this examination must be passed as a whole Upon completing satisfactorily his examination in all three divisions the candidate will, in addition to the parchment diplomas recording his admission to the Medical Degrees of M B B.Ch., and B A O receive a certificate of having passed a qualifying examination in the subjects of Medicine Surgery and Midwifery The fee for this certificate is £10 which must be paid prior to the candidate's admission to the Medical Degrees.

M D Degree —Candidates may present themselves for the examination for this degree after the lapse of three academical years from the time of obtaining the degree of M B They must at the same time produce a certificate of having been for at least two academical years engaged in hospital or private medical, surgical, or obstetrical practice or in the military or naval medical service Every candidate will be examined at the bedside and required to diagnose at least three medical cases and prescribe treatment and to write detailed reports on at least two cases to be selected by the examiners and to discuss the questions arising thereon

The M Ch Degree —This degree will be conferred only on graduates in Medicine of the University of at least three years standing They must at the same time produce a certificate of having been for at least two academical years engaged in hospital or private medical surgical or obstetrical practice, or in the military or naval medical service The examination for this degree will comprise Surgical Diseases and Surgery both theoretical and operative, Surgical Anatomy Ophthalmology and Otology and will include—(*a*) a written examination (*b*) a clinical examination (*c*) an examination on Surgical Instruments and Appliances and (*d*) an examination in Operative Surgery

The M A O Degree —This degree will be conferred only on graduates in Medicine of the University of at least three years' standing They must at the same time produce a certificate of having been, for at least two academical years, engaged in hospital or private, medical, surgical, or obstetrical practice, or in the military or naval military service The examination will comprise the Theory and Practice of Midwifery and of Diseases of Women and Children and the Use of Instruments and Appliances and will include—(*a*) a written examination, (*b*) a clinical examination as far as practicable, (*c*) an oral examination, with practical illustrations, and (*d*) an examination on Instruments and Appliances.

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[1] Existing graduates in Medicine of the standing of M.D are not required to attend this course

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND [3]

Regulations relating to the several Examinations applicable to Candidates who commenced their Professional Education on or after Jan. 1st, 1892

Any candidate who desires to obtain both the licence of the Royal College of Physicians of London and the diploma of Member of the Royal College of Surgeons of England is required to complete five years of professional study at recognised Medical Schools and Hospitals and to comply with the following regulations and to pass the examinations hereinafter set forth (One of the five years may be spent in an Institution recognised by the Board for instruction in Chemistry, Physics, Practical Chemistry, and Biology)

Professional Examinations —There are three Examinations, called herein the First examination, the Second examination, and the Third or Final examination, each being partly written, partly oral, and partly practical These examinations will be held in the months of January, April, July and October, unless otherwise appointed Every candidate intending to present himself for examination is required to give notice in writing to Mr F G Hallett, secretary of the Examining Board, Examination Hall, Victoria Embankment, W C, fourteen clear days before the day on which the examination commences, transmitting at the same time the required certificates

The subjects of the First examination are—Chemistry and Physics, Practical Pharmacy, and Elementary Biology A candidate may take this examination in three parts at different times A candidate will be admitted to examination in Chemistry and Physics, in Practical Pharmacy, and Elementary Biology, on producing evidence of having passed the required Preliminary examination and of having received instruction in these subjects at a recognised institution, *or he may take Pharmacy* at any time during the curriculum A candidate rejected in one part or more of the First examination will not be admitted to re-examination until after the lapse of a period of not less than three months from the date of rejection, and he will be re-examined in the subject or subjects in which he has been rejected If referred in Chemistry or Biology he must produce evidence of further instruction at a recognised institution Any candidate who shall produce satisfactory evidence of having passed an examination for a degree in Medicine on any of the subjects of this examination conducted at a university in the United Kingdom, in India, or in a British colony will be exempt from examination in those subjects in which he has passed

The fees for admission to the First examination are as follows For the whole examination, £10 10*s*, for re examination after rejection in Part I, £3 3*s*, and for re examination in each of the other parts, £2 2*s*

The subjects of the Second examination are Anatomy and Physiology Candidates will be required to pass in both subjects at one and the same time Candidates will be admissible to the Second examination at the expiration of two winter sessions and one summer session (or fifteen months during the ordinary sessions) from the date of passing the Preliminary examination, and after the lapse of one Winter and one Summer Session from the date of Parts I and III of the First examination on of the required certificates of professional study referred on the Second examination will be being admitted to re-examination, to pro- he has pursued, to the satisfaction of his teachers, in a recognised place of study, his Anatomical and Physiological studies during a period of not less than three months subsequently to the date of his reference

The fees for admission to the Second examination are £10 10*s* for the whole examination, and £6 6*s* for re-examination after rejection

The subjects of the Third or Final examination are Part I Medicine, including Medical Anatomy, Pathology, Practical Pharmacy, Therapeutics, Forensic Medicine, and Public Health Candidates who have passed in Practical Pharmacy at the First examination will not be re-examined in that subject at the Third examination Part II Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances Part III Midwifery and Diseases Peculiar to Women Candidates may present themselves for examination in Midwifery and Diseases of Women at any time after the completion of the fourth year of professional study at a Medical School and Hospital, not less than one year after passing the Second examination, on production of the required certificates Candidates may take this examination in three parts at different times, or they may present themselves for the whole examination at one time They will be required to produce the following evidence before being admitted to the several parts of the Third, or Final examination—viz, in Medicine of having attended Lectures on Medicine Pathology including Bacteriology, Pharmacology and Therapeutics, Forensic Medicine, and Public Health, Practical Instruction in Medicine, Medical Hospital Practice during two winter and two summer sessions, Demonstrations in the Post mortem Room during 12 months, Clinical Lectures on Medicine during nine months, of having discharged the duties of Medical Clinical Clerk, Practice or a Fever Hospital and Clinical Demonstrations at a recognised Lunatic Asylum, in Surgery, of having attended Lectures on Surgery and Pathology including Bacteriology, Practical Instruction in Surgery, of having performed operations upon the Dead Subject; Surgical Hospital Practice during two winter and two summer sessions, Demonstrations in the Post-mortem Room during 12 months, Clinical Lectures on Surgery during nine months, of having discharged the duties of Surgical Dresser, and Clinical Instruction in Opthalmology, in Midwifery of having attended Lectures on Midwifery, Practical Instruction in Midwifery, Clinical or other Lectures, with Practical Instruction in Diseases Peculiar to Women, and of attendance on 20 Labours

Fees for admission to the Third or Final examination are as follows For the whole examination, £21 Part I *For re examination in Medicine, including Medical Anatomy*, Pathology, Therapeutics, Forensic Medicine, and Public Health, £5 5*s*, for re examination in Practical Pharmacy (if taken at this examination), £2 2*s* Part II For re examination in Surgery, including Pathology Surgical Anatomy, and the use of Surgical Appliances, £5 5*s* Part III For re-examination in Midwifery and Diseases Peculiar to Women, £3 3*s*

A candidate referred on the Third or Final examination will not be admitted to re-examination until after the lapse of a period of not less than three months from the date of rejection and will be required, before being admitted to re examination, to produce a certificate, in regard to Medicine and Surgery, of having attended the Medical and Surgical Practice, or the Medical or Surgical Practice, as the case may be, during the period of his reference, and in regard to Midwifery and Diseases Peculiar to Women a certificate of having received subsequently to the date of his reference, not less than three months' instruction in that subject by a recognised teacher

ROYAL COLLEGES OF SURGEONS AND PHYSICIANS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

These Colleges have made arrangements by which, after one series of examinations, held in Edinburgh or in Glasgow, or in Edinburgh and Glasgow, the student may obtain the diplomas of the three Bodies

The three Bodies grant their Single Licences only to candidates who already possess legal qualifications in Medicine or Surgery Copies of the Regulations for the Single Licence of any of the Bodies may be had on application to the respective secretaries

Professional Education —1 Candidates who commenced

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of the Royal College of Surgeons of
Ophthalmic College of Physicians of London
to students who commenced
the places an

medical study *before* Jan 1st, 1892, must have been engaged in professional study during 45 months from the date of registration as medical students by the General Medical Council which period shall include not less than four winter sessions attendance at a recognised medical school. 2. The candidate must produce certificates or other satisfactory evidence of having attended the following separate and distinc courses of instruction Anatomy during at least six months, Practical Anatomy twelve months, Chemistry six months Practical or Analytical Chemistry, three months Materia Medica, three months, Physiology, six months, Practice of Medicine six months, Clinical Medicine, nine months, Principles and Practice of Surgery six months Clinical Surgery nine months, Midwifery and the Diseases of Women and Children, three months, Medical Jurisprudence, three months, Pathological Anatomy three months The six months' courses delivered in Scotland must consist of not fewer than 100 lectures The three months courses must consist of not fewer than 50 lectures The number of lectures certified as attended at any school not situated in Scotland should not be less than three-fourths of the total number of lectures delivered in a course. 3. The candidate must also produce the following certificates —(*a*) Of having attended not less than six cases of labour three of these to be conducted personally under the direct superintendence of the practitioner who signs the certificate who must be a registered medical practitioner (*b*) Of having attended, for three months, instruction in Practical Pharmacy the certificate to be signed by the teacher who must be a member of the Pharmaceutical Society of Great Britain, or the superintendent of the laboratory of a public hospital or dispensary or a registered practitioner who dispenses medicines to his patients, or a teacher of a class of Practical Pharmacy (*c*) Of having attended for 24 months the *Medical* and Surgical practice of a public general hospital containing on an average at least 80 patients available for clinical instruction and possessing distinct staffs of physicians and of surgeons. (*d*) Of having attended for six *months (or three months, with three months* hospital clerkship) the practice of a public dispensary specially recognised by any of the above authorities, or the out patient practice of a recognised general hospital or of having acted for six months as pupil to a registered practitioner who either holds such a public appointment, or has such opportunities of imparting practical knowledge as shall be satisfactory to the coöperating authorities this attendance should be made after the student has passed the First and Second examinations. (*e*) Of having been instructed by a registered medical practitioner in the Theory and Practice of Vaccination, and of having performed operations under the teacher s inspection during a period of not less than six weeks

Candidates shall be subjected to three Professional examinations, and they may enter either for the whole of an *examination or for a division thereof*

First Examination —The First examination shall embrace the two divisions of (1) Chemistry and (2) Elementary Anatomy and Histology and shall take place not sooner than the end of the first year including the period of a winter and a summer session For the whole examination taken at one time the sum of £5 5*s* must be paid to the inspector of certificates not later than one week preceding it, after which no candidate will be entered. After rejection for re-entry in all subjects £3 3*s* for re-entry after obtaining exemption from re-examination in one or two subjects, £2 2*s*. for entering for one division of subjects *separately* £3 3*s* and for each re-entry after rejection, £2 2*s* Any candidate who shall produce satisfactory evidence of having passed an equivalent examination in any of the subjects of the First examination before any of the boards specified in the Regulations will be exempt from examination in such subjects

Second Examination.—The Second examination shall embrace the three subjects of (1) Anatomy (2) Physiology (3) Materia Medica and Pharmacy each of which shall constitute a division of the examination and may be entered for separately The examination shall not take place before the termination of the summer session of the second year of study including two winters and two summers The fees for admission to this examination payable not later than one week before the day of examination, are as *follows* —*For the* whole examination, £5 5*s* after rejection for re-entry in all subjects, £3 3*s* for re-entry after obtaining exemption from re-examination in one or two subjects, £2 2*s*. for entering for one subject separately £2 2*s* and for each re-entry therein after rejection, £2 2*s* Any candidate who shall produce *satisfactory evidence of having* passed an equivalent examination in any of the subjects of the Second examination before any of the boards specified in the Regulations will be exempt from examination in such subject or subjects

Final Examination —The Final examination shall embrace the three divisions of—(1) the Principles and Practice of Medicine (including Therapeutics, Medical Anatomy and Pathology) and Clinical Medicine (2) the Principles and Practice of Surgery (including Surgical Anatomy and Surgical Pathology) and Clinical Surgery (3) Midwifery and Gynæcology Medical Jurisprudence, and Hygiene (which divisions may be entered for separately at different times) and shall not take place before the termination of the full period of study The fees for this examination, payable not later than one week before the examination day are as follows For the whole examination, taken at one time, in the case of candidates who have passed the First and Second examinations £15 15*s* of which £10 10*s* shall be returned to unsuccessful candidates For entering for each of the three divisions of subjects separately £6 6*s* and on re-entry after rejection £2 2*s* in respect of each division or part thereof This rule will also apply to any subsequent rejection. Any candidate admitted to the Final examination on the footing of having passed in the subjects of the First and Second examinations at a recognised board, shall on entering pay the full fee of £26 5*s*

All candidates shall be subjected, in addition to the written and oral examinations, to clinical examinations in Medicine and Surgery which shall include the Examination of Patients Physical Diagnosis, the Clinical Use of the Microscope, Examination of the Urine and Urinary Deposits Surgical Appliances, Bandages, Surface Markings, &c.

REGULATIONS FOR CANDIDATES WHO COMMENCED STUDY *after* JANUARY 1ST 1892

In addition to the courses above prescribed candidates are required to attend the following courses Physics three months, Elementary Biology three months, Diseases and Injuries of the Eye three months Insanity three months Infectious Diseases three months and a third year of Hospital Practice with Clinical Instruction (which may include the study of special diseases)

The curriculum lasts for five years, the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries Six months of the fifth year may be passed by the student as a pupil to a registered practitioner possessing such opportunities of imparting practical knowledge as may be deemed satisfactory by the Committee of Management *The student s regularity of attendance in the wards and out* patient departments of the hospitals and at the post mortem examinations should be duly ascertained and noted on the certificate.

Candidates shall be subjected to four professional examinations

First Examination —The First examination shall embrace the following divisions of subjects—(1) Physics (2) Chemistry and (3) Elementary Biology The fees payable for admission to the First examination shall be for the whole examination £5 for each division separately £2 10

Second Examination.—The Second examination shall embrace Anatomy and Physiology including Histology and candidates may be admitted to this examination at the end of the second year of medical study The fees payable for admission to the Second examination *shall be—for the whole examination, £5*

Third Examination —The Third examination shall embrace Pathology and Materia Medica with Pharmacy The fees payable for admission to the Third examination shall be—for the whole examination £5 for re-entry in both subjects after rejection, £3

Final Examination —The Final examination shall not be passed earlier than the end of the fifth year of study and shall embrace the following subjects —Medicine including Therapeutics Medical Anatomy and Clinical Medicine Surgery including Surgical Anatomy Clinical Surgery and Diseases and Injuries of the Eye Midwifery and *Diseases of Women and of New born Children* and Medical Jurisprudence and Public Health All candidates shall be subjected, in addition to the written and oral examinations, to clinical examinations in Medicine and Surgery which shall include the Examination of Patients, Physical Diagnosis, the *Clinical* use of the Microscope Examination of the Urine and Urinary Deposits, Surgical

Appliances, Bandages, Surface markings, &c. The fees payable for the Final examination shall be,—for the whole examination, £15, for re entry in all subjects after rejection, £5

There are six periods of examination annually, four in Edinburgh and two in Glasgow, and candidates may present themselves at either examining centre irrespectively of the place of the previous examination The Registrar in Edinburgh is Mr J Robertson, Solicitor, 54 George square, and the Registrar in Glasgow, Mr A. Duncan, LL D, 242, St Vincent-street, to whom fees and certificates must be sent

Note —In applying for copies of the Regulations students should state whether they commenced medical study before or after Jan 1st, 1892.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

The Royal College of Surgeons of Edinburgh admits to the examination for its single Licence any candidate who already holds a Diploma in Medicine of any British Indian, or Colonial university or of any British or Colonial College of Physicians, or of the Society of Apothecaries of London or Apothecaries' Hall, Dublin, granted under the provisions of the Medical Act, 1886, whose preliminary examination and course of professional study is proved to be sufficient to fulfil the requirements of the College, or to those who have passed a full examination for any of the above Female practitioners are now admitted to the Licence of the College but not to the Fellowship, and the regulations for the licence apply to practitioners of either sex

Every candidate for a surgical diploma must have followed his course of study in a university, or in an established school of medicine, or in a provincial school specially recognised by the College of Surgeons of that division of the United Kingdom in which it is situate

Under the title Established School of Medicine are comprehended the medical schools of those cities of Great Britain and Ireland in which Diplomas in Surgery are granted, and such colonial and foreign schools as are similarly circumstanced in the countries in which they exist

PROFESSIONAL EXAMINATION FOR THE DIPLOMA OF THE COLLEGE

Candidates for the Diploma of the College will be subjected to one professional examination, partly in writing and partly practically and orally

Opportunities for the examinations will be presented four times in each year On each of these occasions the candidates will assemble to write answers to the questions proposed and the clinical and oral examinations shall be conducted on the days immediately succeeding

Unsuccessful candidates will be remitted to their studies for a period to be determined by the judgment of the examiners, but not in any case for less than three months

The examination will embrace the principles and practice of surgery (including operative surgery and surgical pathology), clinical surgery, and surgical anatomy, and will not take place before the termination of the full period of study

Applications for examination must be made to Mr James Robertson, solicitor, 54, George square, Edinburgh clerk to the College, not later than one week prior to the date of examination

On the production of the required document Mr Robertson will give the candidate an order authorising the examiners to admit him to examination

The fee of £15 15*s* payable to the College must be lodged in the hands of Mr Robertson not later than one week preceding the examination day The sum of £10 10*s* will be returned to each unsuccessful candidate Under special circumstances candidates can be examined on days other than those fixed by the regulations The fee for a special examination is as follows, viz, £20 for examination, of which £10 will be returned to candidates remitted on examination

In order to test more effectually the practical knowledge of candidates recent dissections and anatomical specimens will be employed during examination They will also be subjected to a practical clinical examination in the Surgical Hospital, including the application of surgical apparatus, bandages surface markings, &c, and may, if it be considered necessary to test their knowledge, be required to perform operations on the dead body

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

The Royal College of Physicians of Edinburgh grants its single Licence on terms similar to those of the Royal College of Surgeons of Edinburgh, as above mentioned

SOCIETY OF APOTHECARIES OF LONDON

There are two examinations—Primary and Final The Final examination is divided into Section I and Section II The Primary examination is held quarterly, on the first Wednesday and on the Monday and Thursday of the same week, in the months of January, April, July, and October Final examinations are held monthly

The Primary examination consists of two parts Part I Elementary Biology, Chemistry, Chemical Physics, including the Elementary Mechanics of Solids and Fluids, Heat, Light, and Electricity, Practical Chemistry, and Materia Medica and Pharmacy A synopsis indicating the range of the subjects in the examination will be sent with the regulations on application Evidence of instruction in these subjects must be produced prior to examination Part II includes Anatomy, Physiology, and Histology This examination cannot be passed before the completion of twelve months' Practical Anatomy with Demonstrations, and these subjects cannot be taken separately except in the event of the candidate having previously passed in one. Evidence must be produced of the candidate's course of study A schedule for the Primary examination, to be obtained of the Secretary, must be signed by the Dean of the Medical School or other authority Section I of the Final examination consists of three parts Part I includes the Principles and Practice of Surgery, Surgical Pathology, and Surgical Anatomy, Operative Manipulation, Instruments, and Appliances Part II includes the Principles and Practice of Medicine, Pharmacology, Pathology and Morbid Histology, Forensic Medicine, Hygiene, Theory and Practice of Vaccination, and Mental Diseases Part III includes Midwifery, Gynæcology, and Diseases of New born Children and the Use of Obstetric Instruments and Appliances Section I of the Final examination cannot be passed before the expiration of 45 months after registration as medical student, during which time not less than three winter sessions and two summer sessions must have been passed at one or more of the medical schools connected with a general hospital recognised by the Society Section II of the Final examination consists of two Parts Part I Clinical Surgery, Part II Clinical Medicine and Medical Anatomy Section II cannot be passed before the end of the fifth year

The course of study for the Primary examination is as follows —Elementary Biology, not less than three months, Chemistry and Chemical Physics, six months, Practical Chemistry, three months, Pharmacy and Dispensing, three months, Anatomy, six months, Practical Anatomy with Demonstrations twelve months, Physiology, six months, Histology with Demonstrations, three months The study of these subjects must be pursued at a Medical School recognised by the Society Instruction in Pharmacy and Dispensing must be given by a registered medical practitioner or by a member of the Pharmaceutical Society by examination or in a public hospital, infirmary, or dispensary

The course of study for the Final examination, Section I, includes attendance on the Surgical and Medical Practice (with Post-mortem Examinations) at a hospital connected with a medical school for a period of one winter and one summer session, lectures on the Principles and Practice of Surgery, six months, Practical Surgery, three months, Clinical Surgical Lectures, nine months, Dressership, six months, Performance of Surgical Operations on the Dead Body, lectures on Principles and Practice of Medicine, six months, Pathology, three months, Clinical Medical Lectures, nine months, Clinical Clerkship,[4] six months, Forensic Medicine, Hygiene, and Insanity, three months, Midwifery and Gynæcology, three months, Clinical Instruction in the same, three months, a course of Practical Midwifery, attendance on 20 Midwifery cases The course of medical study must extend over the above-mentioned period of 45 months

The course of study for the Final examination Section II includes either attendance on the Practice of Medicine and Surgery at a hospital or other institution recognised by the Society for a further period of 12 months or six months as above and six months as a pupil of a registered practitioner holding a public medical or surgical appointment, or attendance at two special hospitals for six months (three months at each hospital) and for six months at a general hospital, all such hospitals to be recognised by the Society Evidence shall also be given of practical instruction in Infectious Diseases and in Mental Diseases (at a lunatic asylum or in the wards of an institution containing a special ward set apart for the treatment of mental diseases), and in any two of the following subjects Ophthalmic Surgery Laryngology with Rhinology and Otology Dermatology and Diseases of Children No candidate is eligible for the Final examination who has not completed the curriculum prescribed by the Society in evidence of which a schedule, to be obtained of the Secretary must be produced, signed by the Dean of the Medical School or other authority Prior to Section II of the Final examination the candidate must produce certificates (1) of being 21 years of age, (2) of moral character, (3) of the course of medical study, and (4) *of proficiency in vaccination signed by a teacher* authorised by the Local Government Board. Candidates intending to present themselves for examination are required to give 14 days notice. A form for this purpose will be sent on application.

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[4] These offices must be held at a hospital or other institution recognised by the society

The fee for the Licence is 20 guineas The examination offices are open from 10 A.M to 4 P M on Saturdays *from* 10 A.M to 1 P M *All letters should be addressed to* the Secretary Court of Examiners, Society of Apothecaries of London, Blackfriars, E C.

APOTHECARIES HALL OF IRELAND

The Licence of this Hall is granted to students who can present certificates of having fully completed the course of study as laid down in the curriculum The diploma of the Apothecaries Hall of Ireland entitles the holder to be registered as a practitioner in medicine, surgery and midwifery also with the privileges of the Apothecary Licence There are four professional examinations, the total fees in connexion with which amount to 21 guineas Ladies are eligible for the diploma. Candidates already on the Register will receive the diploma of the Hall upon passing an examination in the subjects which are not covered by their previous qualifications and on paying a fee of 10 guineas If medicine or surgery be required two guineas extra will be charged

The fees payable for each examination are as follows — first professional £5 5*s* second, £5 5*s*. third £5 5*s* final examination £6 6*s* *If a candidate gives three clear* days' notice of inability to attend he may present himself at the ensuing examination without any further fee. A candidate is allowed for each professional examination which he has completed at any other licensing body except the final. If he has passed only in some of the subjects in a given examination he has to pay the whole of the fee for that examination *The fees for re*-examination *are for* each subject £1 1*s*., excepting in the subjects of chemistry pharmacy surgery medicine, second anatomy and ophthalmology the fees for which are two guineas each. The fee for the final alone is £15 15*s* when the other examinations have been taken elsewhere. All examination fees are to be lodged in the Sackville-street Branch of the Royal Bank of Ireland to the credit of the Examination Committee. Applications and schedules, together with bank receipt for the fee must be lodged with the Registrar Apothecaries Hall 40 Mary street Dublin, 14 clear days before the first day of examination.

There are four examinations—first, second third and final. The first three are held quarterly on the third Monday in January April July and October there are only two finals in January and July *The first examination includes* biology physics, theoretical and practical chemistry with an examination at the bench. Pharmacy is put down to this examination, but it may be taken at any of the first three examinations. Candidates holding a Pharmaceutical licence are exempt from this subject. Osteology (first anatomy) is also a subject of the first professional examination. The subjects for the second professional are anatomy of the whole body (the examination in this subject is practical) materia medica and therapeutics physiology and practical histology The third examination consists of pathology materia medica if not taken at second examination medical jurisprudence, and hygiene. The final examination includes medicine oral and clinical surgery including operations clinical and oral, clinical ophthalmic surgery midwifery and gynæcology Written papers are required on all these subjects.

Candidates who desire to obtain the Letters Testimonial of the Apothecaries Hall in Ireland must before proceeding to the final examination produce evidence of having been registered as medical students for 57 months also of having attended courses of instruction as follows —one course each (winter course of six months) of the following anatomy (lecture) chemistry (theoretical) midwifery practice of medicine physiology or institutes of medicine surgery, dissections two courses of six months each. Courses of three months materia medica medical jurisprudence chemistry (practical) practical physiology and histology operative surgery physics clinical ophthalmology biology clinical instruction in mental disease pathology and vaccination Medico-chirurgical hospital, 27 months to be distributed, at the student's own discretion over the last four years of his study The candidate may substitute for nine *months in this hospital attendance six months as a resident* pupil He will be required to present a certificate of having taken notes of at least six medical and surgical cases recorded under the supervision respectively of a physician and surgeon of his hospital Three months' study of fever—which may be included in his 27 months hospital attendance —in a hospital containing fever wards and having taken notes of five cases of fever—viz either typhus fever typhoid fever scarlet fever, small pox or measles Six months practical midwifery and diseases of women during the winter or summer of the third or the fourth year at a recognised lying in hospital or maternity Three months practical pharmacy in a recognised clinical hospital or a recognised school of pharmacy or a year in the compounding department of a licentiate apothecary or a pharmaceutical chemist. Each candidate before receiving his diploma must produce evidence that he has attained the age of 21 years Each candidate must produce evidence of having before entering on medical studies passed a preliminary examination in general education recognised by the General Medical Council and of having been registered by that Council as a student in medicine Certificates of medical study will not be recognised if the commencement of the course to which the certificate refers dates more than 15 days prior to such registration except in the subjects of physics or biology This registration is not undertaken by the Hall but the student must apply to the Registrar of the General Medical Council that he may be so entered The details of the course of education required and syllabus of the examina*tions will be supplied on application to the Registrar at* 40 Mary street Dublin.

UNIVERSITY OF BRUSSELS

British and other practitioners holding registrable qualifications are admitted to the examination for the Doctorate of the University of Brussels without further curriculum It is essentially a *practitioner's* examination and is separate from that intended for the Belgian students who take up the medical curriculum of the University The fees are—For matriculation £8 12*s* for 1st Part, £4 8*s*, for 2nd Part, £4 4*s* for 3rd Part, £4 8*s* for legalisation of diploma, 8*s* —total £22. Candidates who have paid in advance the *fees for* the three examinations, and are unsuccessful in the first, recover the fees paid for the second and third; *those who fail in the* second recover the fees paid for the third examination Unsuccessful candidates are allowed to come up again three months after rejection on payment of examination fees only provided this second appearance be in the course of the same academical year (October 1st to June 30th), otherwise they must renew the payment of the matriculation fee of £8 12*s* *There are three* examinations, viz —1st Part General Medicine, Pathology and Morbid Anatomy General Therapeutics, Materia Medica and Pharmacology Special Therapeutics and Mental Diseases 2nd Part Surgery Midwifery Hygiene and Medical Jurisprudence. 3rd Part Clinical examination in Medicine at the Hospital Clinical Surgical examination examination in Midwifery consisting of obstetrical operations on the mannequin (doll and model of pelvis), examination in Operative Surgery consisting of some of the usual operations on the dead subject, such as Amputation Ligature of an Artery &c.; Regional Anatomy on the Dead Body with Directions and Ophthalmology The first and second parts are theoretical and the third is mainly practical and clinical The time required for the three examinations seldom exceeds ten days, and is usually less Candidates have the option of passing each part separately or of taking the three together, and the latter is the usual course, also of demanding a written examination on payment of an additional fee of one guinea for each part, a rule of which candidates rarely or never avail themselves The examinations, which are *vivâ voce*, take place on the first Tuesday in November, December, February, May, and June Candidates should appear with their diplomas at the Secretary's office not later than 2 P M on the day preceding the examination Most of the examiners speak English and those who do not examine through the medium of an interpreter Great importance is attached to practical knowledge, but candidates must also possess sound theoretical knowledge, the standard required varying with the subject Pathological and other specimens are not usually shown Professor Rommelaere has resigned his appointments at l'Hôpital Saint Pierre and as an examiner in clinical medicine and his place has been taken by Professor Steinon who formerly examined in Pathology, There are in England at present over 600 graduates holding this degree, and an English Association of Brussels Medical Graduates has been in existence for many years

Further information may be obtained from Dr Walter Reeve, 2, Harewood-place, Hanover square, W

METROPOLITAN MEDICAL SCHOOLS[1]

ST BARTHOLOMEW'S HOSPITAL AND COLLEGE —The clinical practice of the hospital comprises a service of 744 beds, of which 674 are for patients in the hospital at Smithfield and 70 for convalescent patients at Swanley Ten house physicians and ten house surgeons are appointed annually During their first six months of office they act as "junior" house physicians and house surgeons and receive a salary of £25 a year During their second six months they become "senior" house physicians and house surgeons and are provided with rooms by the hospital authorities and receive £80 a year as salary A resident midwifery assistant and an ophthalmic house surgeon are appointed every six months, and are provided with rooms and receive a salary of £80 a year Two assistant anæsthetists are appointed annually, and receive salaries of £120 and £100 respectively, with rooms An extern midwifery assistant is appointed every three months, and receives a salary of £80 a year Two assistant electricians are appointed every six months The clinical clerks, the obstetric clerks, the clerks to the medical out-patients, the dressers to the surgical in patients and to the out-patients, and the dressers in the special departments are chosen from the students All the appointments are now free

A college is attached to the hospital, in which students can reside, subject to the college regulations

The Medical School Buildings include three large lecture theatres, a large dissecting room, a spacious library (containing 13 000 volumes), a well appointed museum of anatomy, physiology, comparative anatomy, materia medica, botany, and pathological anatomy The pathological museum is the most complete in the kingdom. There are laboratories for chemistry, physiology, pathology, pharmacology, physics, public health, and biology, giving ample accommodation in every department.

The ground of 10 acres is at Winchmore-hill for the use of the Students' Amalgamated Clubs, and all students are expected to become members

Instruction in Preliminary Science is given to University of London students in chemistry, biology, and physics throughout the year

Laboratory Instruction for the D P H is provided during the winter and summer sessions, and elementary instruction in Bacteriology is also given throughout the year

Staff —Physicians Sir William Church, Bart, K C B, Dr Gee, Sir Dyce Duckworth, Dr Hensley, and Sir Lauder Brunton Consulting Surgeons Mr Holden, Sir T Smith, Bart, K C V O, and Mr Willett Consulting Ophthalmic Surgeon Mr H Power Surgeons Mr Langton, Mr Marsh, Mr Butlin, Mr Walsham, and Mr Harrison Cripps Assistant Physicians Dr Norman Moore, Dr S West, Dr Ormerod, Dr Herringham, and Dr Tooth, C M G Assistant Surgeons Mr Bruce Clarke, Mr Bowlby, C M G, Mr Lockwood, Mr D Arcy Power, and Mr Waring Physician Accoucheur Dr Champneys Assistant Physician Accoucheur Dr Griffith Ophthalmic Surgeons Mr Jessop and Mr Holmes Spicer Aural Surgeon Mr Cumberbatch Pathology Dr Andrewes Electrician Dr L Jones Dental Surgeons Mr Paterson and Mr Ackery Assistant Dental Surgeons Mr Read and Mr Ackland Anæsthetists Mr Gill and Mr E Willett Casualty Physicians Dr Thursfield and Dr Riviere

This hospital receives within its walls nearly 7000 in patients annually and its out-patients and casualties amount to more than 160,000 annually It comprises a service of 744 beds, of these 241 are allotted to the medical cases, 336 to the surgical, including orthopædic cases, 25 to diseases of the eye, 34 to diseases of women, 38 to isolation and general, and 70 at the Convalescent Hospital, Swanley Special departments have been organised for diseases of the eye, ear, larynx, and skin, as well as for Orthopædic and Dental Surgery Surgical operations every day at 1 30 P M Surgical consultations on Thursday, at 1.30 P M The physicians and surgeons deliver clinical lectures weekly during both the winter and the summer sessions Clinical Lectures on all special subjects are also given The visits of the physicians and surgeons are made at 1 30

Lecturers Winter Session.—Medicine Dr Norman Moore and Dr West Clinical Medicine Sir William Church, Bart., Dr Gee, Sir Dyce Duckworth, Dr Hensley, and Sir Lauder Brunton Surgery Mr Walsham and Mr Bowlby Clinical Surgery Mr Langton, Mr Marsh, Mr Butlin, Mr Walsham, and Mr Cripps Pathology Dr Andrewes Chemistry Dr Chattaway Descriptive and Surgical Anatomy Mr Bruce Clarke and Mr Waring Biology Dr Shore Physiology Dr E Klein and Dr Edkins Superintendents of Dissections Mr Rawling, Mr Douglas, Mr Harmer, Mr Murphy, and Mr C E West Demonstrators of Morbid Anatomy Dr Fletcher, Dr Drysdale, Mr Power, and the surgical registrar Demonstrators of Practical Surgery Mr Waring and Mr Bailey Operative Surgery Mr Power and Mr Bailey Demonstrators of Practical Physiology Dr Edkins, Dr Langdon Brown, and Dr Bainbridge Ophthalmic Demonstrators Mr Jessop and Mr Spicer Lecturer on Physics Mr F Womack. Practical Chemistry Dr Chattaway, Dr Orton, and Dr Hurtley

Summer Session.—Materia Medica and Therapeutics Dr Calvert Midwifery and Diseases of Women and Children Dr Champneys Botany Rev G Henslow Forensic Medicine Dr Hensley Pathology Dr Andrewes Ophthalmic Surgery Mr Jessop Practical Chemistry Dr Chattaway, Dr Orton, and Dr Hurtley Comparative Anatomy Dr T W Shore Psychology Dr Claye Shaw Public Health Dr Hamer Organic Chemistry Dr Chattaway Demonstrators of Operative Surgery Mr Power and Mr Bailey Morbid Anatomy Dr Andrewes, Dr Fletcher, Dr Drysdale, Mr Power, and the surgical registrar Diseases of Skin Dr Ormerod Diseases of the Eye Mr Jessop and Mr Holmes Spicer Diseases of the Ear Mr Cumberbatch Orthopædic Surgery Mr Bruce Clarke Diseases of Larynx Mr D'Arcy Power Demonstators of Medicine Dr Herringham, Dr Tooth, and Dr Horder Demonstrator of Midwifery Dr Robinson Tutor in Public Health Dr Warry Biological Demonstrators Dr Shore, Mr Beckton, and Mr Gauvain Bacteriology Dr Andrewes Pharmacy Dr Calvert and Dr H Smith Chemical Pathology Dr Garrod Medical Registrars Dr Fletcher and Dr Drysdale Surgical Registrar Mr Bailey

CHARING CROSS HOSPITAL AND COLLEGE —This hospital and convalescent home contain 260 beds, a certain proportion of which are set aside for the diseases of children and those special to women Total fees, 110 guineas if paid in a single sum on entry, or 121 guineas if paid in five instalments, the sons of Registered Medical Practitioners pay 100 guineas in one sum or 110 guineas in five sums, for Dental students, 54 guineas, or 60 guineas in two equal instalments General students pay proportionately lower fees, and are admitted without additional fee to the courses of Clinical Medicine and Surgery They are entitled to compete for the Scholarships, Gold Medal, Huxley, and Pereira Prizes

Classes for the Preliminary Scientific Examination of the University of London are held at this Medical School. The fee for the whole course, which begins in October, is

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[1] For Scholarships see p 629 et seq

15 guineas There are also special classes for the practical work for the Department of Public Health and a course in the subject of Diseases of Tropical Climates

Staff —Consulting Physician Sir J Fayrer Bart. M D Consulting Obstetric Physician Dr J Watt Black Consulting Physician for Diseases of the Skin Dr Sangster Physicians Dr Green Dr Bruce and Dr Abercrombie Physicians to Out-patients Dr Willcocks Dr Murray and Dr. Mott. Assistant Physician Dr Galloway Consulting Surgeon Mr R. Barwell. Surgeons Mr Bloxam Mr Morgan C V O and Mr Boyd Surgeons to Out-Patients Mr Waterhouse and Mr Wallis Assistant Surgeon: Mr Gibbs Obstetric Physician Dr Amand Routh. Assistant Obstetric Physician Dr T W Eden. Physician for Diseases of the Skin Dr Galloway Aural Surgeon Mr Waterhouse (Dean of the School) Ophthalmic Surgeon Mr Treacher Collins Orthopaedic Surgeon Mr Wallis Throat Physician Dr Willcocks. Surgeon Dentist Mr J F Colyer

Lecturers *Winter Session.*—Anatomy Dr Christopher Addison Applied Anatomy Mr James Cantlie Bacteriology Dr J W H. Eyre. Biology and Comparative Anatomy Dr H W Marett Tims Chemistry and Physics Dr H. Forster Morley and Mr Percy A E Richards. Dental Surgery Mr J F Colyer Medicine Dr John Abercrombie and Dr H Montague Murray Ophthalmology Mr E. Treacher Collins Physiology Dr B Moore Practical Anaesthetics Mr C. Carter Braine. Practical Anatomy Mr Christopher Addison Practical Hygiene Dr J W H Eyre Dr H. Forster Morley and Mr Percy A E. Richards Practical Medicine Dr James Galloway and Dr W Hunter Practical Midwifery Mr T W Eden Practical Physiology Dr B Moore. Practical Surgery Mr F C. Wallis Psychological Medicine Dr Percy Smith. Surgery Mr Stanley Boyd. Tropical Medicine Dr Patrick Manson

Summer Session —Anatomy Mr Christopher Addison Applied Anatomy Mr James Cantlie. Anaesthetics Mr C Carter Braine. Dental Surgery Mr J F Colyer Forensic Medicine Dr James Galloway Materia Medica and Practical Pharmacy Dr F Willcocks Midwifery Dr Amand Routh Operative Surgery Mr Charles Gibbs Pathology Dr F W Mott Pharmacology and Therapeutics Mr F Willcocks Practical Anatomy Mr Christopher Addison Practical Chemistry Dr H. Forster Morley and Mr Percy A. E. Richards Practical Medicine Dr James Galloway and Dr W Hunter Practical Physiology Dr B. Moore Practical Surgery Mr F C. Wallis Public Health Dr H. T Bulstrode. Toxicology Dr H. Forster Morley and Mr Percy A. E. Richards.

ST GEORGE'S HOSPITAL —This hospital contains 350 beds, of which 205 are allotted to surgical and 145 to medical cases One ward is set apart for Diseases peculiar to Women Children's beds are placed in all the women's wards Two wards are allotted to ophthalmic cases

Students may become Perpetual Pupils by payment of £150 on entering, or of £160 in four annual instalments. Perpetual pupils are entitled to perpetual admission to lectures and demonstrations as well as to the entire medical and surgical practice of the hospital they may compete for all prizes and exhibitions, may become clinical clerks during six months and dressers during another six months or longer if required without fee, may attend midwifery practice, and may compete for all hospital and school appointments without extra charge Four house surgeoncies and four house physiciancies, and the salaried offices of obstetric assistant, senior and junior anaesthetists medical registrars (2) surgical registrar curator and assistant curator of the Museum, besides demonstratorships and a number of junior hospital appointments, are open to perpetual pupils Students not being perpetual pupils are admitted to lectures, demonstrations and hospital practice on payment of £50 annually for two years and £20 annually for succeeding years Such students may become Perpetual in their third year if they wish and if their conduct has been satisfactory

Staff —Consulting Physicians Sir Henry A Pitman Dr J W Ogle Dr Dickinson and Dr Whipham Consulting Surgeons Mr Holmes Mr Pick and Mr Haward Consulting Obstetric Physician: Dr Barnes Consulting Ophthalmic Surgeon Mr Brudenell Carter Consulting Aural Surgeon Sir W B Dalby Consulting Dental Surgeon Mr Augustus Winterbottom Physicians Dr Ewart Sir Isambard Owen Dr Penrose and Dr Rolleston Obstetric Physician Dr Dakin Assistant Physicians Dr Lee Dickinson Dr Cyril Ogle, and Dr Latham Assistant Obstetric Physician Dr Stabb Physician to the Skin Department Dr Wyndham Cottle Physician Anaesthetist: Dr Frederic Hewitt. Surgeons Sir William Bennett, K C V O Mr Dent Mr C R Turner and Mr Sheild Ophthalmic Surgeon Mr Adams Frost Assistant Surgeons Mr Herbert Allingham Mr Jaffrey and Mr Pendlebury Assistant Ophthalmic Surgeon Mr Grimsdale Surgeon to the Orthopaedic Department Mr Jaffrey Surgeon to the Throat Department Mr Sheild Aural Surgeon Mr Bull Dental Surgeon Mr Henry Albert. Assistant Dental Surgeon Mr N G Bennett

Lecturers —Baillie Lecturer in Physic Dr Dickinson Hunterian Lecturer in Surgery Mr Holmes Clinical Medicine the Physicians to the Hospital Clinical Surgery the Surgeons to the Hospital Principles and Practice of Physics Sir Isambard Owen (Dean of the School) and Dr Penrose Tropical Medicine Dr Patrick Manson Test Examiner in Medicine Dr Cyril Ogle Principles and Practice of Surgery Mr Dent (Treasurer) and Mr Turner Midwifery and Diseases of Women and Children Dr Dakin Midwifery and Diseases of Women and Children Dr Stabb Vaccination Mr E Climson Greenwood Insanity Dr Blandford Clinical Instructor in Insanity Dr Craig Ophthalmic Surgery Mr Adams Frost and Mr Grimsdale. Anaesthetics Dr Hewitt Diseases of the Skin Dr Wyndham Cottle. Aural Surgery Mr Bull Dental Surgery Mr Henry Albert. Practical Medicine Dr Latham Practical Surgery Mr. Pendlebury Operative Surgery Mr Allingham Hygiene Dr Louis Parkes Forensic Medicine and Toxicology Dr Lee Dickinson. Toxicological Chemistry Mr Gardner Pathology Dr Rolleston Bacteriology Dr Slater Pharmacology and Therapeutics Dr Cyril Ogle Anatomy Mr Jaffrey (Assistant Dean of the School) Physiology and Histology Dr Buckmaster Teacher of Anaesthetics Dr Menzies Teacher of Skiagraphy Mr Addyman Assistant Teachers of Anaesthetics Dr Blumfeld and Dr Powell Curator of the Museum and Demonstrator in Morbid Anatomy Dr Fenton Assistant Curator of the Museum Dr Trevor Assistant Teacher of Bacteriology Dr Harold Spitta. Demonstrators in Anatomy Mr Howell Evans Mr Frazer and Mr Barwell. Assistant Demonstrators in Anatomy Mr Higgs and Mr Walford Demonstrator in Chemistry Mr Addyman Demonstrator in Materia Medica Mr Stark. Public Health (D P H) Mr Gardner Dr Slater and Dr Harold Spitta. Librarian Mr Alfred Lowe.

GUY'S HOSPITAL.—This hospital founded by Thomas Guy in 1721 for the reception of 400 patients, and enlarged through the aid of a large bequest from the late William Hunt, contains at the present time 690 beds and with its extensive buildings and grounds occupies an area of about six acres The hospital is divided into Medical Surgical Clinical, Ophthalmic and Gynaecological wards independently of separate rooms for special cases

House physicians house surgeons assistant house physicians, and assistant house surgeons obstetric residents gynaecological assistants clinical assistants, clerks to anaesthetists surgeons and assistant surgeons dressers surgical ward clerks, clinical clerks, post mortem clerks extern obstetric attendants and dressers and clerks in the special departments are appointed from among the students upon the recommendation of the medical staff, according to merit and without extra payment The house physicians of whom there are four hold office for six months each The assistant house physicians who hold office for three months attend in the out patient department four afternoons in the week and see all the cases not seen by the assistant physician of the day The house physicians have the care of the patients in the medical wards and attend to all emergencies arising in the absence of the physicians They are provided with board and lodging in the college free of expense The house surgeons of whom there are four hold office for six months each, and are provided with board and lodging in the college free of expense The surgical Casualty Department is in charge of two assistant house surgeons and there are four other assistant house surgeons appointed each three months The surgeons dressers are selected from those students who have completed their third winter session and have been most diligent in the junior appointments They hold office for three or six months Six are attached to each surgeon, and during their weeks of special duty they are provided with board and lodging in the hospital free of expense The obstetric residents, four in number, are provided with board and lodging in the college free of expense.

Higher Examinations—Classes are held throughout the year for the Preliminary Scientific Examination of the University of London, and special courses of instruction are provided for students preparing for the Primary and Final Fellowship examination and the intermediate M B examinations of Oxford, Cambridge, and London

The College—The College stands upon a site fronting the east gate of the hospital and is connected with it by a subway The building serves as a Residential College for Students and at the same time provides accommodation for the Students' Club The Clubs' Union ground is less than twenty-five minutes' journey from the hospital

Staff—Consulting Physicians Sir Samuel Wilks, Dr F W Pavy, Dr P H. Pye Smith, and Dr J F Goodhart, Physicians and Assistant Physicians Dr Frederick Taylor, Dr W Hale White, Dr G Newton Pitt Dr E C Perry, Dr L. E Shaw, Dr J H Bryant, Dr J Fawcett (Dean of the School), and Dr A P Beddard Consulting Surgeons Dr J Birkett, Mr Thomas Bryant and Sir H. G Howse Surgeons and Assistant Surgeons Mr R Clement Lucas, Mr C H. Golding Bird, Mr W H A. Jacobson, Mr Charters J Symonds, Mr W Arbuthnot Lane, Mr L A. Dunn, Mr A. D Fripp, and Mr F J Steward Consulting Obstetric Physician Dr H. Oldham Obstetric Physicians Dr A. L. Galabin and Dr B Horrocks Assistant Obstetric Physician Mr J H. Targett. Physician for Mental Diseases Dr G H. Savage Aural Surgeon Mr W Laidlaw Purves Dental Surgeons Mr F Newland Pedley, Mr W A. Maggs, and Mr J H. Badcock Ophthalmic Surgeons Mr C Higgens and Mr W A. Brailey Instructor in Anæsthetics Mr Tom Bird Anæsthetists Mr G Rowell, Dr H F Lancaster, Mr C J Ogle, Dr W S Handley, and Mr R H J Swan Medical Registrar and Tutor Dr Herbert French Surgical Registrar and Tutor Mr G S Simpson. Obstetric Registrar and Tutor Mr G Bellingham Smith Ophthalmic Registrar and Tutor Mr A. W Ormond Warden of the College Mr Eason Lying-in Charity Dr Horrocks and Mr Targett

Lecturers—Clinical Medicine the Physicians and Assistant Physicians Clinical Surgery the Surgeons and Assistant Surgeons Medicine Dr Taylor and Dr Hale White. Practical Medicine Dr French Surgery Mr Lucas and Mr Golding-Bird. Operative Surgery Mr Fripp and Mr Steward Practical Surgery Mr Simpson Midwifery and Diseases of Women Dr Galabin Practical Obstetrics Mr Targett. Mental Diseases Dr Savage Ophthalmic Surgery Mr Higgens Dental Surgery Mr Newland Pedley Aural Surgery Mr C H Fagge. Diseases of the Skin Dr Perry Diseases of the Throat Mr Symonds Electro Therapeutics Dr Bryant. Anæsthetics Mr Tom Bird and Mr Rowell. Hygiene and Public Health Dr Sykes and Dr Eyre Pathology Dr Pitt Morbid Anatomy Dr Bryant and Dr Fawcett. Morbid Histology and Bacteriology Mr Bellingham Smith and Dr Eyre Medical and Surgical Pathology Classes Dr Fawcett and Mr Steward Bacteriology Dr Eyre Forensic Medicine Dr Stevenson. Anatomy Mr Lane and Mr Dunn Practical Anatomy Mr Fagge, Mr Rowlands, and Mr Swan Physiology Dr Pembrey Practical Physiology Dr Pembrey and Dr Spriggs Materia Medica and Therapeutics Dr Perry Practical Pharmacy the Hospital Dispenser Chemistry Mr Wade Practical Chemistry Mr Wade, Mr Ryffel, and Mr Ball Experimental Physics Professor Reinold, F R S, and Mr Ball. Biology Dr Stevens and Mr Swan. Psychology Dr Savage and Dr Hyslop

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King's College—The hospital contains 217 beds in use The composition fees are £135 if paid in one sum or £148 if paid in four instalments Resident medical officers have rooms at the hospital and commons free, they are selected by examination and hold their appointment for six months or a year There are two house physicians, two physician accoucheur assistants, and three house surgeons Sambrooke registrarships, value £50 per annum are tenable for two years Clinical assistants senior and junior of the special departments—ophthalmic, ear, and throat. Senior dressers and dressers, clinical clerks, assistant demonstrators of anatomy and physiology, and prosectors are elected by examination, and in consideration of their former work in the medical school as matriculated students Classes for the science subjects required by the University of London are held by the Professors of the Science Faculty of King's College, and students avail themselves of their laboratories

Laboratories—Chemistry, Physiology, Experimental Psychology, Pharmacology, Bacteriology, State Medicine, Pathology, and Neuro pathology have special laboratories

Athletic Club—All students are entitled to the privileges of the Athletic Club, which manages a large recreation ground of the College at Wormwood Scrubbs

Staff—Consulting Physicians Sir A. B Garrod, Dr Lionel S Beale, Dr W S Playfair, Dr Alfred B Duffin and Dr I. Burney Yeo Consulting Surgeons Lord Lister and Mr W Rose Physicians Dr David Ferrier, Dr Nestor Tirard, Dr Norman Dalton, and Sir Hugh Beevor, Bart. Surgeons Mr W W Cheyne, Mr A B Barrow, Mr A. Carless, and Mr F F Burghard Assistant Physicians Dr Raymond Crawfurd (Dean of the hospital) and Dr W Aldren Turner Obstetric Physician Dr T C Hayes Assistant Obstetric Physician Dr John Phillips Assistant Physician for the Diseases of Children Dr George F Still Diseases of the Throat Dr Greville MacDonald Assistant Surgeons Dr G L Cheatle and Mr P T B Beale Dental Surgeon Mr A S Underwood Assistant Dental Surgeon Mr C E Wallis Ophthalmic Surgeon Mr M M McHardy Assistant Ophthalmic Surgeon Mr L V Cargill Aural Surgeon Mr Urban Pritchard Assistant Aural Surgeon Mr Arthur H. Cheatle Assistant Physician for Diseases of the Skin Dr A Whitfield Pathological Registrar Dr Norman Dalton Physician in charge of Electrical Department Dr W Aldren Turner Medical Officer in charge of X ray Department Dr F Harrison Low Anæsthetist and Instructor in Anæsthetics Dr J F W Silk Senior Medical Registrar and Tutor Dr R. M Leslie Senior Surgical Registrar and Tutor Dr T Percy Legg Obstetric Registrar and Tutor Dr Hugh Playfair Sambrooke Registrars Mr J C Briscoe and Mr M S Mayou. Clinical Pathologist Dr O F F Grünbaum.

Lecturers—Anatomy, Descriptive and Surgical Dr A. Robinson (Professor) and Dr G J Jenkins (Demonstrator) Physiology, Practical Physiology, and Elementary Biology Dr W D Halliburton (Professor), Mr P T B Beale (Demonstrator of Histology), Dr H W Lyle and Mr A Edmunds (Demonstrators of Physiology), and Dr H W Lyle (Lecturer in Animal Biology) Chemistry and Practical Chemistry Dr J M Thomson (Professor), Mr Herbert Jackson (Lecturer), and Mr P H. Kirkaldy (Demonstrator) Experimental Physics Dr W G Adams (Professor) and Mr E F Herroun (Demonstrator) Botany (Vegetable Biology) Dr W B Bottomley (Professor), and Mr E. J Schwartz (Demonstrator) Medicine (Principles and Practice of) Dr Nestor Tirard (Professor) Neuro Pathology Dr D Ferrier (Professor) and Dr W A Turner (Demonstrator) Psychological Medicine Dr Ernest W White (Professor) Surgery (Principles and Practice of) Mr W W Cheyne (Professor) Surgery (Operative) Mr A. Carless (Teacher) Surgical Pathology Mr G L. Cheatle (Teacher) Materia Medica and Pharmacology Dr F W Tunnicliffe (Professor) Obstetric Medicine and Diseases of Women and Children Dr T C Hayes (Professor) Practical Obstetrics Dr John Phillips (Lecturer) Diseases of Children Dr G F Still (Assistant Physician) Pathology Dr N Dalton (Professor) Forensic Medicine Dr W R. Smith (Professor) Hygiene Dr W J R. Simpson (Professor) State Medicine Laboratory Dr W R Smith (Director) and Mr E Russell (Demonstrator) Bacteriology Dr E M Crookshank (Professor) Ophthalmic Surgery Mr M M McHardy Professor) Aural Surgery Dr Urban Pritchard (Professor) Anæsthetics Dr J F W Silk Dental Surgery Dr A. S Underwood (Professor) Diseases of the Skin Dr A. Whitfield (Assistant Physician) Dean of the School Dr W D Halliburton.

London Hospital and College—The hospital has nearly 800 beds in constant use and no beds are closed Being the only general hospital for East London—i e, for a million and a half people—the practice is immense In patients last year 13,364, out-patients, 169,020, accidents, 28,532; major operations, 2469 Owing to the enormous number of patients more appointments are open to students than at any other hospital. Receiving-room officers, house physicians, house surgeons, &c 70 of these qualified appointments are made annually and more than 150 dressers, clinical clerks &c. appointed every three months All are free to students of the College Holders of resident appointments have free board Twenty nine scholarships and prizes are given annually Five entrance scholarships £120 £60 £35 £30 £20 are offered in September Special classes are held for the University of London and other higher examinations Special entries for medical and surgical practice can be made Qualified practitioners will find excellent opportunities for studying the rarest diseases Lectures and classes are held throughout the year to suit the requirements of candidates desirous of obtaining the Diploma in Public Health The Lecturer on Public Health has his offices in the College enabling the candidates to attend daily to work under his supervision These courses are recognised both by the Universities of Oxford and Cambridge and by the Examining Board in England A reduction of 15 guineas is made to the sons of members of the profession The new laboratories and class rooms for Bacteriology Public Health Operative Surgery Chemistry and Biology are now in full use The new Clubs Union Rooms, Garden, and Fives Court are now open The Clubs Union Athletic Ground is within easy reach of the hospital The Metropolitan and other railways have stations close to the hospital and the college

Staff—Consulting Physicians Dr Hughlings Jackson Dr Fenwick and Dr Sansom Consulting Surgeons Mr Hutchinson Mr Couper Mr McCarthy, Sir Frederick Treves Bart. and Mr Tay Physicians Dr Stephen Mackenzie, Dr Gilbart-Smith Dr Francis Warner and Dr Percy Kidd Dr Frederick J Smith Dr W J Hadley and Dr G Schorstein. Assistant Physicians Dr Bertrand Dawson Dr Henry Head and Dr Robert Hutchinson Surgeons Mr C W Mansell Moullin Mr Harry Fenwick Mr F S. Eve Mr J Hutchinson jun Mr T H. Openshaw and Mr H P Dean Assistant Surgeons Mr A B Roxburgh Mr. P Furnivall, Mr H. Barnard and Mr Rigby Obstetric Physicians Dr G E. Herman and Dr Lewers (with care of out-patients) Physician to the Skin Department Dr Stephen Mackenzie Consulting Dental Surgeon Mr Barrett. Consulting Anæsthetist Dr Hewitt. Ophthalmic Surgeon Mr A. B Roxburgh Aural Surgeons Mr T Mark Hovell and Dr Lambert Lack. Assistant Aural Surgeon Mr Hunter Tod Medical Officer in charge of the Electrical Department Dr W S. Hedley Medical Officer in charge of the Light Department Dr Sequeira. Analyst to the Hospital Mr Hugh Candy Bacteriologist to the Hospital Dr W Bulloch. Dental Surgeons Mr Dolamore and Mr Farmer Anæsthetists Dr Probyn Williams, Mr Hilliard, and Mr Clapham.

Lecturers—Medicine Dr Percy Kidd. Clinical Medicine the Physicians and Assistant Physicians Surgery Mr C. W Mansell Moullin Clinical Surgery the Surgeons and Assistant Surgeons. Anatomy Dr T H Openshaw and Dr A Keith Physiology Dr Leonard Hill and Dr J J R. Macleod. Chemistry Mr F J M Page and Mr Hugh Candy Pathology—(1) Surgical (vacant) (2) Medical Dr W J Hadley and (3) General Dr W Bulloch. Midwifery and Diseases of Women Dr G Ernest Herman Clinical Obstetrics The Obstetric Physicians. Practical Obstetrics Dr G Ernest Herman and Dr Arthur H. N Lewers. Forensic Medicine—(1) Public Health Dr J C Thresh and (2) Medical Jurisprudence and Toxicology Dr Fredk J Smith Public Health and Sanitary Science Dr W Bulloch, Dr John C. Thresh, and Mr F J M Page Mental Diseases Dr J Kennedy Will. Materia Medica and General Therapeutics Dr Francis Warner and Dr Bertrand Dawson Biology Dr P Chalmers Mitchell and Mr G P Mudge Experimental Physics Mr F J M Page and Mr Hugh Candy Ophthalmic Surgery Mr A B. Roxburgh Aural Surgery Dr Lambert Lack Diseases of the Throat Mr T Mark Hovell Anatomy and Pathology of the Teeth Mr H Dolamore and Mr F M Farmer Practical Anatomy Dr Arthur Keith Mr H M Rigby and Mr Howard Practical Physiology and Histology Dr Leonard Hill and Dr J J R. Macleod Foods and Dietetics Dr R. Hutchison Practical Chemistry Mr F J M Page and Mr Hugh Candy Operative Surgery Mr H P Dean Practical Surgery (vacant) Demonstrators of Morbid Anatomy Dr F J Smith, Dr W J H. Hadley and Dr G Schorstein. Bacteriology Dr W Bulloch and Mr Twort. Pathological Histology: Dr W Bulloch. Therapeutic Electricity and Radiography Dr W S. Hedley Anæsthetics Dr H J Probyn Williams Elementary Clinical Medicine Mr Henry Head and Dr Robert Hutchinson Medical Tutor Dr T H. Sequeira. Surgical Tutor Mr. H L. Barnard Obstetric Tutor Dr H. R. Andrews As Emeritus Professor of Surgery Mr. Hutchinson will give in the Summer Session, and Sir Frederick Treves, Bart. will give in the Winter Session a course of lectures in Clinical Surgery The special subjects and the dates will be announced in due course. Dr Hewitt as Emeritus Lecturer on Anæsthetics, will give a course of lectures during the first half of the Winter Session. Warden Mr Munro Scott.

ST MARY'S HOSPITAL—The hospital contains 281 beds which number will be raised to 362 on completion of the Clarence wing The situation of the hospital in the centre of the residential districts of Paddington, Bayswater and North Kensington renders it especially convenient to students who wish to reside in the immediate vicinity and a register of approved lodgings is kept in the office of the Medical School All clinical appointments in the hospital are free to students of the Medical School and the resident medical officers are chosen by competitive examination Six house physicians six house surgeons, four obstetric officers and two resident anæsthetists are appointed in each year and receive board and residence in the hospital. Entrance scholarships in Natural Science one of £145 two of £78 15s one of £52 10s and two of £63 (open to students from Oxford and Cambridge) are awarded annually by examination in September

The New Wing—The new wing the ground floor of which comprising the new out-patient department was opened in 1898, is now in process of completion This will add to the hospital 81 new beds and will include additional operating theatres, a new clinical laboratory a clinical theatre and an x ray department

The Laboratories—The Physiological Laboratories have recently been enlarged and the Pathological Department further extended with the provision of special laboratories for the study of bacteriology and pathological chemistry

Special Tuition—In addition to systematic courses of lectures and demonstrations special tuition is provided for the Intermediate and Final Examinations of the Universities of Oxford Cambridge and London without additional fees

Preliminary Scientific Course—Special classes including lectures and laboratory work are held throughout the year

The composition fee for full students is £140 if paid in one sum, or £145 if paid in four instalments University students who have completed their examinations in Anatomy and Physiology are admitted on payment of a composition fee of 60 guineas (£63) paid in one sum or by payment of two annual instalments of 35 guineas (£36 15s) and 30 guineas (£31 10s) respectively University students who have not completed their examination in Anatomy and Physiology pay an annual fee of 25 guineas (£26 5s) until they have passed these examinations and then pay the composition fee Separate courses of lectures laboratory work, or hospital practice may be taken The composition fees include membership of the amalgamated clubs The School Calendar and full information can be obtained from the Secretary St Mary's Hospital Medical School, Paddington, W

Staff—Consulting Physicians Sir Edward Sieveking and Sir William Broadbent. Consulting Surgeons Mr A T Norton Mr Edmund Owen, Mr G P Field (Aural) Mr Howard Hayward (Dental) and Sir G Anderson Critchett (Ophthalmic) Physicians Dr W B Cheadle Dr D B Lees and Dr Sidney Phillips Surgeons Mr Herbert W Page Mr A. J Pepper and Mr A. Q Silcock Physicians in charge of Out Patients Dr R. Maguire Dr A P Luff and Dr H A. Caley Surgeons in charge of Out Patients Mr J Ernest Lane Mr H. Stansfield Collier and Mr V Warren Low Physician Accoucheur Dr Montagu Handfield-Jones Physician Accoucheur in charge of Out-Patients Dr W J Gow Physician in charge of Children's Department Dr Sidney Phillips Ophthalmic Surgeon: Mr H E Juler Assistant Ophthalmic Surgeon Mr Leslie Paton Surgeon to the Skin Department Mr Malcolm Morris Dental Surgeon Mr Morton Smale Aural Surgeon Dr G William Hill Surgeon to the Throat Department Dr Scanes Spicer Administrator of Anæsthetics Mr Henry Davis

Lecturers—Clinical Medicine Dr W B Cheadle and Dr D B Lees Clinical Surgery Mr Herbert W Page Medicine Dr Sidney Phillips Surgery Mr A J Pepper and Mr A Q Silcock Practical and Operative Surgery Mr H Stansfield Collier Pathology Dr Robert Maguire and Mr H G Plimmer Bacteriology

Mr H. G Plimmer and Dr A Paine Pathological Chemistry Dr W H. Willcox. Midwifery and Gynæcology Dr M Handfield Jones Materia Medica and Therapeutics Dr H. A Caley (Dean of the School) Forensic Medicine Dr A P Luff Descriptive and Surgical Anatomy Mr J Ernest Lane Physiology Dr A , Waller and Mr W Legge Symes (Assistant Lecturer) Demonstrators Mr B H. Spilsbury and Mr E L Ash Histology Mr W Legge Symes Biology Dr W G Ridewood Demonstrator Mr T G Hill. Chemistry and Physics Dr W H Willcox and Mr E H Strange Hygiene and Public Health Dr A P Luff and Dr W H Willcox Mental Diseases Dr Theo B Hyslop Diseases of the Eye Mr H E. Juler Diseases of the Ear Dr G William Hill Diseases of the Skin Mr Malcolm Morris Diseases of the Throat Dr Scanes Spicer Dental Surgery Mr Morton Smale Tropical Diseases Dr John Anderson Anæsthetist Mr Henry Davis Medical Tutor Dr F H Poynton Surgical Tutor Mr H. Stansfield Collier Obstetric Tutor Dr T G Stevens Medical Registrar Dr W J Harris Surgical Registrar Mr W H. Clayton Greene Electrical Department Dr W J Harris Curator of the Museum Dr J F H Broadbent Anatomy Dr V Warren Low and Mr W Ashdowne (demonstrators) Chemistry Mr E H Strange (demonstrator) Practical Pharmacy Mr E A Andrews (demonstrator) School Secretary Mr B E Matthews

MIDDLESEX HOSPITAL —The hospital contains 340 beds There is a special wing for patients suffering from cancer, consisting of four wards, containing 40 beds , here cancer patients are received and attended for a period limited only by the duration of their disease

Hospital Appointments —All hospital appointments are allotted to students without any extra fee Eighteen Resident Appointments are annually filled from the pupils of the hospital, each appointment extending over six months Special Classes are held to prepare students for the Inter M B (Lond) Examination and for the Primary Examination for the diploma of F R C S Eng

The Hospital and Medical School are fully equipped for the theoretical and practical teaching of all the subjects included in the examinations in Medicine and Surgery in the United Kingdom and for the diploma in Public Health, and ample laboratory and class room accommodation is provided for the teaching of the various subjects of the curriculum and for original research in Medicine, Pathology, or Bacteriology

A Residential College to accommodate about 30 students adjoins the hospital The charge for residence is £8 8*s* , £7 7*s* , and £6 6*s* per term, according to the position of the room. Breakfast, luncheon, and dinner are supplied in the College Hall at a very moderate charge

Fees —The Composition Fee for the entire curriculum is 135 guineas, or 145 guineas if paid in three instalments The fee for the Dental Curriculum is 54 guineas, or 60 guineas if paid in two instalments Students who have completed the study of Anatomy and Physiology or passed the London Preliminary Scientific M B Examination are received on special terms

Staff —Consulting Physicians Dr W Cayley, Dr Sydney Coupland, and Sir R. D Powell Physicians Dr J K Fowler, Dr W Pasteur, and Dr W E Wynter Obstetric Physician Dr W Duncan Assistant Physicians Dr A F Voelcker, Dr F J Wethered, Dr H. Campbell Thomson, and Dr R A Young Consulting Physician to the Skin Department Dr R. Liveing Physician to the Skin Department Dr J J Pringle Assistant Obstetric Physician Dr R Boxall Consulting Surgeons Mr Nunn and Mr G Lawson Surgeons Mr Morris, Mr Clark, and Mr Gould Surgeon to Out patients Mr Bland Sutton Assistant Surgeons Mr Murray (Dean of the school) and Mr Kellock Ophthalmic Surgeon Mr W Lang Aural Surgeon Mr S Paget Consulting Surgeon Dentist Mr Turner Dental Surgeon Mr W Hern Assistant Dental Surgeon Mr Nowell Curator of the Museum and Pathologist Dr Thomson Registrars Dr [illegible] amson, Mr A. Baldwin and Dr Comyns Berkeley [illegible] Resident Medical Officer Mr F A Fardon [illegible] Mr Norton, Mr T G A Burns, and Mr [illegible] Chloroformists [illegible] P Noble [illegible] Resalue [illegible] Assistant [illegible] *Lecturers — Winter Session* Anatomy Dr Thompson [illegible] mic, ear, and [illegible] Biology and Physiology [illegible] ks, assistant dem[illegible] Goodall [illegible] Chemistry Dr [illegible] by [illegible] Medicine Dr Fowler and Dr Pasteur Practical Medicine Dr Wynter Surgery Mr Clark and Mr Pearce Gould Practical Surgery Mr Murray Operative Surgery Mr Murray Practical Midwifery Dr Berkeley Clinical Lectures in Medicine The Physicians Clinical Lectures in Surgery The Surgeons Clinical Lectures on Diseases of the Ear, Throat, and Nose Mr S Paget Lectures in Ophthalmology Mr Lang Lectures in Dental Surgery Mr Hern Public Health and Bacteriology Mr Foulerton Summer Session Pharmacology and Therapeutics Dr Wynter Midwifery Dr Boxall Pathology and Pathological Histology Dr Voelcker Forensic Medicine and Toxicology Dr Wethered Practical Toxicology Dr Kellas. Tropical Medicine Dr Crombie Mental Diseases Dr Mickle Lectures in Dermatology Dr Pringle Anatomy, Chemistry, and Physiology as in Winter Session Tutors— Medicine Dr Campbell Thomson, Surgery Mr Kellock, Obstetrics Dr Berkeley, Practical Pharmacy Mr Fardon

ST THOMAS'S HOSPITAL —The composition fee to Hospital Practice and Lectures may be paid in the following ways — 1 150 guineas on entrance in one sum 2 160 guineas *in instalments* £65 *at the beginning of the first* year, £50 at the beginning of the second year, £30 at the beginning of the third year, and £23 at the beginning of the fourth year Students entering at St. Thomas's for Lectures and Hospital Practice of the second and subsequent years pay £130 on entrance, or three instalments of £52 10*s* , £42, and £42 Students entering for Lectures and Hospital Practice of third and subsequent years pay a composition fee of £84, or £52 10*s* on entrance and £36 15*s* one year subsequently The fee for attendance on the general subjects required of students in Dental Surgery is for the two years £65, or, by instalments, £55 for the first year and £15 for the second year If certificates for Dental Practice are also required the special fee for that subject has to be paid. Qualified practitioners are admitted by a joint ticket to the practice of nine hospitals on terms which may be ascertained from the medical secretary

Staff —Consulting Physicians Dr Harley and Dr Payne Consulting Surgeons Sir J Simon Mr S Jones, and Mr J Croft. Consulting Obstetrical Physician Dr Gervis Consulting Ophthalmic Surgeons Mr Liebreich and Mr Nettleship Physicians Dr Sharkey, Dr Acland, Dr Hawkins, and Dr MacKenzie Surgeons Mr Clutton, Mr Pitts, Mr G H Makins, C B , and Mr Battle Assistant Physicians Dr Turney (Dean of the school), Dr Perkins, Dr Colman, and Dr Box Assistant Surgeons Mr C A. Ballance, Mr H B Robinson, Mr F C Abbott, and Mr C S Wallace Obstetrical Physicians Dr Cullingworth and Dr Tate Assistant Obstetrical Physician Dr Fairbairn Ophthalmic Surgeon Mr Lawford Assistant Ophthalmic Surgeon Mr Fisher Physician for Diseases of Children Dr Box Surgeon for Diseases of the Throat Mr H B Robinson Surgeon for Diseases of the Skin Mr E Stainer Surgeon for Diseases of the Ear Mr Abbott Physician Electrical Department Dr Turney Surgeon Dentist Mr C E Truman Resident Assistant Physician Dr H D Singer Resident Assistant Surgeon Mr E M Corner Anæsthetists Mr W Tyrrell, Mr E H G Morris, Mr H Low, and Mr H C Crouch Pharmaceutist Mr E White Curator of Museum Mr S G Shattock Superintendent of Clinical Laboratory Mr Seligmann Superintendent of X ray Department Dr Blacker

Lecturers Winter Session.—Practical Anatomy Demonstrators Mr F G Parsons, Mr J H. Fisher, and Dr Box. Descriptive and Surgical Anatomy Mr F G Parsons Chemistry and Chemical Physics Dr Crossley Physiology and General Anatomy Dr J B Leathes Elementary Biology Mr F G Parsons. Pathology and Bacteriology Dr Turney, Dr Perkins, and Mr Shattock Surgery Mr Makins and Mr Ballance. Theory and Practice of Medicine Dr Sharkey and Dr Hawkins Practical and Manipulative Surgery Mr Robinson and Mr Abbott Physics and Natural Philosophy Dr Le Sœuer Clinical Medicine The Physicians Surgery The Surgeons in rotation Clinical Midwifery and Diseases of Women Dr Cullingworth and Dr Tate Diseases of the Eye Mr Lawford Pharmacology and Therapeutics Dr Mackenzie *Clinical Lectures on* Throat Disease Mr H B Robinson Demonstrator in Morbid Histology Dr Perkins Physiological Demonstrator Dr Rossell Obstetrical Demonstrators Dr Fairbairn and Dr Bell Elementary Clinical Medicine Dr Colman, Dr Perkins, and Dr

Box. Surgical Classes: Mr Abbott, Mr Fisher Mr Shattock, and Mr Sargent

Summer Session.—Anatomical Demonstrators Mr F G Parsons Mr J H Fisher and Dr Box. Elementary Biology Mr F G Parsons. Forensic Medicine and Toxicology Dr Colman. Midwifery Dr Tate Botany Mr Drabble. Chemistry and Practical Chemistry Dr Crossley Mental Diseases: Dr H Rayner Public Health Dr E. Seaton. Practical and Manipulative Surgery Mr Robinson and Mr Abbott Practical Physiology Dr J B. Leathes. Comparative Anatomy Mr Parsons Diseases of the Eye Mr Lawford. Pathology and Bacteriology Dr Turney Dr Perkins and Mr Shattock. Operative Surgery Mr Battle Mr Robinson, and Mr Abbott. Lectures on Clinical Medicine and Surgery are delivered every Wednesday and Thursday Special Departments for the Diseases of Women and Children and for Diseases of the Eye Skin Throat, and Ear Instruction in Electro-Therapeutics by Dr Turney Instruction in Dental Surgery by Mr. Truman. Instruction in Vaccination by Dr Cope.

UNIVERSITY COLLEGE, LONDON.—*Composition fees*—1. For the entire medical education required by the Examining Board in England and the Society of Apothecaries, 150 guineas, if paid in one sum at the commencement of the course 155 guineas if paid by instalments, as follows—first year 70 guineas second year 55 guineas third year 30 guineas 2 For those students who do not require to attend Chemistry Pharmacy and Elementary Biology at a medical school (under the regulations of the Examining Board in England) the fee will be—135 guineas, if paid in one sum, 140 guineas if paid by instalments, as follows—first year, 60 guineas second year 50 guineas third year 30 guineas 3 For the whole course of instruction for the Intermediate Examination in Medicine of the University of London, 60 guineas (paid in one sum) 4 For the course of instruction for the Final M B. Examination of the University of London, 80 guineas, if paid in one sum 82 guineas, if paid by instalments, as follows—first year 50 guineas second year 32 guineas 5 Composition fee for Dental Students, 65 guineas, or exclusive of Chemistry Practical Chemistry Physics and Materia Medica, 50 guineas. 6 Composition fee for the whole course of instruction for the Preliminary Scientific (M.B) Examination of the University of London, 25 guineas

Eight house physicians, six house surgeons, four senior and eight junior obstetric assistants and two ophthalmic assistants are selected annually by examination from among the senior students The house physicians and house surgeons reside in the hospital for a period of six months, and the senior obstetric assistants for three months, receiving free board and lodging

Several professors and other gentlemen connected with the College receive students to reside with them, and in the office of the College there is kept a register of persons unconnected with the College who receive boarders into their families, among these are several medical gentlemen and clergymen

Staff—Consulting Physicians Dr S Ringer Dr H. C. Bastian Sir W R. Gowers and Sir J Williams. Physicians Dr F T Roberts, Dr G V Poore Sir Thomas Barlow Bart. Dr J R. Bradford and Dr S. H. C. Martin Assistant Physicians Dr J R. Russell and Dr H Batty Shaw Obstetric Physician Dr H. R. Spencer Assistant Obstetric Physician Dr G F Blacker Physician Skin Department Dr H R. Crocker Consulting Surgeons Sir Henry Thompson Mr C Heath and Mr S J Hutchinson (Dental) Surgeons Mr A E Barker Mr R. J Godlee Sir V A Horsley Mr B Pollard, and Mr Johnson. Assistant Surgeon Mr T R. H Bucknall Ophthalmic Surgeon Mr J Tweedy Assistant Ophthalmic Surgeon Mr P Flemming Dental Surgery Mr S. Spokes Anæsthetist Dr D Buxton. Assistant Anæsthetist Dr H. J Scharlieb C M G Surgeon Registrar Mr W B L Trotter Resident Medical Officer Dr Charles Bolton Pathologist Dr F H Thiele Radiographer Mr E. S Worrall.

Lectures of the Faculty of Medicine Winter Session.—Anatomy Professor G D Thane Dissections by Mr G B. M White Mr D J Armour and Mr F S Littlejohn Chemistry Professor Ramsay Biology Professor E. A Minchin Principles and Practice of Medicine: Dr G Vivian Poore Principles and Practice of Surgery Professor A. E. Barker Practical and Operative Surgery Mr B Pollard Mr T R. H. Bucknall and Mr R. Johnson Physiology Professor E. H. Starling Dental Surgery: Mr S Spokes Morbid Anatomy and Bacteriology Dr S. Martin.

Summer Session.—Materia Medica and Therapeutics Dr J R. Bradford Pathological Anatomy Dr S. Martin Practical Chemistry Professor Ramsay Midwifery and Diseases of Women Dr Spencer Medical Jurisprudence Dr J S. R Russell Ophthalmic Medicine and Surgery Professor J Tweedy Operative Surgery Mr Pollard Hygiene and Public Health Professor Corfield M D Practical Physiology and Histology Professor E H Starling Mental Physiology Dr Mickle Principal of the College G Carey Foster LL.D

WESTMINSTER HOSPITAL.—The hospital contains upwards of 200 beds There are separate departments for Diseases of the Eye, Ear, Skin Teeth, and Throat, for Orthopædics, and for Diseases of Women, and a special ward for Children. The Anatomical Museum is open to the students. There are also Pathological and Materia Medica Museums

A medical and a surgical registrar each with a salary of £40, are appointed annually Two house physicians, two house surgeons, and a resident obstetric assistant are appointed for six months after examination, and are provided with rooms and commons, also two assistant house surgeons with commons only Clinical assistants to the assistant physicians and assistant surgeons, and to the officers in charge of special departments, are appointed from among qualified students of the hospital.

Preliminary Scientific—Special classes are held in the subjects of this examination—Chemistry Dr Hake, Physics Mr Somerville, Biology Dr Sherlock The extra fee to a general student is 12 guineas

Intermediate M.B—Advanced Physiology and Histology Dr Gossage, Organic Chemistry Dr Hake, Materia Medica, Dr Purves Stewart

D P H—The course of Laboratory Instruction may now be taken Physics Mr Somerville Chemistry Dr Hake Bacteriology Dr Blaxall. Fee: 12 guineas for three months 20 guineas for six months

Bacteriology—A course in General Bacteriology is given by Dr Blaxall Fee £5 5s

Staff—Consulting Medical Staff Dr H B. Donkin Consulting Surgical Staff Mr Richard Davy Mr G Cowell and Mr F C. Macnamara. Consulting Dental Surgeon Dr J Walker Medical In patient Staff Dr W H. Allchin Dr de Havilland Hall and Dr W Murrell Obstetric Physician Dr W Rivers Pollock Surgical In patient Staff Mr C. Stonham Mr W G Spencer and Mr A H Tubby Medical Out patient Staff Dr R G Hebb Dr W A Wills Dr A M Gossage and Dr Purves Stewart Physician for Diseases of the Skin Dr T Colcott Fox Assistant Obstetric Physician Dr G H Drummond Robinson Surgical Out patient Staff Mr W Turner Mr E P Paton and Mr Arthur Evans Surgeon in charge of the Throat Department Mr P R. W De Santi Ophthalmic Surgeon Mr G Hartridge Surgeon in charge of the Orthopædic Department Mr A H Tubby Surgeon in charge of the Ear Department Mr P R. W De Santi Dental Surgeons Mr C W Glassington and Mr E. Gardner Administrators of Anæsthetics Dr N W Bourns and Mr A MacLeod Pathologist and Curator of Museum Dr W S Lazarus-Barlow Medical Registrar Dr B Abrahams Surgical Registrar Mr A B. Orr Pharmacist Mr A F Tanner Secretary: Mr B. M Quennell.

Lectures—Clinical Medicine Dr Allchin Dr Hall and Dr Murrell. Clinical Surgery Mr Stonham Mr Spencer and Mr Tubby Clinical Gynæcology: Dr Pollock (Treasurer of the school) Medicine *Dr Murrell and Dr* Hebb Diseases of the Skin Dr Colcott Fox Insanity Dr Charles Mercier Surgery Mr Stonham. Ophthalmic Surgery Mr Hartridge Surgery of the Throat and Nose Mr de Santi. Orthopædic Surgery Mr Tubby Aural Surgery Mr de Santi. Dental Surgery Mr Glassington Anæsthetics: Dr Bourns Operative Surgery Mr Stonham. Surgical Anatomy Mr Paton Minor Surgery Mr Paton Surgical Pathology Mr Pater Midwifery and Diseases of Women Dr Pollock. General Pathology and Morbid Anatomy *Dr Lazarus-Barlow* Post mortem Demonstrations Dr Lazarus Barlow Materia Medica, Therapeutics, and Pharmacology Dr Purves

Stewart Demonstrator of Practical Pharmacy Mr A E Tanner Forensic Medicine Dr Wills and Dr Drummond Robinson Toxicology Dr H Wilson Hake Public Health Dr S Monckton Copeman Bacteriology Dr Blaxall. Anatomy Mr Black Demonstrators of Practical Anatomy Mr Black and Mr Paton Physiology Dr Gossage (Dean of the school) Practical Physiology Dr Gossage Demonstrator of Physiology Mr Evans Histology Dr Gossage Biology and Comparative Anatomy Dr Sherlock Emeritus Lecturer on Chemistry Dr Dupré Chemistry and Practical Chemistry Dr H Wilson Hake Physics Mr H. Somerville. Secretary and Librarian Mr W Fryer

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London (Royal Free Hospital) School of Medicine for Women, 8, Hunter-street, Brunswick square, W C — The fee for the whole medical course is £125 in one sum, or £135 in four instalments This entitles students to attend all necessary lectures and practical classes as well as the medical and surgical practice of the hospital, and to hold clerkships and dresserships in the in patient and out-patient departments Students can also attend the in-patient and out-patient practice of the New Hospital for Women Students after qualification can hold at the Royal Free Hospital the posts of house physician, house surgeon, clinical assistants, anæsthetist and assistant anæsthetists, medical and surgical registrars, museum curators and demonstrators in the departments of Anatomy, Physiology, Chemistry, and Medical Electrician They can also hold posts at the New Hospital and at the Medical School for Women, which is officered entirely by medical women

In addition to the list of Scholarships tabulated in another column three Evans Prizes of £3 3*s*, £2 2*s*, and £1 1*s* are given on the results of the class examination in midwifery, and two Durham Prizes, value £5 and £3, are given on the results of the class examination in gynæcology, and a prize of £5 is awarded in alternate years on the results of the class examination in Midwifery and Gynæcology respectively The Evans Prize for Operative Midwifery, value £5 5*s*, is awarded yearly Prizes of £10 each are awarded yearly in Anatomy and Physiology There is also a small fund from which assistance can occasionally be given to students and to graduates who specially require pecuniary help Honoraria from the Royce Memorial Fund are given to the assistant anæsthetists at the Royal Free Hospital Prizes and Certificates of Honour are awarded in each class at the end of the session

Special classes for the Preliminary Scientific examination of the University of London are held The teaching in these classes has been greatly extended The fee for the whole course is 20 guineas Special courses of instruction in Anatomy, Physiology, and Chemistry are provided for students preparing for the Intermediate M B Examination of the University of London The rebuilding of the School is now completed and the new buildings afford every facility for efficiency of teaching and of practical work in all departments

Staff —Physicians Dr S West, Dr Harrington Sainsbury, and Dr J W Carr Assistant Physicians Dr R. H P Crawfurd and Dr A. G Phear Consulting Surgeons Mr A. Marsden, Mr T H. Wakley, Mr W Rose, and Mr F J Gant Surgeons Mr A. B Barrow, Mr J Berry, and Mr E W Roughton Assistant Surgeons Mr W H. Evans and Mr T Percy Legg Physician for Diseases of Women Dr T C Hayes. Ophthalmic Surgeon Mr H Work Dodd Surgeon for Diseases of Throat, Nose, and Ear Mr E W Roughton Surgeon for Diseases of Skin Mr W H Evans Senior Resident Medical Officer Mr Joseph Cunning Registrars Miss Dobbie, M D, and Miss Chadburn, M B Dentist Mr F Todd Anæsthetist Miss Aldrich-Blake, M D Secretary Mr C W Thies

Lecturers —At the school Anatomy and Practical Anatomy Mr Stanley Boyd Physiology and Practical Physiology Dr Brodie. Chemistry Miss C de B Evans, D Sc Practical Chemistry Miss Lucy Boole Physics Miss E Stoney Biology Mr Mudge Materia Medica Dr R. H P Crawfurd Practice of Medicine Miss Cook, M D, and Dr J W Carr Midwifery Mrs Scharlieb, M D Gynæcology Mrs Stanley Boyd Forensic Medicine Dr Hawthorne Toxicology Dr Wilson Hake Practice of Surgery Mr Berry Operative Surgery Mr S Boyd Ophthalmic Surgery Miss Ellaby Pathology Dr F W Andrewes Mental Pathology Dr Mercier Tropical Diseases Dr P Manson Operative Midwifery Miss McCall, M D Demonstrator of Practical Toxicology Mr Bodmer, of Practical Gynæcology, Miss H Webb, M B, and Miss Aldrich-Blake, M S, of Anatomy, Miss Stoney, M D, and Miss Flint, M B, of Chemistry, Miss Widdows, B Sc, of Physiology, Miss Cullis, of Practical Pharmacology, Mrs Clarke Keer At the Royal Free Hospital, Clinical Medicine Dr S West and Dr Sainsbury Clinical Surgery Mr Barrow and Mr Berry Pathology Dr Crawfurd Surgical Tutors Mr Roughton, Mr W Evans, and Mr Legg Medical Tutor Dr J W Carr Demonstrator of Auscultation Dr Phear Demonstrator of Practical Clinical Medicine Miss Vaughan, M D Bacteriology Mr Roughton

The Dean of the School is Mrs Garrett Anderson, M D, the Vice-Dean is Miss Cook, M D, the Honorary Secretary is Mrs Thorne, and the Secretary is Miss Douie, M B

METROPOLITAN ANCILLARY SCHOOLS AND HOSPITALS AFFORDING FACILITIES FOR CLINICAL OBSERVATION

Bethlem Royal Hospital —This hospital is open for the admission of two Resident House Physicians who have recently obtained their diplomas to practise Medicine and Surgery They will be permitted to reside in the hospital for a term generally not exceeding six months, commencing June 1st and 1st Dec, and will be provided with apartments, complete board, attendance, washing, and an honorarium of 25 guineas per quarter They will be under the direction of the Resident Physician, and will be elected by the Committee from candidates whose testimonials appear to be most satisfactory The students of certain specified London Medical Schools receive Clinical Instruction in the wards of the hospital, and qualified practitioners may attend for a period of three months on payment of a fee Lectures are also given in connexion with the London Post-graduate Course

Hospital for Consumption and Diseases of the Chest, Brompton (320 beds) —Four House Physicians reside in the hospital for a period of six months Pupils are admitted to the practice of the hospital terms, £1 1*s* for one month, three months, £2 2*s*, perpetual, £5 5*s* Lectures and Clinical Demonstrations are given throughout the year by members of the medical staff. The next course will commence in October Clinical Assistants are appointed to the Assistant Physician in the out-patient department and Clinical Clerks to the Physician in the wards The hospital has been recognised by the Conjoint Board for England as a place where six months of the fifth year may be spent in clinical work The medical practice of the hospital is also recognised by the University of London, the Apothecaries' Society, and the Army and Navy and Indian Medical Boards The hospital contains 321 beds in the two buildings

Staff —Consulting Physicians Dr J E Pollock, Dr E S Thompson, Sir R D Powell, Bart, Dr F T Roberts, Dr J Tatham, Dr C T Williams, and Dr J M Bruce Physicians Dr T H Green, Dr J K. Fowler, Dr P Kidd, Dr T D Acland, Dr R Maguire, and Dr H. W G Mackenzie Assistant Physicians Dr S H Habershon, Dr G Schorstein, Dr F J Wethered, Dr P Horton Smith, Dr J J Perkins, and Dr A. Latham Consulting Surgeons Lord Lister and Mr R. J Godlee Surgeon Mr S Boyd Dental Surgeon Mr W Rushton Resident Medical Officer Dr M. S Paterson

City of London Hospital for Diseases of the Chest, Victoria Park.—During the past year 1295 in patients have been treated in the wards, and the large number of 34,908 cases since the opening of the wards in 1855 The number of out-patients treated during 1899 was 16,442, and 644,054 since the commencement of the institution in 1848 Information as to medical instruction can be obtained on application to Dr E Clifford Beale, the Secretary of the Clinical Sub-committee at the hospital

Staff —Consulting Physicians Dr E L Birkett, Dr J C Thorowgood, and Dr Eustace Smith Consulting Surgeon Lord Lister, F R S Physicians Drs G A Heron, Vincent D Harris, E Clifford Beale, Harrington Sainsbury, T Glover Lyon, and Sir Hugh Beevor, Bart Surgeon Mr J F C H Macready F R C S Physicians to Out Patients Drs W J Hadley, E H. Colbeck, Arnold Chaplin, Hugh Walsham Wilfred J Harris, and Oliver K Williamson Secretary Henry T Dudley Ryder Secretary of the Medical Committee Dr Hugh Walsham

Central London Throat and Ear Hospital, Gray's Inn road —The hospital contains accommodation for

17 in patients and has a very extensive out-patient department, which is open to all medical practitioners and students for the purpose of clinical demonstration and instruction during the hours of the surgeons visits. During the past year 8510 out-patients (involving 50 041 attendances) and 280 in patients were treated. Fee for three months attendance, 3 guineas for six months 5 guineas A course of lectures on the special diseases treated at this hospital is delivered during the winter *months by members of the staff. The date of these lectures* is announced in the medical journals prior to their commencement. Considerable attention is given to scientific work particularly with regard to Bacteriology of the ear and respiratory passages. Operation days in patients Tuesday at 2 P M out-patients Tuesday at 3.30 P M. and Friday at 2 P M Consulting Surgeons Mr Thomas Nunn and Mr Lennox Browne. Surgeons Dr Arthur Orwin, Dr Dundas Grant, and Dr Percy Jakins Physician and Pathologist Dr Wyatt Wingrave. Assistant Surgeons Dr Holloway Mr Nourse, and Dr Abercrombie Bacteriologist Mr St George Reid Dental Surgeon Mr George Wallis. Anæsthetist Mr W Hotten George Defects of Speech Mr William Van Praagh. In addition the following appointments are open to qualified members of the profession —Assistant Registrar tenable for twelve months, and twelve Clinical Assistants tenable for six months Secretary Mr Richard Kershaw

LONDON THROAT HOSPITAL, 204 Great Portland street — Clinical Demonstrations on the Diseases of the Throat, Nose and Ear are given daily at 2 P M. and on Tuesday and Friday evenings at 6 P M Operations are performed almost daily at 9.30 A M Individual instruction is given in the examination of cases to students attending the hospital Fees one month s attendance £1 1s three months £2 2s, perpetual £5 5s Detailed information may be obtained from the Hon Secretary of the Medical Committee

THE HOSPITAL FOR WOMEN Soho-square, W —In connexion with this institution there has been for some years a well organised Clinical Department, which has been enlarged under the title of the London School of Gynæcology To meet the want increasingly felt by medical men of an accurate knowledge of the ordinary diseases of women gentlemen are appointed to act as clinical assistants to the physicians and surgeons seeing out- and in-door patients. The appointments are nominally *open to qualified medical men and to students of medicine* after their fourth year but in the selection of candidates preference is naturally given to gentlemen already engaged in practice The large number of out patients affords exceptional opportunities for practical instruction in the use of gynæcological instruments and for the study of diseases peculiar to women Demonstrations are given in the theatre on Mondays and Thursdays at 2 P M Fee for one month £3 3s for the three months course and certificate £8 8s Any further information can be obtained by writing to the Dean at the hospital

ROYAL HOSPITAL FOR DISEASES OF THE CHEST City road. (80 beds.)—This hospital has been enlarged by the addition of a very complete out-patients department and also by the erection of a new wing which provides accommodation for 80 in patients Expenditure for 1901, £10 486 income (including legacies £522) £9856 The attendance of out patients averages 26 000 annually

Staff —Consulting Physicians Dr Horace Dobell and Professor D W Finlay Physicians Dr P J Hensley Dr T G Smith Dr W H White Dr Oswald Browne Dr A Davies, and Dr J Calvert Assistant Physicians Dr M Leslie Dr J H Drysdale and Dr A G Phear Consulting Surgeon Mr J Hutchinson Surgeon Mr W Turner Resident Medical Officer: Dr C N Groves House Physician: Dr L W G Macpherson. Secretary Mr A T Mays.

ROYAL EAR HOSPITAL, Soho (Founded 1816)—Courses of instruction of six weeks duration in Diseases of the Ear and Nose are given by the members of the staff throughout the year Students can attend one or more surgeon the fee for each surgeon a course being one guinea. The teaching is of a practical character and the number of students is limited. Clinical assistants are also appointed For information address the Honorary Secretary of the Medical Board

GREAT NORTHERN CENTRAL HOSPITAL Holloway road N —Consulting Physician *Sir S Wilks, Bart* Physicians: Drs R. Barnet, F C Beale C F Beevor H W Syers, A Morison and T J Horder Obstetric Physician Dr Blacker Surgeons Messrs J Macready P T B Beale G B M White, E. C Stabb and V W Low Ophthalmic Surgeon: Mr A S Morton Ear Throat, and Nose Surgeons Mr W R H Stewart and Mr E B Waggett Skin Department Dr Whitfield. Dental Surgeon Mr C F P Baly This hospital is now recognised by the Examining Board in England of the Royal Colleges of Physicians and Surgeons as a place of study during the fifth year of the Medical Curriculum The hospital contains 159 beds which are now all occupied The large rectangular and circular wards, each of which contains 20 beds, the operation theatre out patient, general and special, and the pathological department have all been erected since 1887 They are specially designed with a view of offering the greatest facilities for clinical work and contain all the most recent and approved hygienic and antiseptic requirements for the proper care of the sick and for the treatment of disease Medical practitioners are cordially invited to see the general and special practice of the hospital Clinical assistants (qualified) clinical clerks and pathological clerks are appointed in the general and special departments and may receive certificates at the end of their terms of office Further particulars from Peyton T B Beale, F R C S Honorary Secretary Medical Committee, 81, Grosvenor street, W

NEW HOSPITAL FOR WOMEN 144 Euston road N W — Physicians for In patients Miss Cook M D and Miss Walker M D Surgeons for In patients Mrs Scharlieb M D M S and Mrs Boyd M D Physicians and Surgeons for Out-patients Miss Webb M B Miss Macdonald, M B. and Miss Aldrich Blake M D M.S Children s Department Mrs Flemming M D Ophthalmic Surgeon Miss Ellaby M D Assistant Physicians for Out-patients Miss Long M D Miss Sturge M B Miss Chadburn, M D and Miss Dobbie, M D Physician for Maternity Department Miss Clapham M B Anæsthetist Mrs Keith, L R C P A considerable number of the students hold posts in the New Hospital under the visiting staff and in return for much valued clinical teaching they do the work assigned to students in the wards of a general hospital. Secretary Miss M M Bagster

LONDON TEMPERANCE HOSPITAL, Hampstead road N W (Established 1873)—Physicians Dr Fenwick Dr Parkinson and Dr Addinsell. Surgeons: Sir W J Collins F R C S and Mr H J Paterson F R C S Dental Surgeon Mr A. Alexander The hospital contains 110 beds The in patients in 1901 were 1299 and the out patients and casualties numbered 21 653 new cases The medical and surgical practice of the hospital is open to students and practitioners Special departments for Ophthalmology and Gynæcology Operations: Mondays and Thursdays 3.30 P M Classes will be held during the winter and summer sessions for students preparing for the final examinations at the Colleges and the Universities. Appointments vacancies for which are advertised in the medical journals: Medical and Surgical Registrars and Pathologist Resident Medical Officer, Assistant Resident Medical Officer, and Assistant House Surgeon For particulars as to hospital practice and classes apply at the hospital to Sir W J Collins

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial) Queen square, Bloomsbury —The hospital, with the Finchley branch, contains 200 beds and cots The physicians attend every Monday Tuesday Wednesday and Friday at 2 P M. In and out-patient practice and electrical room treatment at that hour Physicians Drs. Hughlings Jackson Buzzard Bastian, Sir William Gowers D Ferrier Ormerod, and Beevor Physicians for Out-patients Drs. Tooth, James Taylor J S Risien Russell, and Aldren Turner Assistant Physicians: Drs Batten and J S Collier Surgeons: Sir Victor Horsley and Mr C. A Ballance. Ophthalmic Surgeon: Mr Marcus Gunn Aural Surgeon Mr A. E. Cumberbatch Laryngologist: Sir Felix Semon Anæsthetist Dr R. T Bakewell Pathologist: Dr F Buzzard Registrar Mr Goldwin Howland House Physicians Dr Barnes Dr T Grainger Stewart and Dr Gordon Holmes The hospital has been recognised by the Conjoint Board for England as a place where part of the fifth year may be devoted to clinical work All communications concerning clinical appointments lectures and hospital practice should be addressed to the Secretary at the hospital

QUEEN CHARLOTTE'S LYING-IN HOSPITAL AND MIDWIFERY TRAINING SCHOOL, Marylebone-road N W — Consulting Physician Dr [illegible] Consulting Surgeon Mr Alfred Willett F R C S Physicians to In-patients Dr W S A Griffith Dr [illegible] Pollock and Dr W J Gow Physicians to Out-patients: Dr T W

Eden, Dr C Hubert Roberts, and Dr Arthur F Stabb This hospital, which has been recently again enlarged and in which many important improvements have been carried out, receives over 1200 patients annually, besides having a large out-patient department Medical pupils are received at all times of the year Pupils have unusual opportunities of seeing obstetric complications and operative midwifery, on account of the very large number of primiparous cases — nearly three-fourths of the total admissions Clinical instruction is given on the more important cases which present themselves Certificates of attendance at this hospital are recognised by all Universities, Colleges, and licensing bodies Pupil midwives and monthly nurses are received and specially trained Fees Medical Students, £8 8*s* for four weeks, Qualified Medical Practitioners £8 8*s* for four weeks Pupil Midwives (including board and lodging), £25 for three months, £29 for four months, and £33 for five months, Pupil Nurses (including board and lodging), £18 for twelve weeks and £25 for sixteen weeks The new residence for students and qualified practitioners is opposite the hospital, with which it is in telephonic communication Terms for residence and full board 35*s* per week For further particulars application should be made to Mr Arthur Watts, Secretary, at the hospital

The Seamen's Hospital Society—There are two hospitals—the *Dreadnought* Hospital at Greenwich (225 beds) and the Branch Hospital in the Royal Victoria and Albert Docks, E (50 beds) There are also two Dispensaries, one in the East India Dock road and the other at Gravesend, which supply patients to the hospitals The London School of Tropical Medicine, with its laboratories, museum, library, &c, is within the grounds of the Branch Hospital Honorary medical staff of the hospitals —Consulting Physician Dr Robert Barnes Physicians Dr P Manson C M G, F R S, Professor R Tanner Hewlett, Dr Guthrie Rankin, Dr Andrew Duncan Surgeons Mr W Johnson Smith, Mr William Turner, Mr James Cantlie, Mr Lawrie H McGavin Surgeon to Out-patients Mr Arthur Evans Ophthalmic Surgeon Mr L Vernon Cargill Dental Surgeons Mr Kenneth W Goadby and Mr J Warburton Brown Anæsthetist Mr Kenneth Steele The lecturers in the school are Dr P Manson, C M G, F R S Dr Andrew Duncan, Dr L Westenra Sambon, Dr J Galloway, Professor R Tanner Hewlett, Mr James Cantlie, Mr E Treacher Collins and Professor W J Simpson Appointments —There is a House Physician and a House Surgeon at the *Dreadnought* Hospital, Greenwich a Senior House Surgeon and House Surgeon at the Branch Hospital, and a Surgeon at each of the Dispensaries The pay of these officers varies from £50 to £100 Scholarships — The Craggs Research Scholarship of £300 per annum was awarded in 1900 to Mr G C Low

The Study of Tropical Diseases —Opportunities are afforded to Medical Graduates who may be desirous of studying Diseases Incidental to Tropical Climates and also Practical Surgery before entering the services or going abroad In the hospitals of the Society are to be found cases of tropical disease such as may be met with in actual practice in the tropics There are three courses in the year, each lasting three months, the first beginning Oct. 1st Certificates are granted after examination to those who complete a full course. Resident chambers are available for students who must be post-graduates or in the fifth year of their medical studies The School is under the auspices of His Majesty's Government Over 232 students have passed through the school since its opening in October, 1899 A free register is maintained at the School, giving the names of gentlemen qualified to take duty as medical officers in the tropics For terms apply to the Secretary, Mr P Michelli, Seamen's Hospital, Greenwich, S E

The Hospital for Sick Children, Great Ormond-street, W C, contains 200 beds, divided into 102 medical, 73 surgical, and 25 for special and infectious cases, besides 52 beds at the convalescent branch, Highgate The hospital having been recognised by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need and is open to students who have completed four years of medical study and also to qualified medical men. Appointments are made every three months to six medical clerkships and six surgical clerkships, which are open to students of the hospital Lectures or demonstrations are given once or twice every week during both winter and summer sessions, which qualified practitioners are invited to attend free of charge The sessions are of ten weeks' duration, and begin in October, January, and March Fees for hospital practice, three months, 2 guineas, perpetual, 3 guineas Prospectuses and further information will be forwarded on application to the Secretary, Mr Adrian Hope, at the hospital

Staff—Consulting Physicians Dr W H. Dickinson, Dr W B Cheadle, and Sir Thomas Barlow, Bart. Physicians Dr David B Lees, Dr Francis G Penrose Dr A. E. Garrod, and Dr A. F Voelcker Assistant Physicians Dr W S Colman, Dr F E Batten, Dr G F Still, Dr F J Poynton, and Dr Robert Hutchinson Consulting Surgeons Sir Thomas Smith, Bart, Mr Howard Marsh, Mr Edmund Owen, and Mr John Morgan Surgeons Mr Bernard Pitts, Mr W Arbuthnot Lane, and Mr Charles A. Ballance Assistant Surgeons Mr Thomas H. Kellock, Mr H. Stansfield Collier, and Mr Francis J Steward Ophthalmic Surgeon Mr W T Lister Aural Surgeon Mr Thomas H. Kellock Surgeon Dentist Mr Stanley Colyer Local Medical Officer for Cromwell House Dr A M Anderson Medical Registrar Dr Baumann Clinical Pathologist and Bacteriologist Dr F A Bainbridge Anæsthetist Dr R T Bakewell Second Anæsthetist Dr R. W Collum Resident Medical Superintendent Mr H. A. T Fairbank, F R C S Secretary Mr Adrian Hope Assistant Secretary Mr James McKay

Royal London Ophthalmic Hospital (Moorfields, 1804–1899) City road E C —138 beds This hospital, known as Moorfields Eye Hospital, was moved in 1899 to new and larger buildings in City road In 1901 there were 1866 in-patients, the new out-patients were 31,258, and the attendances were 100,673 Operations are performed daily from 10 A.M to 1 P M, and four surgeons attend on each day Students are admitted to the practice of the Hospital Fee for six months, £3 3*s*, perpetual, £5 5*s* Courses of instruction on the following subjects are given at the Hospital periodically (1) the use of the ophthalmoscope, (2) errors of refraction, (3) external diseases of the eye, and (4) surgical anatomy of the eye Perpetual students are admitted to the lectures free Systematic instruction is also given on operative surgery and on the pathology of the eye Students of the hospital are eligible for the offices of house surgeon or clinical and junior assistants Junior assistants are appointed every three months Any further information will be furnished by Mr Robert J Bland, Secretary

Staff—Physicians Dr S Mackenzie and Dr J Taylor Consulting Surgeons Mr J Hutchinson, Mr G Lawson, Mr J Couper, Mr E Nettleship, and Mr J Tweedy Surgeons Mr W Tay, Mr R. M Gunn, Mr W Lang, Mr A. Q. Silcock, Mr J B Lawford, Mr A S Morton, Mr E T Collins, and Mr W T H. Spicer Assistant Surgeons Mr P Flemming, Mr J H. Fisher, Mr A Lawson and Mr C D Marshall Medical Officer to the X ray Department Mr J M Davidson Curator and Librarian Mr J H Parsons Senior House Surgeon Mr A F MacCallan Junior House Surgeon Dr W S Inman Out-patient Surgical Officers Mr T Phillips and Mr F A C Tyrrell

Royal Westminster Ophthalmic Hospital, King William street, West Strand —The hospital contains 40 beds Patients, who number 11,000 annually, are seen at 1 P M, and operations performed daily at 2 P M. The following are the days of attendance of the surgeons: Mr Hartridge and Mr Grimsdale, Mondays and Thursdays, Mr Frost and Mr Roll, Tuesdays and Fridays, and Mr Dodd and Mr Brewerton, Wednesdays and Saturdays. The practice of the hospital is open to practitioners and students. Fees for six months, £3 3*s*, perpetual, £5 5*s* Students of the hospital are eligible for the post of house surgeon and clinical assistant Special demonstrations and lectures will be given during the session, commencing in October, for details see weekly journals Clinical Assistants (who must be duly qualified) to the Surgeons are appointed for periods of six months Secretary Mr T. Beattie-Campbell

Royal Eye Hospital, St. George's circus, Southwark S E —There are 40 beds and 2 cots. There were upwards of 54 301 attendances in the Out-patient Department last year, and the new patients number over 18,000 yearly Operations are performed and out-patients are seen daily at 9 A.M. and 2 P M The following are the days of attendance — Afternoons Mr M M McHardy Tuesdays and Thursdays;

Dr W J Collins, Mondays and Wednesdays Mr L V Cargill, Tuesdays and Saturdays and Mr R Doyne, Mondays and Fridays Mornings Mr E Brooksbank James Mondays Wednesdays and Fridays Mr A. W Ormond Tuesdays, Thursdays and Saturdays Qualified practitioners and students are admitted to the practice of the hospital upon the recommendation of the medical staff Tuition is given daily in the out-patient department beginning at 2 P M The students need not necessarily possess a registrable qualification. They work under the guidance of the surgeons and clinical assistants and may become eligible for clinical assistantship, house surgeonship and registrarship, as vacancies arise Fees £2 2s for 3 months, £3 3s for 6 months, and £5 5s perpetual. Qualified students *of the hospital are eligible for the offices of registrar and* house surgeon and may be appointed clinical assistants upon the recommendation of the medical staff for a term of 6 months, and are eligible for re-election Courses are held on Ophthalmoscopy Refraction and Diseases of the Eye, fee, £1 1s for each course, but perpetual students may attend each course once without extra fee Pathology Class, £1 1s extra to cover cost of materials Tutorial or coaching classes for the various examinations arranged as far as possible to suit candidates The classes will begin in October if there are sufficient applications

TOTTENHAM HOSPITAL South Tottenham N —This general hospital which is in the midst of a densely populated neighbourhood has now been authorised by the University of London to give certificates of post graduate study for the M D and M.S. degrees It contains medical and surgical wards and a ward for children having in all 73 beds *There are special departments for gynæcological* cases diseases of the eye ear throat and nose and skin diseases. Operations are performed every afternoon of the week (except Saturday) at 2.30 P M. There are Senior and Junior Resident Medical Officers and Clinical Assistants are appointed under certain conditions Further particulars in regard to the hospital may be obtained from Mr H W Carson F R C S Secretary to the Medical Committee 28 Welbeck street, W or from Dr A. J Whiting Dean of the North East London Post-Graduate College 142 Harley-street, W

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn road W C —This hospital has 28 beds and possesses facilities for clinical teaching daily Classes of instruction in the use of the Ophthalmoscope and in the measurement and correction of Errors of Refraction will be given commencing October

Staff —Consulting Physician Sir D Duckworth. Surgeons Mr T B Archer Mr Ernest Clarke and Mr A. P L. Wells. Assistant Surgeons Mr H. Parker Mr M. N Maclehose, and Mr W T Lister Physician Mr Charles O Hawthorne House Surgeon Mr H. H Bywater Dentist Mr E P May Secretary Mr J G Bryant

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN Leicester square, W C — The out-patient practice is open to the medical profession at the following times Every day from 2 to 4 P.M and every evening (except Saturday) 6 to 8 Specially selected Clinical Demonstrations, also demonstrations on the different diseases presenting themselves in the out patient department, followed by Lectures, will also be given

ST PETER'S HOSPITAL FOR STONE AND URINARY DISEASES, Henrietta street, Covent-garden Established 1860 New Hospital opened, 1892.—Honorary Surgeons Mr F Swinford Edwards Mr E. Hurry Fenwick, Mr Reginald Harrison, and Mr P J Freyer Pathologist Mr E Hurry Fenwick. The hospital contains 24 beds for men 2 beds for women, and 1 private ward. Consultations are held and operations are performed each Wednesday and Friday at 2 P M Medical practitioners and students are invited to the clinical instructions which are given in the wards and out patient department daily and to the operations in the theatre on Wednesdays and Fridays at 2 P M Average beds occupied daily 20 average out patients seen daily 100

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN Glamis-road Shadwell E —Physicians Dr Eustace Smith and Dr J A. Coutts. Surgeons Mr L. A Dunn and Mr H Betham Robinson Assistant Physicians Dr Morley Fletcher Dr E Graham Little and Dr A M Gossage Assistant Surgeon Mr Cuthbert S Wallace Pathologist and Registrar Dr Clive Riviere Medical Officer for the Casualty Department Dr W P S Branson Resident Medical Officer Dr Percy S. Blaker House Physician Mr G A Finlayson House Surgeon Mr R R Thompson Secretary Mr Thomas Hayes The hospital maintains 107 cots, and on an average 259 out patients are seen daily Clinical instruction is given by the physicians and surgeons to the hospital which is recognised by the Conjoint Board for England as a school of medical teaching *for students in the fifth year of the* curriculum All particulars may be obtained on application to the Secretary Two clinical clerkships for qualified or unqualified students are open every three months subject to re-appointment if desired Clinical assistants (qualified men only) are from time to time appointed in the out patient department Any additional *information* may be obtained on applying to Mr H Betham Robinson or to Mr Thomas Hayes, the Secretary

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark bridge-road S E —Consulting Physicians Dr W S. Playfair Dr J F Goodhart, and Dr Frederick Taylor Physicians Drs Nestor Tirard and Frederick Willcocks Physicians to Out patients Drs George Carpenter and W Soltau Fenwick. Consulting Surgeons Messrs H G Howse R. Clement Lucas and F S Eve Surgeons Messrs A H Tubby and F C Abbott. Surgeons to Out patients Messrs Walter Edmunds and C H Fagge Dental Surgeon Mr R Denison Pedley Senior Resident Medical Officer vacant.

VICTORIA HOSPITAL FOR CHILDREN Chelsea, S W —The hospital contains 42 beds (18 beds were taken out as a precaution against infection by increasing superficial area) and has a large out patient *department (over 1000 weekly)*, the home at Broadstairs has 50 beds Consulting Physicians Sir Wm. Broadbent Bart. Sir Francis Laking and Dr Ridge Jones. Consulting Surgeons Mr Cowell and Mr Pickering Pick. Physicians Drs Montague Murray Walter Carr Humphry D Rolleston William Cecil Bosanquet F Whittaker Tunnicliffe and William James Fenton. Surgeons Messrs D Arcy Power and Raymond Johnson Surgeons to the Out patients Messrs H F Waterhouse and Rupert H Bucknall Ophthalmic Surgeon Mr C. Devereux Marshall Dental Surgeon Mr C E Wallis Anæsthetists Dr C J Harrison and Dr Corbould House Surgeon Mr Drury Pennington House Physician Dr W Lawson Secretary Mr H G Evered Out-patients are seen as under —Medical and Surgical Cases Mondays and Thursdays, 9 30 A.M and 1 30 P M ; Thursdays and Fridays, 1 30 P M Wednesdays 9 30 A M Dental Cases Saturdays, at 9 A M

WEST LONDON HOSPITAL, Hammersmith road W —This hospital has 160 beds, all of which are at present in use About 2250 in patients and 32 000 out patients, whose attendances number 97 000 are treated annually Physicians Drs D W C Hood Seymour Taylor and A J Beddard Physician *for Diseases of Women* Dr J A. Mansell Moullin Surgeons Messrs C B Keetley F Swinford Edwards, and S Paget. Surgeon (with charge of out patients) Mr L. A. Bidwell Surgeon for Diseases of the Eye Mr H P Dunn Assistant Physicians Drs E A. Saunders H Davis, and A E Russell Assistant Physician for Diseases of Women *Dr G H Drummond Robinson* Assistant Surgeons W McAdam Eccles and Mr A Baldwin Surgeon Dentist Mr H Lloyd Williams Physician in charge of Throat and Nose and Aural Department Dr J B Ball Physician in charge of Children's Department Dr E A Saunders Surgeon in charge of Orthopædic Department Mr C B Keetley *Pathologist:* Mr F A Saunders Dermatologist Dr P S Abraham. Officer in charge of the X ray Department Dr Chisholm Williams Administrators of Anæsthetics Messrs T Gunton Alderton and Richard W Lloyd Assistant Administrator of Anæsthetics Messrs E W Lewis and G P Shuter Electrician Dr H Davis Secretary Mr R. J Gilbert Attached to the hospital is the West London Post graduate College The practice of the Hospital is reserved exclusively for qualified men no junior students being admitted Instruction is given in the medical and surgical out-patient rooms daily and demonstrations are given in the wards on certain fixed days Post graduate lectures and demonstrations are given daily except Saturdays, notice of the commencement of each course is advertised in the medical journals Special Classes are held in Diseases of the Throat and Nose Skin Ear and in Anæsthetics The accommodation for post graduates consists of a large lecture room, together with reading and writing rooms, &c The hospital has a fully-equipped pathological laboratory at which instruction can be given in elementary bacteriology The fees for hospital practice, including lectures, are £4 4s for 3 months or £10 10s for one year The certificate of the hospital is accepted by the Admiralty and War Office in cases of study leave Further information can be obtained on application to the Dean Mr L A Bidwell, at the hospital

NORTH EASTERN HOSPITAL FOR CHILDREN, Hackney road, Bethnal green, N E For the sick children of the poor under 12 years of age Established 1867 City Offices 27, Clement's lane, E C—57 beds. During the past year 722 in patients and 19,116 out-patients (representing 63,734 attendances) were relieved, 213 of the in patients being under two years of age Consulting Physicians Drs A E Sansom, W Cayley, and W Pasteur Consulting Surgeons Messrs Jonathan Hutchinson, Waren Tay, R J Godlee, Bilton Pollard, and H Percy Dean Physicians Drs W A. Wills, James Taylor, J H Sequeira, and J *Porter Parkinson.* Surgeons *Messrs* A B Roxburgh and *Douglas Drew* *Ophthalmic* Surgeon Mr Sydney Stephenson (Wednesday, 9 30 A M) Dental Surgeon Mr John W Pare (Tuesday, 9 30 A.M , and Friday, 2 30 P M) Matron Miss E W Curno Secretary Mr T Glenton Kerr The surgeons attend on Wednesdays and Saturdays at 2 P M , the physicians daily at 2 P M Applications for permission to attend the practice of the hospital should be addressed to the secretary

NORTH WEST LONDON HOSPITAL, Kentish Town road—Consulting Physician Dr Donald W C Hood Consulting Surgeon Mr Frederic Durham Physician Dr Harry Campbell Surgeon Mr M P Mayo Collier Assistant Physicians Drs W Knowsley Sibley, G A Sutherland, and C O Hawthorne Assistant Surgeons Messrs J Jackson Clarke, George Templeton, and [vacant] Physician for Diseases of the Skin Dr J Herbert Stowers Obstetric Physician Dr John Shaw Ophthalmic Surgeon Sir W J Collins Dental Surgeon Mr J Lewin Payne The hospital, which was established in 1878, provides 53 beds The average number occupied last year was 48 It is a general hospital There are two spacious wards for men and women respectively The children's wards contain 18 *cots* There are two Resident Medical Officers—an honorarium at the rate of £50 per annum attaches to each post Operation day, Thursday at 2 30 o'clock Further particulars from the secretary at the hospital

THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL.—The hospital was founded in 1838 and is situated in Grafton-street, Tottenham court-road The out-patient department is opened daily at 2 30 P M to all medical practitioners and students for acquiring clinical instruction and technical knowledge The hospital has 18 beds and operations upon in patients are performed on Wednesdays, Thursdays, and Fridays at 2 P M.

PROVINCIAL MEDICAL SCHOOLS AND HOSPITALS HAVING SPECIAL CLASSES AND FACILITIES FOR CLINICAL STUDY[1]

THE UNIVERSITY OF BIRMINGHAM (FACULTY OF MEDICINE)—An Ingleby Scholarship is annually awarded to the candidate obtaining the highest number of marks in Obstetric Medicine and Surgery and Diseases of Women and Children at the final M B examination One or more Sydenham Scholarships are offered annually of the value of 40 guineas each The orphan sons of former students of the Birmingham Medical School have priority of election No Sydenham scholars are elected whose age exceeds 23 years on the day of election The Scholarships are held for three years, subject to good behaviour A Sands Cox Scholarship is offered annually of the value of 40 guineas It may be held for three years, one-third being paid each year subject to good behaviour Queen's Scholarships of the value of £10 10s are awarded at the end of the University examinations. The Russell Memorial Prize is awarded annually after examination in Nervous Diseases There are Faculties of Arts, Science, and Medicine The medical courses qualify for the diplomas of all Licensing Bodies and for the degrees in Medicine and Surgery of British Universities The Dental School, in conjunction with the General, Queen's, and Dental Hospitals, affords a complete curriculum for all Dental diplomas The Library contains upwards of 25 000 volumes Syllabuses containing full information as to the various courses of instruction, lecture days and hours, fees, scholarships, &c will be forwarded on application to the Dean of the Medical Faculty

THE GENERAL AND QUEEN'S HOSPITALS, BIRMINGHAM—The practices of these hospitals are amalgamated for the purpose of Clinical Instruction under the direction of the Birmingham Clinical Board by whom all schedules will be signed and all examinations conducted The hospitals have a total of upwards of 450 beds 7000 in patients and 90,000 out-patients are treated annually The following appointments are open to past students At the General Hospital two resident medical officers, salary £70 a year (a degree in medicine is necessary), one resident surgical officer, salary £100 a year, one resident pathologist, salary £100 a year, two non resident casualty assistant physicians, salary £50 a year, two non resident surgical casualty officers, salary £50 a year, two non resident anæsthetists, salary £50 a year, four house surgeons, office tenable for six months without salary, two assistant house physicians, tenable for six months without salary, one resident medical officer at the Jaffray Branch Hospital salary £150 a year, and one resident assistant at the Jaffray Hospital (post vacant early in April, July, October, and January, tenable for three months) At the Queen's Hospital which is specially connected with the Birmingham University three qualified house physicians (posts vacant in March, September, and December, tenable for 12 months at a salary of £50), three qualified house surgeons (posts vacant in March, September, and December tenable for 12 months at a salary of £50), one *qualified obstetric* and ophthalmic house surgeon (post vacant in March and September, tenable for six months), salary £40, and one unqualified resident dresser (post vacant on the first day of January, April, July, and October, tenable for three months)

Staff of General Hospital Consulting Physicians Sir W Foster and Sir W Wade Physician Dr E Rickards, Dr R. Saundby, Dr R M Simon, and Dr S Wilson Surgeons Mr T F Chavasse, Mr G Barling, Mr W F Haslam, and Mr G Heaton Obstetric Physician Dr E Malins Ophthalmic Surgeon Mr D C Lloyd Owen Assistant Physicians Dr T S Short and Dr J W Russell Assistant Surgeons Mr A. Lucas and Mr L P Gamgee Assistant Obstetric Physician Dr T Wilson Anæsthetists Dr S Haynes and Dr W J McCardie Casualty Assistant Physicians Dr J R. Charles and Dr S H. Perry Surgical Casualty Officers Mr A. D Heath and Mr A. P Satchell Dental Surgeon Mr D Whittles Surgical Radiographer Dr F Hall Edwards

Staff of Queen's Hospital—Consulting Physicians Sir J. Sawyer and Dr Suckling Consulting Surgeons Mr F Jordan and Mr J St S Wilders Physicians Dr Carter, Dr Foxwell, and Dr Kauffmann Surgeons Mr B May, Mr J Lloyd, and Mr F Marsh Ophthalmic Surgeon Mr. Priestley Smith Obstetric Officer Dr Parslow Physician for Out-patients and Pathologist Dr Stanley Surgeons for Out-patients Mr J T J Morrison, Mr J H Clayton, and Mr C A. L. Green Assistant Ophthalmic Surgeon Mr Wilfrid Allport

UNIVERSITY COLLEGE, BRISTOL (FACULTY OF MEDICINE)—It is now arranged that Students of the College shall be admitted to the Clinical Practice of the Bristol Royal Infirmary and the Bristol General Hospital conjointly and consequently both these institutions are open to all students. The Infirmary and the Hospital comprise between them a total of 470 beds, and both have very extensive out-patient departments, special departments for the Diseases of Women and Children, and of the Eye, Ear, and Throat, besides large outdoor Maternity Departments and Dental Departments Students may also attend the practice of the Bristol Royal Hospital for Sick Children and Women, containing 104 beds, and that of the Bristol Eye Hospital, with 40 beds The total number of beds available for clinical instruction is 614 Very exceptional facilities are thus offered to students for obtaining a wide and thorough acquaintance with all branches of Medical and Surgical work Each student has the opportunity of personally studying a large number of cases and of acquiring practical skill in diagnosis and treatment.

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[1] For Scholarships see page 636 et seq

Courses of Lectures—Medicine Professors E Markham Skerritt, M D Lond. B S. B A, F R C P and J E Shaw M.B C M Surgery Professors C A. Morton F R.C S and James Swain M D M S Lond F R C S Anatomy Professor Edward Fawcett, M.B C M Edin Practical Anatomy Demonstrators Dr J O Symes and Mr T Carwardine Physiology and Histology Professor A F Stanley Kent, M A., F L.S F G S Chemistry Lecturer, Professor Sydney Young, D Sc. F R S Public Health Lecturer Dr D S Davies Midwifery and Diseases of Women Professor W C Swayne M D Medical Jurisprudence Lecturers Dr R. Eager and Dr G Parker Pathology and Morbid Anatomy Professor J Michell Clarke Operative Surgery Lecturer Mr J Paul Bush *Practical Medicine Lecturer Dr J E Shaw* Practical Surgery Lecturer Dr R G Poole Lansdown Practical Midwifery Lecturer Mr D C. Rayner F R C S Materia Medica and Practical Pharmacy and Pharmacology and Therapeutics Lecturer *Dr A. B Prowse Biology* Lecturer Professor S H Reynolds Practical Chemistry Lecturer Professor Sydney Young Practical Bacteriology Lecturer Professor A F Stanley Kent M.A F L S, F G S Comparative Anatomy Lecturer, Professor C Lloyd Morgan F R.S Dental Anatomy and Physiology Lecturer Professor A. F Stanley Kent M.A., F L S F G S Dental *Surgery Lecturer Mr W R. Ackland Dental Mechanics* and Dental Metallurgy Lecturer, Dr C A. Hayman Composition fee for lectures 65 guineas or 55 guineas Composition fee for Dental Lectures 55 guineas. Special six months course for Diploma in Public Health 1 Lectures on Public Health Dr D S Davies 2. Bacteriology Professor A F Stanley Kent M.A. F L S F G S 3 Laboratory Course of Hygienic Chemistry Mr F W Stoddart 4 Demonstrations on the Various Acts, Orders By laws &c Mr J C Heaven 5 Practical Outdoor Sanitary Work Dr D S Davies Fee for the entire course 30 guineas Full *information can be obtained on application* to the Dean Professor E Markham Skerritt M D F R C P University College Bristol.

ROYAL INFIRMARY *BRISTOL (Established 1735)*—270 beds Honorary and Consulting Physician Dr W H Spencer Honorary and Consulting Surgeon Mr E C Board Honorary and Consulting Ophthalmic Surgeon Mr F Richardson Cross Physicians Dr R. Shingleton Smith, Dr Henry Waldo, Dr J E. Shaw and Dr Arthur B Prowse Surgeons Mr A. W Prichard Mr W H Harsant, Mr J Paul Bush and Mr G Munro Smith Ophthalmic Surgeon Dr Ogilvy Obstetric Physician *Dr Walter C Swayne. Dental* Surgeon Mr W R. Ackland Assistant Physicians Dr P Watson Williams and Dr F H Edgeworth Assistant Surgeons Dr James Swain and Mr T Carwardine Pathologist Dr Theodore Fisher Bacteriologist Professor A. F Stanley Kent, M A Skiagraphist Mr James Taylor Dental Assistant Dr C A Hayman House Surgeon Mr H F Mole House Physician Dr E H E Stack Resident Obstetric Officer Mr E M Pearce Anæsthetist and Junior House Surgeon Mr J C Clayton Casualty Officer Mr William Mair

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BRISTOL GENERAL HOSPITAL —Honorary and Consulting Physician Dr A. J Harrison. *Honorary* and Consulting Surgeons Mr Robert W Coe Dr George F Atchley Mr Nelson C Dobson, Mr F Poole Lansdown and Mr Chas F Pickering Honorary and Consulting Physician Accoucheur Dr Joseph G Swayne Physicians Drs E Markham Skerritt, J Michell Clarke and George Parker Surgeons Messrs W M Barclay and C A Morton and Drs R G Poole Lansdown and J Lacy Firth Physician Accoucheur: Dr W H. C Newnham Physician to Department for Diseases of the Skin Dr A. J Harrison. Physician to the Throat and Nose Dr Barclay J Baron Ophthalmic Surgeon Mr Cyril H Walker Assistant Physicians Drs J O Symes and Newman Neild Assistant Surgeon Mr H. Greville Kyle. Assistant Physician Accoucheur *Mr D C Rayner* Anæsthetist Mr J Freeman Dental Surgeon Mr T Taylor George. Pathologists Dr J Michell Clarke and Dr Newman Neild Bacteriologist Dr J O Symes Skiagraphists Mr C H Walker and Dr W Kenneth Wills House Surgeon Mr A. F Martin Assistant House Physician Mr J E Sparks Assistant House Surgeon Dr C C C Shaw Casualty House Surgeon Mr A. Coleridge

Clinical Scholarships and Prizes—There are open for competition only to Perpetual Clinical Students 1. Open Scholarships and Prizes —(*a*) University Entrance Scholarship of *£50* and Haberfield Entrance Scholarship of £30 (*b*) Tibbitts Surgical Prize, £9 9*s* and two Martyn Pathological Prizes of £10 each (*c*) A Gold Medal and a Silver Medal given by the Committees of the two Institutions 2. Restricted to students who have done the necessary qualifying work at the Bristol Royal Infirmary Suple *Medical Prize (consisting of a Gold Medal, value 5 guineas* and 7 guineas in money) Suple Surgical Prize (consisting of a Gold Medal value 5 guineas, and 7 guineas in money) Clark Prize, value £11 11*s* Crosby Leonard Prize in Clinical Surgery value £7 7*s* and Augustin Prichard Prize in Surgical Anatomy value *£7 7s* 3 Restricted to students who have done the necessary qualifying work at the Bristol General Hospital —Clarke Scholarship, a surgical scholarship of the value of £15 Sanders Scholarship, a scholarship of the value of *£22 10s* and the *Marshall Prize* value about *£12*

Resident Appointments—There are five resident appointments at the Infirmary and four in the Hospital, and the Dressers reside in rotation free of expense. The Maternity students also have rooms provided in the institutions

Fees—Medical Practice three months 4 guineas, six months 7 guineas, one year 12 guineas, perpetual 20 *guineas* Surgical Practice three months, 4 guineas six months, 7 guineas one year 12 guineas perpetual, 20 guineas Medical and Surgical Practice together in one payment six months 12 guineas one year 20 guineas, perpetual 35 guineas Dental Surgical Practice one year 7 guineas, perpetual 12 guineas The above fees include *Clinical Lectures* Clinical Clerkship *5 guineas for six months* Dressership 5 guineas for six months. Museum fee 3 guineas (composition on entrance) or 1 guinea annually Disponsing Fee 2 guineas Students *from* other schools or qualified medical men wishing to attend Clinical Practice *for* short periods and not requiring certificates for such attendance may do so for the *following* fees —Medical and Surgical Practice conjointly one month, 2 guineas two months 3 guineas three months 4 guineas, and six months 7 guineas

Further information may be obtained on application to the Dean of the Faculty

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OXFORD RADCLIFFE INFIRMARY —At this Infirmary instruction is given in connexion with the Oxford University Medical School Clinical lectures are given by the Lichfield Clinical Lecturers in Medicine and Surgery Also tutorial instruction and demonstrations are given in special Regional Anatomy (*medical and surgical*) *methods* of Medical Diagnosis, and Surgical Manipulation Demonstrations of Elementary Pathology are given in the post mortem room and at the Pathological department of the museum by the Regius Professor of Medicine or his Deputy Practical Pharmacy is taught in the Infirmary Dispensary The whole course of study at the museum and infirmary combined is intended for students until they have passed the Second Conjoint Examination or the First Oxford M B The Infirmary contains 147 *beds*

CAMBRIDGE ADDENBROOKE'S HOSPITAL.—Clinical Lectures in Medicine and Surgery in connexion with Cambridge University Medical School, are delivered at this hospital twice a week during the academical year and practical instruction in Medicine and Surgery in the wards and outpatients rooms is given by the physicians and surgeons daily during the vacations as well as term time. Instruction *is also* given in the special methods of medical and surgical investigation Clinical Clerks and Dressers are selected from students according to merit and without payment. *The composition fee for pupilship is 8 guineas*

UNIVERSITY COLLEGE, CARDIFF *SCHOOL OF MEDICINE*—The winter session will commence on Tuesday Oct 7th. All classes are open to both men and women students who may spend three out of their five years of medical study at *Cardiff* The courses of study are recognised as qualifying for the Preliminary Scientific and Intermediate Examination in Medicine in the University of London and for the corresponding examinations in the other Universities Students who are preparing for these examinations may compound for their courses by paying a fee of £57 10s, while a composition fee of £40 includes all the necessary courses for the first and second examinations for the Diploma of the Conjoint Board In all cases the composition fees may be paid by instalments Hospital instruction is given at the Cardiff Infirmary The attention of students about to matriculate is drawn to the numerous entrance scholarships and exhibitions, varying in value from £10 to £30 per annum, offered for competition at University College, Cardiff, in September next, most of which may be held by medical students Full particulars of the examination for these may be obtained by application to the Registrar In the department of Public Health recently established instruction is given qualifying for the D P H examinations Further information may be obtained from Professor A Francis Dixon, Dean of the Faculty of Medicine

Lecturers —Physics Professor A. L Selby Chemistry Professor C M Thompson Biology Professor W N Parker and Dr A. H Trow Anatomy Professor A. F Dixon Physiology Professor J B Haycraft Materia Medica and Therapeutics Dr D R Paterson Bacteriology Dr W G Savage Public Health and Hygiene Dr E Walford and Dr W Williams

CARDIFF INFIRMARY —*Staff* Consulting Physicians Dr W T Edwards, Dr William Taylor, and Dr C T Vachell Consulting Surgeon Dr Alfred Sheen Physicians Dr F W Evans and Dr H. R Vachell Surgeons Mr T Wallace, Mr P Rhys Griffiths Mr William Sheen, and Mr J Lynn Thomas, C B Assistant Physicians Dr D R. Paterson, Dr A. E Taylor, and Dr W Mitchell Stevens Assistant Surgeons Mr H. G Cook, Mr Cornelius A. Griffiths, and Mr William Martin Ear, Throat and Nose Department Dr D R Paterson Ophthalmic Surgeons Mr J T Thompson and Mr H C Ensor Assistant Ophthalmic Surgeon Mr F P S Cresswell Gynæcologists Dr Ewen J Maclean and Dr E Tenison Collins Pathologist Dr W Mitchell Stevens Anæsthetists Dr Eldon Pratt, Dr W G Williams and Mr Fredk. W S Davies Dental Surgeon Mr John C Oliver, L D S R C S E Resident Medical Officer Dr Owen L Rhys

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, Newcastle upon Tyne —The following Scholarships and Prizes are awarded annually — Four University of Durham Scholarships, value £25 tenable for four years, for proficiency in Arts, awarded to full students in their first year The Dickinson Scholarship, value interest of £400 and a Gold Medal, for Medicine, Surgery, Midwifery, and Pathology The Tulloch Scholarship, value the interest of £400, for Anatomy, Physiology, and Chemistry The Charlton Scholarship, value the interest of £700 for Medicine The Gibb Scholarship, value the interest of £500 for Pathology The Goyder Memorial Scholarship (at the Infirmary), value the interest of £325, for Clinical Medicine and Clinical Surgery The Luke Armstrong Memorial Scholarship, value the interest of £680, for Comparative Pathology The Stephen Scott Scholarship in Surgery, value the interest of £1000 Heath Scholarship The late George Yeoman Heath M D, D C L, F R C S, President of the University of Durham College of Medicine, bequeathed the sum of £4000 to found a Scholarship in Surgery, the interest to be awarded every second year, the next award will be in 1904 The Gibson Prize, interest on £225, in the department of Midwifery and Diseases of Women and Children At the end of each session Prizes of Books are awarded in each of the regular classes. Assistant Demonstrators of Anatomy, receiving each an honorarium of £5, Prosectors, and Assistant Demonstrators of Physiology and Pathology are elected yearly Pathological Assistants Assistants to the Dental Surgeon, Assistants in the Eye Department Throat and Ear Department, and Skin Department, Clinical Clerks, and Dressers are appointed every three months

NEWCASTLE-UPON-TYNE ROYAL INFIRMARY* — Physicians Drs Drummond, Oliver, Limont, and Murray Assistant Physicians Drs Beattie and Bolam Surgeons Dr Hume, Mr Rutherford Morison, Mr Ridley, and Mr Martin Assistant Surgeons Mr H B Angus, Mr J V W Rutherford, Mr Richardson, and Mr Leech. Pathologist Dr Beattie Dental Surgeon Mr R. L. Markham Skin Department Dr Limont Eye Department Mr Wardale Throat and Ear Department Mr Ridley Anæsthetist Dr W D Arnison Surgical Registrars Mr John Clay and Mr G G Turner Psychological Out-patients Dr McDowall The infirmary contains 280 beds Clinical Lectures are delivered by the Physicians and Surgeons in rotation Pathological Demonstrations are given by the Pathologist as opportunity offers Practical Midwifery can be studied at the Newcastle Lying in Hospital. Instruction is given in Psychological Medicine at the Northumberland County Asylum, Morpeth A Special Course of Instruction is given in the City Hospital for Infectious Diseases by the Superintendent, the City Officer of Health, Mr H E Armstrong

LEEDS GENERAL INFIRMARY AND MEDICAL DEPARTMENT OF THE YORKSHIRE COLLEGE —The Leeds General Infirmary has accommodation for 482 in patients, medical and surgical, including 46 beds at a "semi convalescent home" in the country During the last year 6375 in-patients and 37,688 out-patients were treated Clinical teaching takes place daily in the wards, and Clinical Lectures are given in Medicine and Surgery by the Physicians and Surgeons There are Medical, Surgical, Ophthalmic, Aural, and Electrical Departments, in each of which special instruction is imparted to students A Gynæcological and Extern Obstetric Department, together with Laryngeal and Skin Clinics, are in operation The Public Dispensary, the Hospital for Women and Children, the Fever Hospital, and the West Riding Lunatic Asylum are other medical institutions which are made use of by the Leeds students. Eight years ago the new buildings of the Medical School were opened Placed close to the Infirmary, the new School of Medicine contains complete accommodation for the training of medical students upon the most approved modern methods A very fine dissecting-room, extensive laboratories for Physiology and Pathology, with the most recent improvements in fittings and apparatus, ample lecture-room accommodation, a large Library, and separate Museums for Pathology and Anatomy are some of the most striking features of the new buildings Provision for the convenience of students, in the shape of a common room, a refectory, &c, are made The classes in Systemetic and Practical Chemistry, Physics and Biology, are held in the Science and Arts Department of the College, in College-road Two Entrance Scholarships are offered one, of the value of 64 guineas, covering admission to all requisite lectures, and the other, of the value of 40 guineas, covering the cost of admission to the medical and surgical practice of the infirmary Several valuable prizes are given at the end of each session. The following appointments at the Infirmary are annually open to students (for some of them, however, a registered legal qualification is required) - Non resident senior anæsthetist £50, 5 anæsthetists, £25, pathological curator, £120 Resident medical officer, £100, surgical officer, £100, casualty officer, £100, obstetric, £50, ophthalmic, £50 These appointments are made annually and holders are eligible for re-election Resident medical officer to the Ida Hospital, for six months, honorarium £25 Six house physicians, for six months, 4 house surgeons, for 12 months, 24 physicians' clerks, for six months, 24 surgeons' dressers, for six months, 16 ophthalmic and aural surgeons' dressers, for three months, 12 gynæcological ward clerks, for three months, 16 gynæcological out-patient clerks, for three months, 24 maternity clerks, for one month, 24 assistant physicians' clerks, for three months, 8 dermatological clerks, for three months, 8 laryngological clerks, for three months, 24 assistant surgeons' dressers, for three months, 8 assistant ophthalmic surgeons' dressers for three months, 24 dressers in the casualty room, for three months, 32 post mortem room clerks, for three months, 8 laboratory assistants, for three months

There are appointments open to students in other medical institutions in the town and also in the West Riding (Lunatic) Asylum

UNIVERSITY COLLEGE, LIVERPOOL (VICTORIA UNIVERSITY) MEDICAL FACULTY —*Buildings* —The work of reconstruction of the Medical School buildings has been continued during the past two years by the erection of a new Dissecting Room and Anatomical Museum, which were opened last October The Dissecting Room is on the upper floor and measures 70 by 40 feet. It is well lighted from the north and east and provides adequate accommodation for the study of Practical Anatomy The Museum occupies the space below the Dissecting Room it is provided with a gallery on each side and gives ample room for the collections of human anatomy and of dental anatomy The excellent series of models dissections and preparations can now be properly displayed for the use of students More adequate provision has also been made for the departments of Surgery Midwifery and Materia Medica The work of completion of the school buildings is now in progress and when completed the building will form a block completing one side of the College quadrangle and connecting the dissecting room block just compl ted with the Thompson Yates Laboratories of Physiology and Pathology recently erected A new block is also being added to the Thompson Yates Laboratories to provide accommodation for study and research in Pathology and for the School of Tropical Medicine. Handsome and commodious Laboratories Lecture-rooms and Museum of Botany have been acquired this year by the gift of Mr W P Hartley and new Laboratories for Physics are at present in course of construction

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* No returns

Chairs —A new Chair of Bio-Chemistry has been founded this year by the generosity of Mr William Johnston

Royal Infirmary —The Royal Infirmary which adjoins the School contains 300 beds with 40 special beds for the treatment of Diseases of Women The Lying in Eye and Ear Women s Children s Dental and Skin Hospitals are in the immediate vicinity and their practice is open to the students of the Medical Faculty

Fees —The composition fees are —£24 15*s* for Preliminary Scientific Classes £60 for the Medical Classes required for the Victoria, London and other University degrees and £70 for all the classes required for the diplomas of the Conjoint Boards The medical composition fees are payable in two instalments at intervals of 12 months The fee for hospital attendance at the Royal Infirmary is 40 guineas, also payable in two annual instalments

Appointments —Three house surgeons, three house physicians and one external house surgeon to the Thornton Wards are appointed for six months after (if necessary) competitive examination Clinical clerks for each physician dressers for each surgeon and clerks to the Thornton Wards for Diseases of Women are appointed every three months Post-mortem clerks are appointed for six weeks all students are required to perform this duty before the schedule for the Final Examination is signed.

Fellowships and Scholarships —Fellowships scholarships and prizes of over £700 are awarded annually (*a*) A Holt Fellowship in Pathology and Surgery of the value of £100 for one year is awarded annually by the medical faculty to a senior student possessing a medical qualification The successful candidate is required to devote a year to tutorial work and investigation in the pathological department (*b*) A Holt Fellowship in Physiology is awarded under similar conditions of the value of £100 for one year (*c*) A Robert Gee Fellowship in Anatomy awarded under similar conditions also of the value of £100 for one year (*d*) An Alexander Fellowship for Research in Pathology of the annual value of £100 renewable (*e*) A Johnston Colonial Fellowship in Pathology and Bacteriology (£100 a year renewable) (*f*) A John W Garrett International Fellowship in Physiology and Pathology (£100 a year renewable) (*g*) An Ethel Boyce Fellowship in Gynæcological Pathology (£100 a year renewable) (*h*) Two Lyon-Jones Scholarships of the value of £21 each for two years are awarded annually—a junior scholarship open at the end of the first year of study to Victoria University students in the subjects of the First M B Examinations, and a senior scholarship, open to all students in the school at the end of the second or third year of study on the subjects of Anatomy Physiology and Therapeutics (*i*) The Derby Exhibition of £15 for one year is awarded in Clinical Medicine and Surgery in alternate years Student may compete in their fourth and fifth years In 1903 the subject will be Clinical Medicine (*j*) The Torr Gold Medal in Anatomy and the George Holt medal in Physiology the Kanthack Medal in Pathology the Robert Gee Book Prize of the value of £5 5*s* for Children s Diseases and numerous Class Prizes are awarded annually

Entrance Scholarships —Four Robert Gee Entrance Scholarships of the value each of £25 for one year are offered annually for competition The holder is required to take out the Science Course for the University Degree in Medicine.

Communications should be addressed to the Dean Professor Paterson, M D University College Liverpool

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Medical Department of Owens College (Victoria University) —This medical school is located in a large building which forms a part of Owens College. It is provided with large dissecting rooms, physiological laboratories, private laboratories, and work rooms, besides lecture-rooms, a museum, and a library In order to give the fullest possible opportunities for teaching and investigation in the departments of Anatomy Physiology Pathology and Materia Medica, a large extension of the school buildings was made in 1895 The greater part of the new buildings is devoted to the departments of physiology, pathology toxicology anatomy and public health The physiological department occupies more than half of the new buildings, and includes a large lecture theatre, accommodating 350 students, with preparation and diagram rooms adjacent to it, and a research laboratory fitted with the necessary apparatus for the use of advanced students, research scholars, or practitioners of medicine undertaking the investigation of some special subject. In the new pathological laboratories ample provision is made for the teaching of pathology and bacteriology and for the prosecution of original research In the toxicological department there is a large laboratory capable of accommodating 50 students, lighted from both sides and also from the roof, completely equipped with all that is necessary for the practical teaching of toxicology also a small laboratory for private research, containing the apparatus and fittings necessary for investigations in toxicological chemistry In the public health department suitable laboratory accommodation is provided for the study of sanitary chemistry physics and practical bacteriology in the departments of chemistry and physics and in that of pathology A large room is provided in the new buildings for a museum of apparatus models plans and other sanitary appliances for the practical instruction of the students, together with a special library of works on State medicine, hygiene, vital statistics and sanitary engineering In addition, a large lecture theatre for general purposes accommodating 250 students, has been provided and the existing accommodation for students is supplemented by the provision of a larger common room The more strictly practical departments of medical study are taught partly in the Medical School and partly in the Royal Infirmary as well as in a fever hospital a lunatic asylum and a convalescent home Medical and Surgical Clinical Classes are conducted in the Infirmary and separate instruction is afforded in the elements of Medical and Surgical Physical Diagnosis, in Obstetric Medicine Ophthalmic Surgery and Pathological Anatomy by the different members of the staff of the Medical School and Infirmary The following entrance scholarships are offered for award to persons of either sex proposing to enter a medical course of study at the College —Seaton —One of £40 tenable for two years Subjects Greek and Latin Translation at sight, and Prose Composition Credit given for knowledge of Mathematics (Geometry and Algebra) Elements of English Language Literature and History; French and German Rogers —One of £40 tenable for two years Subjects as in Seaton Dalton —Two of £60 tenable for two years Subjects Geometry (Euclid I —IV and VI, or the subjects thereof) Algebra (as far as the Binomial Theorem inclusive) Plane Trigonometry (to Solution of Triangles) Elementary Analytical Geometry; Conic Sections. Credit given for knowledge of Classics Elements of English Language, Literature and History French and German Cartwright —£35 per annum, tenable for three years Subjects as in Dalton Hulme —£35, tenable for three years. Subjects English Language (Grammatical Structure and Outlines of its History) English Literature (an essay on some subject of English literature) and Modern History (Outlines of English History and Geography) with at least two of the following Latin (Translation at sight, Grammar and Easy Composition); Greek (ditto) French (ditto) German (ditto) Credit given for knowledge of Mathematics (Geometry and Algebra) Dora Muir —£25 per annum tenable for three years (open to women only) Candidates may select such of the subjects as they desire from amongst those set for the other Entrance Scholarships James Gaskill —£35, tenable for two years Subject

Mathematics, Geometry (the substance of Euclid I —IV and VI), Algebra (as far as the Binomial Theorem, inclusive), Plane Trigonometry (to Solution of Triangles), Elementary Mechanics, Chemistry Credit given for knowledge of Classics, Elements of English Language, Literature, and History, and French and German Manchester Grammar School —£18 per annum, tenable for three years The examinations for all these scholarships are held in the month of May Kay Shuttleworth (Sir James Phillips) —£30 per annum, tenable for three years Subjects Mathematics, Elementary Mechanics, Chemistry Dauntesey Medical Scholarships —Two Scholarships of £35 each are open to all students preparing for a medical course who shall not have attended lectures or Laboratory courses on human anatomy or physiology, or a purely medical or surgical course in the Owens College or any other Medical School in the United Kingdom Candidates will be examined in Zoology, Botany, and Chemistry Medals are awarded on the results of the various class examinations at the end of each session A Platt Physiological Scholarship of £50 a year for two years is offered annually to the competition of persons whether previously students of the College or not. Two Platt Exhibitions, of the value of £15 each, to be competed for by first and second year students in the class of Physiology, and a Sidney Renshaw Exhibition in Physiology of the value of £15 to be competed for by second year students in Physiology A Professor Tom Jones Memorial Exhibition of the value of £25 a Dumville Surgical Prize of £15, a Turner Medical Scholarship of £20, and a John Henry Agnew Scholarship in Diseases of Children of £30 are offered annually for competition A Professor Tom Jones Memorial Scholarship of £100 is awarded triennially, a Bradley Memorial Scholarship in Clinical Surgery of the value of £20 and Medical and Surgical Clinical Prizes, each of the value of 6 guineas, are open to competition each year for the best reports (with comments) of cases which have occurred in the wards of the infirmary *The session commences on Oct 1st*

Manchester Royal Infirmary (292 beds) — Consulting Physicians Drs Frank Renaud and Henry Simpson Consulting Surgeons Messrs Walter Whitehead and James Hardie Physicians Drs J Dreschfeld, Graham Steell, Thomas Harris, and J S Bury Assistant Physicians Drs A T Wilkinson, Ernest S Reynolds, and R T Williamson Consulting Obstetric Physician Dr Lloyd Roberts Gynæcological Surgeon Dr Archibald Donald Surgeons Messrs F A Southam, G A Wright, William Thorburn, and Joseph Collier Assistant Surgeons Messrs J E Platt, W P Montgomery, and J W Smith Consulting Ophthalmic Surgeon Dr D Little Ophthalmic Surgeon Dr Hill Griffith Aural Surgeon Dr William Milligan Consulting Dental Surgeon Mr G W Smith Dental Surgeon Mr W A Hooton Pathological Registrar Dr A E Finney Medical Registrar Dr F C Moore Surgical Registrar Mr E D Telford Director of the Clinical Laboratory Dr W E Fothergill Assistant Director of the Clinical Laboratory Dr C H Melland Administrators of Anæsthetics Mr Alexander Wilson and Mr W J S Bythell Assistant Medical Officer for Out-patients Dr W R Matthews Assistant Surgical Officer for Out patients Mr G A Jelly Medical Officer for Home Patients Dr A C Sturrock. General Superintendent and Secretary Mr W L Saunder The Winter Session commences Oct 1st

The Royal Hospital, Portsmouth (*founded* 1847) — The number of beds is 150 During the year 1901 there were 1334 in patients and 9686 out-patients Physicians Dr C C Claremont and Dr John Phillips Surgeons Dr J Ward Cousins, Dr A Lloyd Owen and Mr Henry Rundle Assistant Physicians Dr D P McEldowney, Dr J Leon, and Dr L Cole Baker Assistant Surgeons Mr C P Childs Mr A B Wright, and Mr J A M Forde House Surgeon Mr N C Beaumont Assistant House Surgeon Mr G W Stone The hospital is a preparatory School of Medicine and Surgery, the attendance of pupils at this Hospital is recognised by the Examining Boards

University College, Sheffield—Department of Medicine.—The department of Medicine is now fully equipped with the most modern appliances in every part in this respect will compare favourably with similar tions elsewhere The Anatomical Department con- in addition to a spacious dissecting room, a large lecture theatre and an excellent museum of dissections, &c The Favell Laboratory of Physiology is elaborately equipped The department consists of a lecture theatre with lantern for demonstration purposes, and the laboratory is fitted with the most recent improvements Each student has his own bench, with gas, water, electric light, and the requisite set of apparatus The Pathology department is at present in a separate temporary building It contains a large museum of pathological specimens, student's laboratory, lecture room with lantern for demonstrations, also bacteriological and pathological laboratories The courses of instruction for the D P H examinations are recognised by the Royal College of Surgeons and Cambridge University The opportunities for clinical work in connexion with the Medical Department are exceptionally good For general clinical material the Royal Infirmary and the Royal Hospital offer unlimited supplies, both medical and surgical The Royal Infirmary contains 240 beds with special Ophthalmic and Dermatological departments The new operating theatre has been recently fitted with all the most modern improvements and is one of the finest in the kingdom The post mortem department has also been recently improved and contains all the requisites for clinical and pathological research The Royal Hospital, which has been entirely rebuilt during the last few years and is planned with all the latest improvements, contains 150 beds and has special ophthalmic wards There are also special out patient departments for diseases of the skin, nose and ear, eye, throat, and mental diseases At both these institutions clinical clerkships and dresserships, casualty and ophthalmic dresserships and post-mortem clerkships, are allotted each three months Clinical lectures are delivered each week during the winter months by members of the staffs, and daily systematic teaching is given in the wards and out-patient rooms at stated times By a joint arrangement students taking out hospital practice are able for the single fee to attend the practice of either or both of the institutions as they choose Fees Perpetual hospital practice £45 in one payment, or £26 on commencing hospital practice, and £22 12 months later For shorter periods the fees are at the rate of £2 2*s* per month Composition fee for lectures and practical courses, £63, or in two instalments £36 15*s* at commencement of medical study and £31 10*s* at the beginning of the second year For practical midwifery and disease of women students attend the Jessop Hospital for Women, which has recently been considerably enlarged and extended, for infectious diseases the City Fever Hospitals, and for mental diseases the South Yorks Asylum Arrangements are also being made for the systematic teaching of anæsthetics in accordance with the new regulations For all these special courses separate fees are required, which are not included in the composition or perpetual hospital fees In connexion with the College there is now a complete dental department, which is fully recognised by the various examining bodies, and students are able to get their full curriculum here The practical work is done at the dental department of the Sheffield Royal Hospital, where, in addition to the fully-equipped out-patient dental rooms, there has recently been added a very complete practical dental mechanical room and laboratory fitted with electric light and every modern convenience Each student has his own bench and fittings provided

Prizes, &c —An entrance scholarship of the value of £110 is awarded annually to the best candidate (if of sufficient merit) in Mathematics, Elementary Physics, Inorganic Chemistry, Latin, and English Prizes for Clinical Medicine and Surgery of 10 guineas are offered by the Clinical Committee Kaye Scholarship (being the interest on £900) for second-year students native of Sheffield is awarded annually under certain regulations Simon prize £10, given annually in pathology Prizes in books and certificates are awarded annually

Jessop Hospital for Women, Gell-street, Sheffield — The hospital is devoted to *Diseases Peculiar to Women* There is also an Obstetric Department for the admission of a small number of cases A staff of midwives connected with the hospital attend lying in women at their own homes, and, in case of need, are assisted by the members of the medical staff Out-patients are attended daily Students can attend the practice of the hospital and be supplied with cases of midwifery Communications should be addressed to the Secretary, York Chambers, York street, Sheffield.

Royal Devon and Exeter Hospital, Exeter —Medical and Surgical Staff Consulting Physician Dr Drake Physicians: Drs H Davy and William Gordon Consulting Surgeons Messrs. A J Cumming T W Caird, and James Bankart Surgeons Messrs J D Harris E. J Domville, Charles E Bell, and A C. Roper House Surgeon Mr P H. Stirk Assistant House Surgeon Mr W Hudson Marsden Junior Assistant House Surgeon Mr Norman E Gibbs The hospital contains 214 beds (including special children s wards) and has a good library museum, dissecting room, and post mortem room Attendance on the practice of this hospital qualifies for all the examining boards Arrangements can be made by which students can attend Midwifery on application to the House Surgeon There is also a Private Nursing Staff attached to the Hospital For *particulars as to fees &c., apply to the Matron* A new wing was added in 1897

West of England Eye Infirmary Exeter —Physician Dr William Gordon. Surgical Staff Messrs Bankart and Tosswill Assistant Surgeon and Registrar Mr Roper Secretary Mr Ernest W Toby The infirmary contains 64 beds Students of the Exeter Hospital can attend the practice of the Eye Infirmary Patients for the year ending Michaelmas, 1901, 2637 Total number of patients since the opening of the Infirmary in 1808, 102,826 Days of admission Mondays, Tuesdays, and Fridays, at 11 A M

Kent and Canterbury General Hospital.—Opened for the reception of patients April 26th, 1793 60 097 in patients and 105 004 out-patients have been admitted since the hospital was opened The hospital contains 104 beds Pupils of the staff are admitted to the practice of the hospital and have the use of the library of the East Kent and Canterbury Medical Society for £7 7*s* Operation day Thursday 11 A.M Physician Dr Henry Alex. Gogarty Consulting Surgeons Mr James Reid and Mr Frank Wacher Surgeons Messrs. T Whitehead Reid, J Greasley Sidney Wacher and Mr Z. Prentice Dentist Mr R S N Faro House Surgeon Mr R N Phillips Assistant House Surgeon Mr W H Duncan Secretary Mr Arthur J Lancaster Over 700 in patients, 2000 out-patients and casualties, and 500 dental cases are attended in a year

Royal Infirmary Liverpool. — The buildings of the *new Royal Infirmary* were completed and occupied as recently as 1890 They stand on the old site, adjacent to the College, but enlarged by the purchase of a fine frontage in Pembroke-place and with the Nurses Home are spread over some four acres of ground. Externally they form a handsome and imposing group of buildings Every available open air space has been taken advantage of to secure good airing grounds for the patients, and the beauty of the buildings has been not a little enhanced by the numerous balconies, colonnades, and flat roofs adapted to the same purpose for both patients and resident staff Internally no point in modern sanitary science has been omitted. There are 295 beds exclusive of the Lock Hospital. The wards—some parallelograms some circular—have walls of glazed bricks and floors of waxed oak blocks laid on an iron and cement substratum Four operating theatres and a clinical lecture theatre have been provided the operating theatres being of the latest pattern and fulfilling all the most modern requirements of surgery There is an electrical room and provision for special kinds of baths The out patient department comprises rooms for the treatment and study of minor medical and surgical maladies, for diseases of the eye, skin, larynx, nose, and teeth, as well as a gynæcological department. There is also a Lock Hospital. A room has been allotted to the clinical tutors, in which bacteriological investigations are made, whilst each physician and surgeon has a private room in connexion with his wards where his clerks and dressers may write up and tabulate cases and investigate morbid products The pathological department which is daily becoming of more importance in medical education, has had much pains expended upon it, so as to give proper facilities for the study of morbid anatomy It is hoped that the facilities for clinical work will be such as not merely to enable the present students to learn the practical parts of their profession thoroughly but to attract students from over crowded institutions where the number of pupils is far in excess of the opportunities for the bedside study of disease There are eight house physicians and surgeons and two casualty officers (one resident) who are selected every six months from amongst the qualified students of the school. In no hospital in the country is the resident staff so *comfortably lodged* Each is provided with a bedroom and a private sitting room in addition to the music-room and dining room where all meet in common, a Students Club Room is also set aside for their exclusive use Dr Bradshaw Secretary of the Medical Board 51, Rodney street. Liverpool.

Staff —Consulting Physicians: Dr Waters, Dr Davidson, and Dr Glynn Physicians Dr Caton, Dr Barr and Dr Bradshaw Assistant Physicians Dr Abram and Dr Buchanan Consulting Surgeons Mr Hakes and Mr Bickersteth. Surgeons Sir W M Banks Mr R. Parker and Mr F T Paul. Gynæcological Surgeon Dr Grimsdale Assistant Surgeons Mr R. A Bickersteth Mr G G Hamilton and Mr W T Thomas Oculist Mr. Bickerton Laryngologist Dr Hunt Dermatologist Dr L Roberts Dental Surgeon Mr Phillips. Pathologist Dr Ernest Glynn. Chloroformists: Mr Fingland and Mr Bailey Lock Department—Surgeon Mr Bernard

Liverpool Royal Southern Hospital.—(Clinical Schools) — Honorary Consulting Physician Dr John Cameron Honorary Consulting Surgeon Mr Robert Hamilton Honorary Physicians: Dr W Carter Dr W Williams, and Dr C J Macalister Honorary Surgeons Mr Wm Alexander Mr Robert Jones and Mr Geo P Newbolt Honorary Consulting Physician for Tropical Diseases Major Ronald Ross Honorary Dermatologist Mr F H Barendt. Honorary Consulting Ophthalmic Surgeon: Mr R. Williams. Honorary Consulting Aural Surgeon Mr C. G Lee. Honorary Consulting Laryngologist: Mr W Permewan Honorary Medical Officer x Rays Department Mr C Thurstan Holland Pathologist Dr Lyn Dimond Honorary Anæsthetists Dr J G Martin and Dr R. Jackson. Honorary Dental Surgeon Mr J Royston. House Surgeon Dr J W Wrightson Junior House Surgeons Dr Macrae Aitken and Dr T R W Armour The hospital is situated within convenient distance of the School of Medicine and contains 200 beds There are special wards for accidents and Diseases of Children and there are also beds appropriated to the Diseases of Women. Clinical teaching is given in the hospital and arrangements have been made to render it both thorough and systematic. The members of the staff visit the wards daily and clinical lectures are given every week *Tutorial classes are also held each day* at which the junior students are instructed in the methods of diagnosis and the seniors are prepared for their final examinations. The pathological department has a good laboratory attached in which the students receive practical instruction Recently a bacteriological laboratory has been added, where students are able to obtain a practical knowledge of bacteriology in relation to medicine In addition to the usual clinical and post-mortem clerkships, which are open to all students, the resident post of Ambulance Officer is awarded every three months to the student whom the board may consider most suited to hold it. A Scholarship of £20 is competed for annually which has attached to it some clinical and pathological duties and three prizes of £5 each are yearly offered for the best series of clinical reports Fees Perpetual £26 5*s*, one year £10 10*s* six months £7 7*s* three months £4 4*s* A limited number of resident pupils can be received. Terms (exclusive of fees for Hospital Practice) £15 15*s* per quarter The practice of the hospital is recognised by all examining bodies. For further particulars apply to the Dean Mr George P Newbolt, 42, Catharine-street, Liverpool.

Liverpool Northern Hospital.—The new hospital, under the title of the David Lewis Northern Hospital is now open *and accommodation provided* for 120 patients Clinical instruction at this hospital is recognised by the English Conjoint Board the Victoria University and other examining bodies. There is a fully-equipped Clinical Laboratory and a special department devoted to the light treatment and x ray work. Instruction is given daily by the physicians and surgeons during the winter and summer sessions. Clinical clerkships and dresserships are open to those who take out the practice of the hospital without additional fees Special arrangements are made for graduates desiring to undertake clinical research. Consulting Surgeon Mr W Macfie Campbell and Mr Chauncey Puzey Physicians Dr T Bushby and Dr W B Warrington Surgeons: Mr Damer Harrisson, Mr R W Murray and Mr Keith Monsarrat. Fees for hospital attendance Perpetual £26 5*s* one year £10 10*s* six months £7 7*s* three months £4 4, Practical Pharmacy £2 2*s* Students can enter to the medical or the surgical practice separately on payment of half the above fees Arrangements can be made for a limited number of resident pupils

Norfolk and Norwich Hospital (220 beds) —Non-resident Pupils admitted Fees For three months, £3 3s , for six months, £5 5s , as permanent pupil, £8 8s Consulting Physicians Sir P Eade, M D , and Sir Frederic Bateman, M D Consulting Surgeons Mr W Cadge and Dr Beverley Physicians Dr Barton, Dr Burton-Fanning, and Dr Long Surgeons Mr Williams, Mr H S Robinson, and Mr S H Burton Assistant Surgeons Mr D D Day and Mr H A. Ballance Dental Surgeon Mr H F White House Surgeon Mr L E Hughes House Physician Mr S G Champion, M D Secretary Mr F G Hazell

Northampton General Infirmary (established 1743 , rebuilt 1793) —The number of beds is 163 Out-pupils are received and have every opportunity of acquiring a practical knowledge of their profession Instruction is also given in Anatomy and Materia Medica and Practical Pharmacy Non resident pupils are taken at a fee of £10 10s

North Staffordshire Infirmary and Eye Hospital Hartshill, Stoke on Trent —The New Infirmary, opened in 1869 is built on the pavilion plan, has accommodation for over 200 patients, including Children's wards, special Ovarian wards, and a special department for the treatment of Diseases of the Eye In patients last year, 2047 , out-patients, 11,791 The attendance of pupils at this infirmary is duly recognised by all the examining boards , and there are unusual facilities for acquiring a practical knowledge of the profession. Physicians Dr A M McAldowie and Dr S King Alcock. Surgeons Dr G Stokes Hatton and Dr Wheeton Hind Assistant Physicians Dr Hubert Nicholls and Mr John Russell. Assistant Surgeons Mr Reginald Alcock and Dr W C Allardice Ophthalmic Surgeon Mr Herbert H Folker Assistant Ophthalmic Surgeon Mr J F Arlidge Dental Surgeon Mr A Baines House Surgeon Mr C A S Ridout. House Physician Mr H Hartley Secretary and House Governor Mr Albert E Boyce, F I.S

Wolverhampton and Staffordshire General Hospital (founded 1845 , beds, 230) —A preparatory school of Medicine and Surgery The pupils have the advantage of seeing the whole of the practice of the physicians and surgeons and are trained in clinical work by the medical and surgical staff The attendance of pupils at this hospital is recognised by all the examining boards

Staff —Consulting Physician Dr W Millington. Consulting Surgeon Mr C A. Newnham Physicians Dr H Malet and Dr C A. MacMunn Surgeons Mr J O'B Kough, Mr W H. T Winter, Mr E Deanesly, and Mr A. H Hunt. Assistant Physician Dr J A. Codd. Assistant Surgeons Mr W F Cholmeley and Mr H Dent

Sussex County Hospital (190 beds) —During the year 1901, 2248 in-patients have been treated. The total number of out-patient attendances on the books during 1901 was 36,852 This hospital affords ample facilities for students, possessing a large out-patient department, a library, and a well appointed museum The hospital does not take resident pupils, but out-pupils may attend the practice of the hospital for any period not exceeding two years on payment in advance of such a fee, not exceeding 20 guineas, as the Committee of Management shall direct.

Staff —Physicians Dr W A. Hollis, Dr E Mackey, and Dr F F G Dill. Assistant Physicians Dr E Hobhouse, Dr E F Maynard, and Dr W Broadbent Consulting Surgeons Mr F A. Humphry and Mr H P Blaker Surgeons Mr W Furner, Mr T J Verrall, and Mr R. F Jowers Assistant Surgeons Mr F J Paley, Mr A. Buck, and Mr T H Ionides

Manchester Children's Hospital, Pendlebury and Gartside street —The hospital contains 168 beds and 24 in the Convalescent Home St Anne's on Sea. The medical staff visit the hospital daily at 10 A M Clinical instruction is given by the medical staff at the Hospital and Dispensary Out-patients are seen daily at 9 A M at the Dispensary, Gartside-street. Manchester Physicians Drs Ashby and Hutton Surgeon Mr W P Montgomery Hon Surgeons Mr G A Wright, Mr Joseph Collier, and Mr J Howson Ray Anæsthetist Mr W J S Bythell Honorary Aural Surgeon Mr F R Westmacott. Honorary Dental Surgeon Mr Barron J Rodway Resident Medical Officers Mr Wrigley and Mr Harper Medical Officer at the Dispensary Mr Tattersall During 1901 there were 1395 in-patients and 15 586 out-patients were under treatment the Dispensary

The Manchester Clinical Hospital for Women and Children Cheetham hill road, Manchester —The hospital is situated near the centre of the town and contains 70 beds Out-patients are seen daily at 9 30 A M and the wards are visited at 11 A M Secretary, Mr H Teague, 38, Barton arcade Manchester

Newcastle on-Tyne Infirmary for Diseases of the Eye —Staff Surgeons Mr A S Percival, M B , M A , and Mr H P Bennett, M B , C M Assistant Surgeon Andrew Messer, M B , B Sc Out-patients annually 4000 Instruction daily 11 to 1.

SCOTLAND

MEDICAL SCHOOLS WITH FULL CURRICULUM [1]

School of Medicine of the Royal Colleges, Edinburgh.—The number of students varies much in the classes and subjects It is within the limit to say that about 1300 students avail themselves each year of the opportunity of attending the school The lectures qualify for the University of Edinburgh and other Universities, the Royal Colleges of Physicians and Surgeons of Edinburgh, London, and Dublin, the Faculty of Physicians and Surgeons of Glasgow, and other Medical and Surgical and Public Boards

The anatomy rooms and laboratories will open on Wednesday, Oct 1st On Tuesday, Oct 14th, the lectures will commence

In accordance with the statutes of the University of Edinburgh one half of the qualifying classes required for graduation may be attended in this school, in addition to the class of Practical Materia Medica and the classes of Clinical Medicine and Clinical Surgery The regulations require that the fee for any class taken for graduation in Edinburgh shall be the same as that for the corresponding class in the University The whole education required for graduation at the University of London may be taken in this school

The appointment of Resident Physician to the wards in the Royal Infirmary under the care of the Ordinary Physicians is open to those members of their clinical class who have clerked in their wards for at least six months Six Residentships are appointed during the year for a period of six months each Resident Surgeons are also appointed by the Ordinary Surgeons to the Hospital In all respects the students are taught under regulations similar to those at the University of Edinburgh and the other Universities of Scotland, and they receive similar certificates at the close of each session Moreover, the University and College authorities in Edinburgh and the governing board of the school call upon each recognised lecturer to supply them at the close of each session with a statement giving the number of students attending the class, the number of lectures or prelections delivered during the session, the class examinations held, and the general mode of conducting the class The courses on special non qualifying subjects have for the last quarter of a century formed a marked feature of the school. Indeed, such medical subjects could be studied in Edinburgh only in this school until lately, when the University of Edinburgh appointed from the school lecturers on Diseases of the Eye, Insanity, and Diseases of Children to take charge of classes intra murally A list of the classes and lecturers will be found below Special courses of instruction for dental students and for women are also included in the curriculum of this school The classes of the school are conducted in several separate buildings, such as at Surgeons' Hall, Minto House, Nicolson square, and the New School, Bristo-street

Lecturers and fees —Winter Session Anatomy, Practical Anatomy and Demonstrations, Drs Ryland Whitaker and R J A Berry (£3 5s and £4 4s), Chemistry (Practical, &c), Mr King Mr Gemmell, and Mr Kerr *, Physiology (Institutes of Medicine), Dr Noël Paton (£3 5s), General Pathology &c , Drs Bruce, Russell, Shennan, and Stuart McDonald (£3 5s) , Biology, Mr A T Masterman and Miss Newbigin , Zoology, Mr Masterman and Miss Newbigin , Bacteriology, Dr Taylor Grant , Practice of Physic, Drs James Affleck, Bramwell, Gibson, Philip, Graham Brown, R A Fleming, and G Lovell Gulland (£3 5s), Surgery, Messrs Caird, Hodsdon, Thomson, Wallace, and Miles (£3 5s), Materia Medica, &c , Drs Craig † and W Wood (£3 5s) , Midwifery, &c , Drs Hart,

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[1] For Scholarships see p. 639 et seq

Murray, and Haultain (£3 5s), Medical Jurisprudence, &c., Dr Littlejohn and Dr Aitchison Robertson (£3 5s), Public Health, Dr Aitchison Robertson and Dr C J Lewis, Natural Philosophy Dr Turner (£3 5s), Hospital Practice (Edinburgh Royal Infirmary) Physicians, Drs Affleck, Smart, James, and Croom Surgeons Drs. Maclaren and MacGillivray Mr Cotterill and Mr Caird (perpetual ticket, £12 12s), Clinical Medicine, Drs. Affleck, Smart James, Byrom Bramwell, and Croom (Diseases of Women) (£3 5s); Clinical Surgery Dr Maclaren Dr Macgillivray Mr Cotterill and Mr Cathcart (£3 5s), Diseases of the Skin, Dr Stirling† (£2 2s), Diseases of the Chest, Dr Philip† (£2 2s) Vaccination Drs Buist† and Cadell (£1 1s) Diseases of Ear Nose, and Throat Dr Logan Turner (£2 2s) Diseases of the Eye, Dr G Mackay† and Dr Sym† (£2 2s), Gynæcology Drs Croom (Systematic) Brewis (Clinical), and Berry Hart (Advanced) (£2 2s), Summer Session Practical Anatomy and Demonstrations Drs. Ryland Whitaker and R J A. Berry (£2 2s), Practical Physiology Dr Paton (£3 3s) Biology Mr Masterman‡ and Miss Newbigin (£3 3s) Practical Chemistry and Analytical Chemistry Messrs King, Gemmell and Drinkwater§, Practical Bacteriology Dr Shennan and Dr Taylor Grant Diseases of the Eye, Dr Mackay‡ (£2 2s), Diseases of the Skin, Dr Stirling (£2 2s) Medical Psychology and Insanity Sir J Batty Tuke and Dr Robertson (£2 2s), Medical Jurisprudence Drs Littlejohn and Aitchison Robertson Gynæcology Drs. Brewis and Haultain (£2 2s) Midwifery Drs Croom, Hart, Barbour and Ferguson (£3 5s) Operative Surgery Messrs Caird, Hodsdon, Alexis Thomson and David Wallace (£3 3s) Practical Pathology Drs Bruce, Russell, and Shennan (£3 3s) Physics Dr Turner‡ (£3 3s) Practical Medicine and Physical Diagnosis, Drs James, Gibson, Philip, *Fleming* and *Lovell Gulland* (£3 3s) Practice of Medicine, Drs Bramwell Gibson, and Philip (£3 3s) Medical Electricity &c Dr Turner (£2 2s) Diseases of the Circulation Dr Gibson (£2 2s) Diseases of the Blood Dr Lovell Gulland Neurology Dr Bruce Diseases of the Nervous System Dr Graham Brown Practical Bacteriology Dr Shennan and Dr Taylor Grant

Special Classes for Women, Winter Session Practical Anatomy and Demonstrations, Dr Ryland Whitaker (£4 4s) Chemistry (Lectures and Practical), Mr J Kerr (£3 5s and £3 3s.) Practice of Physic, Drs Philip and Graham Brown (£3 5s) Surgery Mr Thomson and Mr McLaren (£3 5s), General Pathology Dr Russell (£3 5s) Physiology (Institutes of Medicine) Dr Noel Paton (£3 5s) Practical Pathology Dr Bruce &c. (£3 5s) Materia Medica, &c. Dr Craig (£3 5s), Clinical Medicine, Dr Bramwell, Royal Infirmary (£3 5s) Clinical Surgery Royal Infirmary (£3 5s) Physics, Dr Dawson Turner (£3 3s) Biology Miss Newbigin (£3 3s), Vaccination, Mr Cadell (£1 1s) Practical Gynæcology Dr Brewis (£2 2s) Summer Session Practical Anatomy Dr Ryland Whitaker (£2 2s) Practical Chemistry Mr J Kerr (£3 3s), Materia Medica, &c., Dr Craig (£3 3s) Operative Surgery and Surgical Anatomy Mr Alexis Thomson (£3 3s) Materia Medica and Therapeutics vacant (£3 3s) Midwifery and Diseases of Women Dr R Milne Murray (£3 5s) Medical Jurisprudence and Public Health, Dr Harvey Littlejohn (£3 5s) Clinical Medicine and Clinical Surgery Royal Infirmary (£3 5s) Practical Physiology and Histology Dr Paton (£3 3s) Practical Pathology Dr Russell (£3 3s) Biology Miss Newbigin (£3 3s) Physics, Dr Dawson Turner (£3 3s.) Ophthalmology Dr Mackay (£2 2s) Insanity Sir J Batty Tuke (£2 2s) Practical Gynæcology Dr Brewis (£2 2s)

The minimum cost of the education in this School of Medicine for the Triple Qualification of Physician and Surgeon from the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow including the fees for the Joint Examinations is about £115 payment of which is distributed over the period of study

Further particulars regarding the School also the calendar may be had on application to Mr R Y Ramsay, Secretary 24 Forrest road Edinburgh

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Lectures £3 5s; Practical, £3 3s; Analytical £2 a month, or £5 for three months † Also in Summer Session. ‡ Also in Winter Session. § Practical, £3 3s; Analytical £2 a month or £5 for three months.

N.B.—Where two or more lecturers appear as teaching the same subjects their lectures are not conjoined but each gives an independent course.

ANDERSON'S COLLEGE MEDICAL SCHOOL, Glasgow —This medical school was founded in the year 1800 It has given thirteen professors to the University of Glasgow The following courses are given which qualify for all the licensing boards and for the Universities of London, Durham, Ireland, Edinburgh, and Glasgow (the latter two under certain conditions) —In winter Anatomy Professor A. M Buchanan, M A., M D, Chemistry Professor J Robertson Watson, M A, Physics, Professor Peter Bennett, Botany, Professor B G Cormack M A B Sc. Zoology Professor Geo Bell Todd, M B, Physiology (vacant), Surgery Professor T Kennedy Dalziel, M B Practice of Medicine Professor R. S Thomson M D D Sc Diseases of Women, Professor John Edgar M A., B Sc. M D Materia Medica, Professor R. Barclay Ness M A M B Ophthalmic Medicine and Surgery T Spence Meighan, M D Aural Surgery J Galbraith Connal M B, Diseases of Throat and Nose John Macintyre M B In summer Anatomy, Practical Anatomy and Osteology Practical Chemistry Physics, Zoology Practical Materia Medica and Pharmacy Practical Physiology Operative Surgery Botany Ophthalmic Medicine and Surgery also Medical Jurisprudence (Professor Carstairs Douglas, B Sc M D) and Mental Diseases (Dr Carswell) and Aural Surgery The Chemical Laboratory is open daily from 10 to 6 The Dissecting room is open in winter from 9 A M to 6 P M and in summer from 6 A M to 6 P M The students are assisted in their dissections by the Professor and Demonstrators, by whom frequent examinations and demonstrations on the parts dissected are conducted The supply of subjects for dissection is ample, and students are consequently provided with parts as soon as they may be ready for them The Dissecting room is provided with a complete series of dissected specimens *mounted in plaster of Paris*, illustrating the anatomy of the human body Candidates for the Licence in Dental Surgery can obtain the full medical curriculum in Anatomy Chemistry Physiology Surgery Practice of Medicine and Materia Medica The courses special to Dentistry are conducted at the Glasgow Dental Hospital and School

The new buildings are situated in Dumbarton road immediately to the west of the entrance to the Western Infirmary within two minutes walk of it, and four minutes walk of the University Extensive accommodation is provided for Practical Anatomy Practical Chemistry Practical Physiology Practical Pharmacy and Operative Surgery There are also provided a large library and reading room and a students recreation room.

Fees—For each course of Lectures (Anatomy Ophthalmic Medicine and Surgery Aural Surgery Diseases of Throat and Nose and Mental Diseases excepted) first session, £2 2s second session (in Anderson's College), £1 1s, afterwards free For Practical Classes (except Anatomy)—viz. Chemistry Botany Zoology Physiology Pharmacy and Operative Surgery—first session £2 2s second session £2 2s Reduced joint fees in Zoology and in Botany for Lectures and Practical Class when taken in same summer session £3 3s for either course separately £2 2s Anatomy Class Fees: Winter first session (including Practical Anatomy) £4 4s second session (including Practical Anatomy) £4 4s; third session £2 2s To those who have had the necessary courses of Practical Anatomy the fee will be £1 1s Summer Lectures and Practical Anatomy £2 12s 6d Lectures alone £1 11s 6d Practical Anatomy alone, £1 1s Osteology and Practical Anatomy £2 12s 6d Osteology alone £1 11s 6d Students who have attended classes at other schools and who desire to pursue their studies at Anderson's College Medical School, will be admitted to such classes as they may have attended elsewhere at the reduced *fees* Ophthalmic Medicine and Surgery (including Hospital Practice) Aural Surgery Diseases of Throat and Nose and Mental Diseases £1 1s each course Matriculation Fees Winter 10s to those taking out two or more classes 5s. to those taking out only one class The fee of 10s represents a combined fee for the winter and summer session Summer 5s except to those who have paid a fee of 10s for the Winter Session

Western Infirmary—Fees For Hospital Attendance first year £10 10s. afterwards free For each Clinical Class in winter £3 3s in summer £2 2s After three such annual payments of £5 5s the fee for each Clinical Class will be £1 1s Pathology first course £3 2s second course £2 2s Vaccination fee £1 1s

Royal Infirmary —Fees Hospital Practice and Clinical Instruction, first year, £10 10*s* , second year, £10 10*s* , afterwards free Six months £6 6*s* , three months, £4 4*s* , Pathology, both courses, £4 4*s* Vaccination Fee, £1 1*s*

Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fee

Eye Infirmary —Fee Hospital Practice and Clinical Instruction, including Lectures at the college, six months, £1 1*s*

Maternity Hospital —Fee for six months, £2 2*s*

Fever Hospital —Fee, £1 1*s*

Hospital for Skin Diseases —Fee, £1 1*s*

Certificates of attendance on the lectures at Anderson's College Medical School are received by the Universities of London, Durham, Ireland, Edinburgh, and Glasgow (the latter two under certain conditions) , by the Royal Colleges of Physicians of London and Edinburgh , by the Royal Colleges of Surgeons, England, Edinburgh, and Ireland , by the Royal College of Physicians of Ireland , by the Faculty of Physicians and Surgeons of Glasgow , by the Society of Apothecaries, London , and by the Army, Navy, and East India Boards. Communications relating to the Medical School to be addressed to the Secretary of the Medical Faculty, Anderson's College Medical School, Dumbarton-road, Partick, Glasgow Communications relating to the Preliminary Examination in General Education to be addressed to Mr Alexander Mackay, LL D , Educational Institute Office, 40, Princes street, Edinburgh Communications relating to the Triple Qualification to be addressed to Mr Alexander Duncan, LL D , Faculty Hall, 242, St Vincent-street, Glasgow Communications relating to the Dental School to be addressed to Mr D M Alexander, 97, West Regent-street, Glasgow

The Kerr Bursary in Anatomy (value about £10) is open to students of the Junior Anatomy Class during Winter Session 1902-1903

ST MUNGO'S COLLEGE AND GLASGOW ROYAL INFIRMARY —This College was incorporated in 1889 The Glasgow Royal Infirmary was founded in 1791 The Faculty of Medicine of the College occupies new buildings erected for the purposes of a medical school, adjoining and communicating with the Royal Infirmary The Laboratories, Museums, and Lecture-rooms are equipped and adapted to modern scientific requirements Recent additions consist of Public Health, Practical Zoology, and Bacteriological Laboratories The Royal Infirmary, which is at the service of the College for the purpose of clinical and practical instruction, is one of the largest general and special hospitals in the kingdom It has nearly 600 beds, and will almost immediately have considerably over 600 It has special wards for Diseases Peculiar to Women, for Venereal Diseases, Erysipelas, Burns, and Diseases of the Throat and Nose At the Dispensary special advice and treatment are given in diseases of the Eye, Ear, Teeth, and Skin, Women, Throat and Nose, in addition to the large and varied number of ordinary medical and surgical cases—over 46 000 per annum—which in a great industrial centre daily require attention. Students of the College and Hospital get the benefit of dispensary experience free of charge. All appointments are open. There are five Physicians' and seven Surgeons' Assistants, who board in the hospital free of charge and act in the capacity of House Physicians and House Surgeons These appointments are made for six months and are open to gentlemen who have a legal qualification in Medicine or Surgery, and preference is given to the students of this College and Hospital Clerks and Dressers are appointed by the Physicians and Surgeons From the large number of cases of acute disease and accidents of varied character received into this hospital these appointments are very valuable In the Pathological Department assistants are also appointed The session will open with an address on Oct 16th at the College buildings

Ophthalmic Department —The Ophthalmic Institution in West Regent-street having been amalgamated with the Royal Infirmary the usefulness of this department is very much increased, and greater opportunities are afforded to students for the practical study of Diseases of the Eye Dr Ramsay, the ophthalmic surgeon, attends the Royal Infirmary every Monday, Wednesday, and Friday at 12 noon, and daily at the Institution in West Regent-street from 1 to 2 o'clock Students can attend both without payment of any additional fee Lectures are delivered twice a week during the winter session Fee for the course, £2 2*s*

Electrical Department —The new pavilion has been fully equipped with the most modern apparatus for the diagnosis and treatment of medical and surgical cases Consulting Medical Electrician John Macintyre, M B , F R S E Medical Electrician James Riddell, L R C P , &c Patients are seen from 9 to 11 A M daily

Psychological Medicine —Practical instruction is given in Woodilee Asylum, situated within a short distance of Glasgow and having accommodation for 850 patients Six resident clinical clerks are appointed annually These clerkships are open to students attending St Mungo's College

Clinical Instruction in Fevers —This class is conducted by Dr Johnston, Superintendent, at the city of Glasgow Fever Hospital, Ruchill, which has accommodation for 528 patients

The fee for each class is £2 2*s* , except for Anatomy, Winter Session, which is £4 4*s* , Pathology £4 4*s* , Zoology £4 4*s* , Botany £3 3*s* , Practical Physiology £3 3*s* , and for Physics, which is £2 4*s* 6d , and certain extra classes, for which the fee is £1 1*s* The hospital fee (including clinical lectures) is £21 for a perpetual ticket The classes in St Mungo's College and in the Glasgow Royal Infirmary are for male students exclusively The fees for all the lectures, including hospital attendance, necessary for candidates for the Diplomas of the English or Scotch Colleges of Physicians and Surgeons amount to £72 Further particulars can be obtained from a syllabus which can be obtained free on application to the Dean, 86, Castle-street, Glasgow

GLASGOW WESTERN MEDICAL SCHOOL —This School is situated in University-avenue, close to the University and Western Infirmary Lectures and Demonstrations are given on Chemistry, on Physics, on Zoology, on Anatomy, on Surgery, on Physiology, on Midwifery and Gynæcology, on Pathology, on Medicine, and on the Eye

Class Fees —For each course of Lectures the fee is £2 2*s* , or in some cases £1 1*s* There is no matriculation fee

QUEEN MARGARET COLLEGE, University of Glasgow — Queen Margaret College was founded in 1883 by the Glasgow Association for the Higher Education of Women (instituted in 1877), and handsome buildings and grounds near the University were presented to the College in 1884 by Mrs John Elder In 1890 a School of Medicine for women was added to its Arts Faculty In 1892, when the Universities Commissioners issued an ordinance empowering the Scottish University Courts to make provision for the instruction of women, the Council of the College and Mrs Elder transferred to the University the College, its buildings, grounds, and endowments, on condition that these should be devoted to the maintenance of University classes for women only The College then became the women's department of the University of Glasgow , its classes are taught by professors of the University and other lecturers appointed by the University Court, and it is governed by the University Court and Senate. The curriculum, regulations, and fees are the same as those of the male students, and the University degrees are open to women on the same conditions as to men They have access to the University Museum and can borrow books from the University Library, besides having a library of reference in Queen Margaret College The number of students enrolled in session 1901-1902 was 348, of whom 69 were studying medicine and the rest arts or science The School of Medicine is a special feature of the College and gives full preparation for the medical degrees of the University In July, 1894 for the first time in the history of any Scottish university, women students graduated in medicine at the "capping" in Glasgow University 70 women have now taken the degree of M B , C M or M B , Ch B of the University of Glasgow Excellent facilities for clinical work are given in the Royal Infirmary and other hospitals By a gift of £5000 granted for the purpose by the Bellahouston Trust the University Court was enabled to add to the College a large building for the study of Anatomy and Physiology, which was opened in October, 1895 The Arthur Scholarship is open every third year to students of first year , other Bursaries are open in Arts and Medicine , and by an ordinance of the Universities Commissioners women are admitted to certain University bursaries, scholarships, and fellowships A house of residence for the students of the College coming from a distance was opened by the Queen Margaret Hall Co , Limited, in October of 1894

UNIVERSITY COLLEGE, Dundee —This College is one of the constituent colleges of the University of St Andrews. The complete medical curriculum can be taken in Dundee For classes fees &c see under University of St Andrews.

ROYAL INFIRMARY Dundee —The Infirmary contains 300 beds, including special wards for the *Diseases of Women*, Children, Eye, Ear and Throat, and Lock cases There is also a Maternity-Department, in and out-door There were during last year 12 269 *out-patients* and 6723 home patients The Royal Infirmary offers exceptional facilities for practical work to students Appointments Four qualified Resident Medical Assistants are appointed every six months Clinical Clerks and Dressers are attached to the Physicians and Surgeons, and students are appointed as assistants in the Pathological Department. There are in *connexion with the clinical courses Tutorial Classes* in Medicine and Surgery Instruction is also given in Practical Pharmacy and Materia Medica and in Practical Dentistry Full information can be obtained from Dr Fraser Medical Superintendent

ROYAL ASYLUM Dundee —Lectures on Mental Diseases and clinical instruction in connexion with University College Dundee (University of St. Andrews) are given at the University College and at the Royal Asylum by Dr Rorie. There are two paid qualified Resident Assistants and two unpaid Resident *Clinical Assistants* The last Summer Session began on April 23rd 1902, and the course consisted of 12 Lectures at University College and 14 Clinical Lectures and Demonstrations at the Royal Asylum Present Medical Assistants Wm Tuach M B., Ch B and W L G Anderson M B Ch B Clinical Assistant [Vacant.] The next session will begin on April 22nd 1903

ABERDEEN ROYAL LUNATIC ASYLUM —Contains with hospital attached to main institution and Agricultural Branch, about 950 beds. Medical Superintendent Dr William Reid Assistant Physicians Dr H de M Alexander Dr Alexander Watt and Mr Reg A. Forster Clerk Treasurer and Factor Mr J B Findlay Clinical instruction is given to students during three months in summer

ABERDEEN ROYAL INFIRMARY — Contains 240 beds Consulting Physician Dr P Blaikie Smith Physicians Dr Angus Fraser Professor Finlay and Dr George M Edmond Assistant Physicians Drs John Gordon, A. H Lister, and Ashley W Mackintosh Consulting Surgeons Professor Alexander Ogston Drs J C. O Will and R J Garden Surgeons Drs J McK Booth J S. Riddell and John Marnoch Assistant Surgeons Drs W Sinclair, H M W Gray and John W Milne. Ophthalmic Surgeon Dr C. H. Usher Gynæcologist Professor W Stephenson Pathologist Professor David James Hamilton Assistant Pathologist Dr G M Duncan Dental Surgeon Dr J M P Crombie Anæsthetist Dr J J Y Dalgarno Assistant ditto: Dr W R Pirie Medical Electrician Dr J R Levack Clinical Registrar and Lecturer on *Diseases of the Skin* Dr J F Christie Medical Superintendent Dr Charles Angus Clerk and Treasurer and Factor for the Hospital Lands Mr John B Findlay

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HOSPITALS AFFORDING FACILITIES FOR CLINICAL OBSERVATION

ROYAL INFIRMARY Edinburgh —Beds are set apart for clinical instruction by the professors of the University of Edinburgh Courses of Clinical Medicine and Surgery are also given by the ordinary physicians and surgeons. Special instruction is given in the medical department on Diseases of Women, Physical Diagnosis, and on Diseases of the Skin and in the surgical department on Diseases of the Eye the Ear the Larynx, and the Teeth Separate wards are devoted to Venereal Diseases, Diseases of Women, Diseases of the Eye, the Ear and the Skin, and also to cases of Incidental Delirium or Insanity Three wards are specially set apart for Clinical Instruction to Women Students Post mortem examinations are conducted in the anatomical *theatre by the pathologist and his assistants*, who also give practical instruction in Pathological Anatomy and Histology The *fees* for hospital attendance are as follows—viz Perpetual ticket in one payment, £12 annual ticket, £6 6*s* six months, £4 4*s* three months, £2 2*s* monthly £1 1*s* Separate payments amounting to £12 12*s* entitle the student to a perpetual ticket No fees are paid for any medical or surgical appointment The appointments are as follows —1 Resident physicians and surgeons are appointed and live in the house free of charge The appointment is for six months but may be renewed at the end of that *period by special* recommendation 2 Non resident house physicians and surgeons and clinical assistants are appointed *for six months* The appointment *may be renewed for a like period by special* recommendation 3. Clerks and *dressers* are appointed by the physicians and surgeons These appointments are open to all students and junior practitioners holding hospital tickets 4 Assistants in the Pathological Department are appointed by the pathologist

Staff Medical Department —Consulting Physicians Dr George W Balfour Dr Claud Muirhead and *Dr J O Affleck* Consulting Gynæcologist Dr J Halliday Croom Professors of Clinical Medicine *Dr T R Fraser, Dr W S Greenfield* and *Dr John Wyllie. Ordinary Physicians* and *Lecturers* on Clinical Medicine Dr Andrew Smart Dr *Alex James* Dr Byrom Bramwell and *Dr* Geo Gibson Gynæcologists Professor A R. Simpson and *Dr D Berry Hart*. Physician for Diseases of the Skin Dr Allan Jamieson Medical Electrician Dr Dawson Turner Assistant Physicians Dr Alex Bruce Dr R. W Philip *Dr William* Russell Dr Murdoch Brown Dr G Lovell Gulland Dr J J Graham Brown Dr Francis D Boyd and Dr A. Fleming Assistant Gynæcologists Dr A H. F Barbour Dr Milne Murray and Mr N T *Brewis* Assistant *Physician* for Diseases of the Skin Dr Norman Walker Assistant Medical Electrician Dr Hope Fowler Medical Registrar Dr A Lockhart Gillespie

Surgical Department —Consulting Surgeons Dr P H Watson Mr Joseph Bell Mr A G Miller and *Dr* P H Maclaren Consulting Dental Surgeon Dr John Smith. Consulting Ophthalmic Surgeon Dr Argyll Robertson Regius Professor of Clinical Surgery Mr Annandale Professor of Surgery Mr Chiene Ordinary Surgeons Dr C W MacGillivray Mr J M *Cotterill* and Mr C W Cathcart Ophthalmic Surgeons Mr George A. Berry and Dr George Mackay Surgeon to Ear and Throat Department Dr P MacBride Assistant Surgeons Mr F M Caird Mr Hodsdon Mr D Wallace Mr Alexis Thomson Mr Alexander Miles and Mr J W Dowden Assistant Ophthalmic Surgeons Dr William George Sym and Dr J V Paterson Assistant Surgeon to the Ear and Throat Department Dr R. M'Kenzie Johnston Dental Surgeon Mr William Guy Pathologist Dr Theodore Shennan Assistant *Pathologists Dr Stuart M'Donald* and *Dr* J M Beattie Surgical Registrar Dr Scott Carmichael Superintendent Colonel W P Warburton I M S (retired) M D C S I

ROYAL HOSPITAL FOR SICK CHILDREN Sciennes road Edinburgh *—This hospital, which has been recently built contains 120 beds and is fitted with every modern improvement A fully equipped out patient department (medical and surgical) is conducted daily in a building adjoining the hospital Systematic courses of instruction which qualify *for graduation in the Edinburgh University* and elsewhere are given from time to time through at the year by the staff. Students may enter at any time Full particulars can be obtained *from* the Registrar at the hospital

EYE EAR, AND THROAT INFIRMARY OF EDINBURGH 6 Cambridge-street, Lothian road —The Infirmary has been entirely re arranged and greatly improved by recent structural alterations and the electric light introduced also the electric power is used for illumination and cauterising purposes in all departments Clinical Lectures and Instruction are given in this institution, which is open at 1 o clock daily for outdoor patients for Eye Diseases Mondays Thursdays and Saturdays at 12 noon and Tuesdays and Fridays at 4 P M. for outdoor Ear Nose and Throat Patients Special Practical Ophthalmoscopic Classes by arrangement Patients whose diseases require operations or more than ordinary care are accommodated in the house Consulting Surgeon Dr Joseph Bell Surgeons Dr G Hunter Mackenzie, Dr William George Sym, Dr Logan Turner Dr Malcolm Farquharson Dr John Cumming and Dr J V Paterson Dental Surgeon Mr G W Watson Treasurer and Secretary Mr J P Watson, W S 13, Hill street

GLASGOW WESTERN INFIRMARY —This hospital adjoins the University of Glasgow Number of beds upwards of 420 Special wards are set apart for Diseases of Women and for Affections of the Skin. In the out patient department there are special clinics for Diseases of Women and for

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* No return

Diseases of the Throat, Ear, and Teeth The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students require to enter their names at the beginning of the session for the class which they propose to attend. Special instruction is given to junior students by tutors or assistants, and clinical clerks and dressers are selected from the members of the class All the courses of clinical instruction are recognised by the University of Glasgow and the other boards in the kingdom In the Pathological Department the course is both systematic and practical, also post-graduate courses, and extends through the winter and following summer, these are likewise recognised by the University for graduation Ten resident assistants are appointed annually, without salary, from those who have completed their course The fee for the hospital practice, including the various courses of clinical instruction, is 20 guineas in one payment, or in two equal instalments for the first and second year, for six months, 7 guineas, and for three months, 4 guineas

Staff —Honorary Consulting Physicians Dr G P Tennant and Sir W T Gairdner, K.C B Visiting Physicians Professor T McCall Anderson, Dr J Finlayson, Dr S Gemmell, and Dr R. Stockman Physicians for Diseases of Women Professor M. Cameron and Dr W L. Reid Assistant Physicians Dr J Alexander, Dr W G Dun, Dr R S Thomson, and Dr R B Ness Dispensary Physicians Dr W R Jack, Dr H. E Jones, Dr Hugh Galt Dr Jas Carslaw, Dr John M Cowan, and Dr Alfred Webster Dispensary Physicians for Diseases of Women Dr R. Kirk, Dr J M M. Kerr, and Dr E H L Oliphant Honorary Consulting Ophthalmic Surgeon Dr T Reid Honorary Consulting Surgeon Dr Geo Buchanan Visiting Surgeons Professor Sir Hector C Cameron, Professor Sir W Macewen, Professor J C Renton, Dr G T Beatson, C B, and Dr T K. Dalziel Assistant Surgeons Dr J H. Nicoll, Dr D Macartney, Dr R Kennedy, Dr A. A Young, and Dr G B Buchanan Dispensary Surgeons Dr J Morton, Dr G H. Edington, and Dr F Macrae Extra Dispensary Physicians Dr John S M'Kendrick, Dr Robt Fullerton, and Dr I Campbell M'Clure Dispensary Aural Surgeon Dr T Barr Dispensary Throat Surgeon Dr J W Downie Vaccinator Dr J W Nicol Pathologist Professor R. Muir Assistant Pathologist A R Ferguson Dental Surgeon W D Woodburn Medical Superintendent Dr D J Mackintosh Visiting Surgeons Professor Sir Hector C Cameron, Professor Sir W Macewen, Dr J C Renton, Dr G T Beatson, C B, and Dr T Kennedy Dalziel Dispensary Surgeons Dr J Morton, Dr G H Edington, and Dr Farquhar Macrae

Royal Hospital for Sick Children, Glasgow, situated at Garnethill —This Hospital was opened in December 1882, and is now available to medical students for clinical instruction in the diseases peculiar to childhood The hospital includes 80 beds for non infectious cases only A specially designed Dispensary, or Out-patient Department was opened in October, 1888. Classes are formed both at Hospital and Dispensary at the beginning of the University session in October Students may be enrolled at any time Fee £1 1s per annum, admitting to both Hospital and Dispensary Particulars on applying to the House Surgeon, 45, Scott-street, Garnethill, Glasgow

Glasgow Ophthalmic Institution, 126, West Regent street (31 beds and four cots) —Clinical and systematic course of lectures for students during the winter and summer sessions In patients, 832, out- or dispensary patients, 4036 Operations on Wednesdays and Saturdays Honorary Consulting Surgeon D N Knox, M B, C M, F F P S G Surgeon A Maitland Ramsay, M D Assistant Surgeon John Rowan, M B, C M Junior Assistant Surgeons Hugh Walker, M B, C M, H Wright Thomson, M B, C M, and John Gilchrist, M B, C M Pathologist Hugh Walker, M B, C M Electrician John Gilchrist, M B, C M House Surgeons Peter McFadyen, M B, Ch B This institution is the Ophthalmic Department of the Royal Infirmary A post graduate course is given by Dr Ramsay and assistants during November and December Clinical instruction is given in the summer session to students of Queen Margaret College and in winter to students of St Mungo's College and to all who take the class

Glasgow Eye Infirmary, Berkeley street and Charlotte-street.—This institution, the largest of its kind in Scotland was founded in 1824 The Infirmary now consists of two large buildings—that in Berkeley street being occupied as the Infirmary proper, and that in Charlotte-street (new buildings opened June, 1894) as a dispensary The Infirmary is devoted exclusively to the treatment of Diseases of the Eye, and is intended primarily to provide treatment, and, when necessary, board and lodging, for those who are unable to do so for themselves The average number of new patients for the last ten years has been 16,855 3, and the total number of cases treated in 1901 was 21 549 The Medical Staff is as follows —Surgeons Thomas S Meighan, M D, A Freeland Fergus, M D Andrew Wilson, M B C M, James Hinshelwood, M A, M D, Leslie Buchanan, M D, W Ernest Thomson, M A, M D, Assistant Surgeons A Lewis M'Millan, M D, Henry L G Leask, M D, W Cochrane Murray, M.B, C M, Brownlow Riddell, M D, James D Cochran, M B, Ch B, Arthur J Ballantyne, M B, Ch B Pathologist Leslie Buchanan, M D House Surgeon W B Inglis Pollock M B Ch B Assistant House Surgeon John Strathern, M B, Ch B

Regulations as to Attendance of Students —(1) Gentlemen may attend as students on payment to the treasurer of the following fees —For six months £1 1s, twelve months £2 2s (2) All students when duly entered in the Infirmary Register may attend the clinical instruction of any or every member of the medical staff on production of their tickets The days on which the surgeons respectively attend to receive patients may be ascertained at the Infirmary Students have the privilege of being present in the Dispensaries at such hours as are arranged They may enter the wards along with the surgeon whose clinique they are attending when he visits his patients They may also be present at operations under the sanction of the surgeon operating, but no student may enter the wards or operating-room except under the aforesaid regulation Students may be allowed the use of the journals and case-books for examination on applying to the House Surgeon The wards and dispensary are recognised by the University of Glasgow for the purpose of instruction in ophthalmology for graduation in medicine Secretary and acting Treasurer William George Black, 88, West Regent-street Medical session begins in April

IRISH SCHOOLS OF MEDICINE[1]

Royal College of Surgeons in Ireland —See p 627

Queen's College School of Medicine, Belfast —Ten Junior Scholarships have been founded in the Faculty of Medicine of the annual value of £20 each Two are tenable by matriculated students, of the first, second, third, fourth, and fifth years of their course respectively The examinations for Scholarships take place at the commencement of the session Class Prizes are awarded at examinations which take place at the close of the session. The Exhibitions, &c, of the Royal University of Ireland are also open to students Lectures in Medicine at Queen's College, Belfast will commence on Oct 21st and end on March 22nd The Summer Medical Classes will begin on May 4th, except Botany, which begins on April 1st The new Chemical Buildings contain, in addition to a large class room for elementary practical chemistry, laboratories for qualitative and quantitative analysis, rooms for water and gas analysis, dark room for photographic purposes, balance room, &c, provided with all modern appliances Special facilities are given to those who wish to pursue original research The Anatomical Department contains a large and well lighted dissecting room, a lecture room, a professor's and demonstrator's room, a bone room, and a laboratory for microscopic and photographic work The medical museum is in the same building The physiological department (opened in 1896) comprises (1) a large and well-lighted class room for practical physiology and histology, fitted with motor and shafting, and with arrangements for lantern projection, (2) a laboratory for chemical physiology, (3) an apparatus room, (4) a dark room, (5) private research rooms, and (6) a centrifuge room The pathological laboratory —In this department opportunity is afforded for research in pathology and bacteriology The department is in touch with most of the hospitals in Belfast, and there is an ample supply of material for investigation by graduates in morbid histology, clinical pathology, and the bacteriology of infectious diseases A course in pathology or bacteriology is given to graduates and members of this class have an opportunity of seeing the methods employed in the various investigations carried out in the department for the Public Health Committee of the corporation in connexion with water supply, sewage disposal, meat- and milk supply, the diagnosis of cases of infectious diseases &c The certificate issued to members of the class in bacteriology qualifies for the D P H degree The pharmaceutical laboratory is fitted and equipped for the work of practically instructing students in the compounding and dispensing of medicines Clinical instruction is given at the Royal Hospital the medical staff of which is as follows —Physicians Professor Sir William Whitla, Dr J A. Lindsay, Dr W Calwell and Dr H L McKisack. Obstetrical Physician and Gynæcologist: Professor J W Byers Consulting Surgeons Dr H Murney and Mr J Fagan Surgeons Mr J W Browne Mr T K. Wheeler Professor T Sinclair and Mr A. B Mitchell. Assistant Surgeons Dr T S Kirk and Mr Robert Campbell. Assistant Physician Dr W B McQuitty Ophthalmic and Aural Surgeon Dr J Nelson. Pathologist Professor J L Smith. The Ulster Hospital for Diseases of Women and Children, the Maternity Hospital. the Ophthalmic Hospital the Ulster Eye, Ear and Throat Hospital, the Hospital for Sick Children and the District Lunatic Asylum are open to students A pamphlet containing full information can be had free on appplication to the Registrar Queen s College Belfast

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[1] For Scholarships see page 641 et seq

QUEEN S COLLEGE SCHOOL OF MEDICINE, Cork.—The building is provided with a very large, well ventilated dissecting room supplied with electric light, with physiological, toxicological, pathological and pharmaceutical laboratories materia medica, anatomical and pathological museums, as well as a collection of surgical and obstetrical instruments and appliances. There are well appointed physical chemical and biological laboratories, and a large natural history museum in the adjoining building and part of the College ground is laid out as a botanical garden The plant houses are well filled with plants and are open to the students in the class of Botany

Fees —For Practical Anatomy and for Practical Chemistry £3 each course for Anatomy and Physiology £3 first course, and £2 for each subsequent course Other medical classes, £2 first course, and £1 each subsequent course.

Eight scholarships (value about £30 each) as well as several exhibitions and class prizes, are open to students in their first four years and the Blayney Scholarship value £35 and a S nior Exhibition to students in their fifth year

Students can attend the North and South Infirmaries, the Cork Union Hospital the Cork Fever Hospital the County and City of Cork Lying in Hospital the Cork Maternity the County and City of Cork Hospital for Di eases of Women and Children the Cork Eye Ear and Throat Hospital and the Cork District Lunatic Asylum.

Staff North Infirmary —Physicians Dr D D Donovan and Dr E. Magner Surgeons *Dr Cotter Dr C Y Pearson* Dr N J Hobart, and Dr D J O Mahony Assistant Physician D R B Dalton Assistant Surgeons Dr J Dundon and Dr R. P Byrne. Pathologist Dr R. B Dalton House Surgeon Dr D Murphy Surgeon Dentist Mr H. O Keeffe

Staff South Charitable Infirmary —Physicians Dr P T O'Sullivan and Dr N I Townsend Surgeons Dr H. R. Townsend Dr H Corby and Dr T G Atkins Ophthalmic Surgeon Dr A W Sandford. Extern Physicians Dr D J O Flynn and Dr E. W Allsom Extern *Surgeon Dr R. P Crosbie. House Surgeon Dr* E. V Cantillon Dentist Mr T C Butterfield.

THE MEDICAL SCHOOL OF THE CATHOLIC UNIVERSITY IRELAND DUBLIN —Founded in 1855, it is now the largest medical school in Ireland It prepares student specially for the examinations of the Royal University and the Conjoint Colleges of Ireland and Edinburgh, but its lectures and practical courses are recognised by all the Licensing Bodie in Great Britain and Ireland In addition to the ordinary medical examinations it prepares students for the D P H and for the various higher University examinations in Pathology Physiology Chemistry &c. Six exhibitions and numerous gold and silver medals are offered annually for competition. The school opens for di sections on O t 1st the winter lectures begin on Nov 2nd. The Summer se sion commences on April 1st. A u eful little Guide for Medical Students" is issued by the school It give all the information required by one who desires to commence medical studies in Ireland and is supplied free on application to the Registrar Medical School Cecilia-street, Dublin

QUEEN'S COLLEGE SCHOOL OF MEDICINE, Galway —There are eight Junior S holarships in Medicine of the annual value of £25 each. Two are tenable by ma riculated students of the first, second third and fourth years The Council h s power to award exhibitions for distinguished answering Sessional prizes are offered in each subject. A Senior Scholarship in Anatomy value £40, the holder of which is usually appointed Demonstrator is offered annually for competition tenable for one year by a student who shall have attended the Medical School of the College for at least two sessions and shall have obtained a Degree in Arts or Medicine or a Diploma in Medicine from a Licensing Body Scholarship examinations are held at the commencement and those for Sessional Prizes at the close of each session The Medical lectures are recognised by the Royal University of Ireland and the various Licensing Bodies in the United Kingdom. The College contains well lighted and ventilated dissecting room and anatomical lecture theatre, physiological, pharmaceutical, chemical and physical laboratories, anatomical, pathological gynæcological. and materia medica museums as well as a large natural history and geological museum and an extensive library in which students can read and from which they can borrow books Clinical instruction is given in the Galway Hospital.

Medical Staff —Physicians Professor Kinkead and Professor Lynham. Surgeons: Professor Pye Professor Colahan and Professor Brereton. Gynæcologist Professor Kinkead House Surgeon Mr Quirke And at the Galway Union and Fever Hospitals—Medical Staff Professor Colahan and Dr Lydon There are extensive grounds a portion of which is occupied by a Botanic Garden and a part is at the disposal of the College Athletic Union A prospectus containing full information as to courses of lectures scholarships and fees for classes can be obtained on application to the Registrar Queen s College Galway

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HOSPITALS AFFORDING FACILITIES FOR CLINICAL OBSERVATION

ADELAIDE MEDICAL AND SURGICAL HOSPITALS, Peter street. Dublin.—Fee for nine months hospital attendance, £12 12s, six months, £8 8s Summer three months, £5 5s

Staff — Physicians James Little, M D M R.I A. Wallace Beatty M D F R.C P I, H T Bewley M D F R C P I Surgeons F T Heuston M D F R.C S I., T F Gordon M B F R C S.I Obstetric Surgeon W J Smyly M D F R C P I Ophthalmic Surgeon H R Swanzy M B F R C S.I Throat Surgeon S Horace Law M D F R.C S I Pathologist and Bacteriologist J Alfred Scott, M.D F R C.S I Assistant Physician G Peacocke, M D F R C P Assistant Surgeon K E Lerison Gower Gunn M D F R C S House Surgeon *R. H. McNicol* M B B Ch.

A resident surgeon is elected yearly and three resident pupils half yearly At the termination of the session prizes in Clinical Medicine and Surgery and in Obstetric Medicine will be awarded

Hudson Scholarship —In addition to the junior prizes the Hudson Scholarship, £30 and a gold medal, as well as a prize of £10 together with a silver medal will be awarded at the end of the session for proficiency in Clinical Medicine and Medical Pathology Clinical Surgery and Surgical Pathology Pathological Histology Surgical Appliances, including instruments and bandaging Ophthalmology and Gynæcology

The certificates of attendance are recognised by all the Universities and licensing bodies in the United Kingdom Further particulars may be obtained from Mr F T Heuston

COOMBE LYING IN HOSPITAL AND GUINNESS DISPENSARY FOR THE TREATMENT OF DISEASES PECULIAR TO WOMEN Dublin —This hospital contains nearly 70 beds and consists of two divisions, one of which is devoted to lying in cases and the other to the treatment of the di eases peculiar to women The maternity department is one of the larges in Ireland, 3000 cases being annually treated either as intern or extern patients. A regular course of lectures is delivered in the hospital and clinical instruction is given daily at the bedside There are two large dispensaries connected with the institution, at one of which instruction is given on the General Diseases of Women and Children, and in the other on the Diseases Peculiar to Women There is accommodation for a limited number of intern pupils who enjoy exceptional advantages of acquiring a practical knowledge of this branch of their profession Two Clinical Clerks are elected half yearly from among the pupils of the hospital

Certificates of attendance at this hospital are accepted by all licensing bodies, and the diploma is recognised by the Local Government Board as a full legal midwifery qualification Fees (six months' course) extern pupils, 8 guineas, half payable in advance, intern pupils, 18 guineas for six months' residence If pupils enter as interns by the month the fees are £4 4*s* for first month, and £3 3*s* for each succeeding month Intern pupils enjoy very special advantages, which can be learned on application Registration fee on entrance, 10*s* 6*d* Students can enter for attendance at any time Further particulars may be had on application to the Master or the Registrar at the hospital

Staff—Consulting Physicians Sir John T Banks, Sir John W Moore, and Dr J M Redmond Consulting Surgeons Dr F T Heuston and Dr F W Kidd Pathologist Dr E J McWeeney Pathological Analyst Sir C A Cameron, M D Master Dr T G Stevens Assistants to the Master Dr Thomas Neill and Dr Trevor N Smith Registrar Fred A. Heney

Sir Patrick Dun's Hospital—Fees for attendance of students—nine months, £12 12*s*, winter session, £8 8*s* summer session, £5 5*s* The hospital is open to extern students as well as to the students of Trinity College, and the certificates are recognised by all the licensing bodies in the kingdom. Dr Taylor, Secretary to the Medical Board, will give any further information

Staff—Consulting Physician Sir John Banks Physicians Dr Walter George Smith, Dr John Magee Finny, Dr H C Drury, and Dr Arthur Vernon Macan. Assistant Physician Dr T G Moorhead Surgeons Dr Edward H. Bennett, Dr Charles B Ball and Dr Edward H. Taylor Pathologist Dr Alexander C O'Sullivan Assistant Surgeon Dr R. H Kennan. House Surgeon Dr W G Joynt

Mercer's Hospital.—This hospital, founded in 1707, is situated in the centre of Dublin, in the immediate vicinity of the Schools of Surgery of the Royal College of Surgeons, the Catholic University School of Medicine, and within five minutes' walk of Trinity College It contains 120 beds for medical and surgical cases, and arrangements have been made with the medical officers of Cork street Fever Hospital whereby all students of this hospital are entitled to attend the clinical instruction of that institution and become eligible for the posts of Resident Pupil, &c There is a large out patient department and a special department for diseases peculiar to women There are also special wards for the treatment and study of children's diseases During the past few years the hospital has undergone extensive alterations in order to bring it up to modern requirements

Appointments—A House Surgeon is appointed annually Five Resident Pupils, each for six months, and Clinical Clerks and Dressers are appointed monthly from amongst the most deserving members of the class

Fees—Winter, six months £8 8*s*, Summer, three months, £5 5*s*, nine months, £12 12*s*

For further particulars apply to R. Charles B Maunsell, M B, F R C S, 32, Lower Baggot street, Dublin

Meath Hospital and County Dublin Infirmary — Physicians Sir John William Moore, Dr James Craig, and Dr Edward E Lennon Surgeons Sir Philip Smyly (Surgeon to the King), Mr L H Ormsby (President of the Royal College of Surgeons in Ireland), Mr W J Hepburn, Mr William Taylor, and Mr Lane Joynt. This hospital was founded in 1753 and now contains 160 beds available for clinical teaching A building containing 40 beds for the isolated treatment of fevers is attached to the Hospital The certificates of this hospital are recognised by all the universities and licensing bodies of the United Kingdom Six Medical Clinical Clerks and Twelve Surgical Resident Pupils and Dressers are appointed every six months, and a House Surgeon is elected annually The session will open on Oct 1st and the opening address will be delivered by Mr Richard Lane Joynt on Monday, Oct 13 h A prospectus giving the complete arrangements for the Medical and Surgical classes for the coming session may be obtained from the Secretary of the Medical Board, R Lane Joynt, F R C S 84, Harcourt-street, Dublin

Mater Misericordiæ Hospital, Dublin *— Consulting Physician Sir Francis R Cruise Physicians Sir Christopher Nixon, Dr Joseph Redmond, Dr John Murphy, and Dr Martin Dampsey Assistant Physician Dr John O'Donnell Surgeons Messrs Patrick Hayes, Charles Coppinger, Arthur Chance, and John Lentaigne Assistant Surgeon Mr A Blayney Obstetric Physician Mr Louis Werner Dental Surgeon Mr Daniel Corbett, jun Pathologist Dr Edmond McWeeney Anæsthetist and Surgical Registrar Dr Michael O'Sullivan House Physicians Dr James Gorman and Dr Michael Curran House Surgeons Mr M McDonough, Mr A Gill, Mr A. J Quirke, and Mr Alexis J Fitzgerald This hospital, the largest in Dublin, at present containing 335 beds, is open at all hours for the reception of accidents and urgent cases Fifty beds are specially reserved for the reception of patients suffering from fever and other contagious diseases Clinical instruction will be given by the Physicians and Surgeons at 9 A M daily A course of Clinical Instruction on Fever will be given during the winter and summer sessions A certificate of attendance upon this course, to meet the requirements of the licensing bodies, may be obtained. Opportunities are afforded for the study of Diseases of Women in the ward under the care of the Obstetric Physician, and at the Dispensary held on Tuesdays and Saturdays. Ophthalmic Surgery will be taught in the Special Wards and Dispensary Surgical Operations will be performed on Mondays, Tuesdays, Fridays, and Saturdays at 11 o'clock Connected with the hospital are extensive Dispensaries, which afford valuable opportunities for the study of general Medical and Surgical Diseases, Accidents, &c. Instruction will be given on Pathology and Bacteriology Four House Physicians and eight House Surgeons will be appointed annually Ten resident pupils will be elected from the most attentive of the class to hold office for six months Dressers and Clinical Clerks will be appointed, and certificates will be given to those who perform their duties to the satisfaction of the staff Leonard Prizes One Gold and one Silver Medal will be offered for competition annually in the subject of Medicine, and one Gold and one Silver Medal in the subject of Surgery Junior Leonard Prizes One prize value £3 and one prize value £2 will be awarded in Medicine, and one prize value £3 and one prize value £2 will be awarded in Surgery They will be awarded on the aggregate of marks gained for Reports of Cases and at a Clinical Examination to be held at the close of the summer session For further particulars see prospectus Certificates of attendance upon this hospital are recognised by all the Universities and licensing bodies in the United Kingdom Private Wards have been opened for the reception of Medical and Surgical cases A Training School and Home for Trained Nurses have been opened in connexion with the Hospital

Terms of attendance—Nine months, £12 12*s*, six winter months, £8 8*s*, three summer months, £5 5*s* Entries can be made with any of the physicians or surgeons, or with the Registrar, Arthur Chance, F R C S, 90, Merrion square A prospectus containing in detail the arrangements for Clinical Instruction, Prizes, &c, may be obtained from the Secretary, Dr Joseph Redmond, 41, Merrion square, E, Dublin

Richmond, Whitworth, and Hardwicke Hospitals, North Brunswick street, Dublin.—These hospitals contain 312 beds—110 for Surgical cases, 82 for Medical cases, and 120 for Fever and other epidemic Diseases. A Resident Physician and a Resident Surgeon are appointed each year and are paid for their services Six Resident Clinical Clerks are appointed each half year and provided with furnished apartments, fuel, &c These appointments are open not only to advanced Students, but also to those who are qualified in Medicine and Surgery The Dressers are selected from among the best qualified of the pupils without the payment of any additional fee. For prospectuses apply to Sir W Thomson, C B, F R C S, Hon Treasurer, 54, Stephen's green East, or to J O'Carroll, M D, Honorary Secretary, 43 Merrion square, Dublin

Rotunda Hospital, Rutland square, Dublin—This institution consists of two distinct hospitals—namely, the Lying-in Hospital and the Auxiliary Hospital, the latter for the reception of patients suffering from Uterine and Ovarian Diseases. There is a large extern maternity and also a Dispensary for Diseases Peculiar to Women, which is open daily Clinical instruction is given daily (Saturdays excepted) in Midwifery and the Diseases peculiar to Women, special attention being directed to the application of antiseptics in Midwifery Accommodation is provided for a limited number of intern pupils Consulting Physician Dr James Little Consulting Surgeon Sir Philip C Smyly Master Dr R Dancer Purefoy Assistant Physicians

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* No returns.

Dr P Carton and Dr Gordon W FitzGerald Clinical Clerks Dr A N Holmes and Dr G FitzGibbon

DR STEEVENS'S HOSPITAL.†—This hospital, containing beds for 200 patients, is situated close to the Kingsbridge Terminus of the Great Southern and Western Railway occupying a position in the centre of one of the busiest manufacturing districts of the city otherwise unprovided with medical institutions, and affords exceptional advantages for clinical instruction Immediately adjoining is St. Patrick's (Swift's) Asylum for the Insane. The hospital is easily accessible by two lines of tramways There is a ward entirely devoted to Venereal Disease, a detached building for Fever Cases, and an extensive Out-patient Department, with separate Clinics for Diseases of the Skin, Throat, Eye Ear Teeth and Women The hospital is visited daily by the physicians and surgeons The wards are also visited by the resident surgeon each evening Clinical Lectures are given by the physicians and surgeons during the session There is accommodation in the hospital for four medical six surgical, and two special resident clinical assistants

Fees—Hospital Practice Nine months, £12 12s six months, £8 8s three months £5 5s. Dressership £10 10s each three months Further information may be obtained from the Resident Surgeon or from R. A Hayes, M D., Honorary Secretary 82. Merrion square South.

THE NAVAL, MILITARY, AND INDIAN MEDICAL SERVICES

DURING the year many changes for the better have been made in all the three great public services. The pay of the naval medical officers has been considerably increased and the position and pay of the officers of the Royal Army Medical Corps are now such that a good class of candidates should be attracted to its ranks. Whether the best class of men will enter knowing that a series of examinations is before them during their service remains to be seen but the authorities have made very important and beneficial changes in the entrance examination and in other important points and have worked out a scheme which may develop the Royal Army Medical Corps into a really fine service. So far the rulers of the Indian Medical Service have not seen their way to improving the position of its officers last year there was a great falling off in the number and quality of the candidates and unless the India Office rises to the occasion and considerably increases the pay of the officers we fear that the Indian Medical Service will no longer command the class of medical officer which has hitherto always preserved it as the premier medical service of the empire The India Office has made certain modifications in the entrance examination which are judicious and is, at all events for the present, continuing to send the probationers to the same course as the lieutenants of the Royal Army Medical Corps in London and subsequently to Netley for further instruction—a scheme which must be beneficial to the officers of both services as tending to promote that good fellowship and feeling which ought to prevail if the officers of the two services are to work as they should do in harmony in our Eastern possessions. A new warrant is looked for and is greatly desired by those who have the best interests of the Indian Medical Service at heart The India Office must recognise the fact that the price of skilled medical service has appreciated.

ROYAL NAVY MEDICAL SERVICE.

The next examination will probably take place in November next.

REGULATIONS FOR THE ENTRY OF CANDIDATES FOR COMMISSIONS IN THE MEDICAL DEPARTMENT OF THE ROYAL NAVY

Every candidate for admission into the Medical Department of the Royal Navy must be not under 21 nor over 28 years of age on the day of the commencement of the competitive examination He must produce an extract from the register of the date of his birth or in default, a declaration made before a magistrate from one of his parents or other near relative, stating the date of birth He must also produce a certificate of moral character up to date and a recommendation signed by a clergyman or magistrate to whom he has been for some years personally known or by the president or senior professor of the college at which he was educated.

He must be registered under the Medical Act in force as qualified to practise medicine and surgery in Great Britain and Ireland

He must declare (1) his age and date and place of birth; (2) that he is of pure European descent and the son either of natural born British subjects or of parents naturalised in the United Kingdom; (3) that he labours under no mental or constitutional disease or weakness nor any other imperfection or disability which may interfere with the most efficient discharge of the duties of a medical officer in any climate; (4) that he is ready to engage for general service at home or abroad as required (5) whether he holds or has held any commission or appointment in the public services; and (6) that he is registered under the Medical Act in force as duly qualified professionally and what diplomas &c., he holds *

He must be free from organic or other diseases and his physical fitness will be determined by a Board of Medical Officers who are to certify that his vision comes up to the required standard which will be ascertained by the use of Snellen's Test Types.

Candidates will be examined by the Examining Board in the following compulsory subjects and the highest number of marks attainable will be distributed as follows (a fee of £1 will have to be paid by each candidate to entitle him to take part in the competition) (a) medicine materia medica, therapeutics and general hygiene 1200 marks; (b) surgery and surgical anatomy 1200 marks. The examination in medicine and surgery will be in part practical and will include beyond papers the examination of patients the examination of pathological specimens, a knowledge of bacteriology the performance of operation on the dead body and the application of surgical apparatus The attention of candidates is especially drawn to the importance of the section of Operative Surgery as a competent knowledge in this subject is essential in order to qualify for a commission. No candidate shall be considered eligible who shall not have obtained at least *one-third* of the maximum marks in each of the above *compulsory subjects*

Candidates may be examined in the following voluntary subjects, for which the maximum number of marks obtainable will be—Natural Sciences chemistry (300); physiology (300); zoology (300); botany (300); and geology and physical geography (300) No candidate will be allowed to present himself for examination in more than two of these subjects French and German (300 each) 600 marks A number less than one-third of the marks obtainable in each of these *voluntary subjects* will not be allowed to count in favour of the candidate who has qualified in the *compulsory subjects* The knowledge of modern languages being considered of great importance all intending competitors are urged to qualify in French and German The examination in chemistry will include the general principles of inorganic and organic chemistry; the preparation and properties of the chief non metallic and metallic elements and their compounds; the preparation, properties and classification of the more important compounds such as marsh gas ethylene acetylene methyl and ethyl alcohols glycerin ether formic acetic, lactic and oxalic acids cyanogen and cyanides; carbohydrates; fats; proteids. The examination in physiology will comprise the minute structure and functions of the various tissues and organs of the body the physiology of the blood; the nature of food and the processes of its digestion; the mechanics of the circulation and of respiration; the physiology of nutrition secretion and excretion; animal heat the nature of sensation volition reflex action inhibition and influence of the nervous system on other organs and their functions The examination in zoology will include—the general principles of biology and a comparison of animals with plants; the distinctive characters of the larger groups of animals—the protozoa, coelenterata, vermes arthropoda, mollusca, echinodermata and vertebrata—as illustrated by common types the elements of embryology; animal parasites The examination in botany will comprise the general principles of the morphology and physiology of low forms of life—e.g., torula, bacteria spirogyra, moss fern; the general morphology of flowering plants; diagnosis of the important British natural orders; medicinal plants The examination in geology and physical geography will be limited to general principles such as—the relations of the earth to the rest of the solar system, nature of the earth's crust and the chief kinds of rocks, general configuration of land and water mountains plains islands rivers lakes glaciers and icebergs ocean currents tides wind storms, dew rain, climate volcanoes earthquakes distribution of animal and vegetable life

The appointments announced for competition will be filled from the list of qualified candidates arranged in order of merit but should it at any time be considered expedient to grant Commissions beyond those periodically competed for the Admiralty have power to admit annually (a) two candidates—proposed by the governing bodies of schools of medicine in the United Kingdom—who have satisfactorily filled the office of house surgeon in a large civil hospital for at least six months; and (b) not more than six candidates according to requirements [illegible] univer- [illegible] by the [illegible] granted [illegible] y and [illegible] a duly [illegible] candidates In cases of [illegible] qualifications may be deferred until after the arrival in England of a candidate who has been passed on the station but a Commission as Surgeon will not be granted until the certificate of the Registrar of the Medical Council has been produced at the Medical Department of the Navy Candidates from schools at home will be required to pass a physical examination in London which will be arranged for by the Medical Director General Colonial candidates will have to pass a physical and test examination before a board of Naval Medical Officers on the station. Successful candidates immediately after passing the examination in London will receive commissions as Surgeons [illegible] the Royal Navy and will undergo a course of practical instruction in Naval Hygiene, &c. at Haslar Hospital. Three prizes of the approximate value of £10 each will be awarded at the close of each [illegible] to the stu[illegible]

Surgeon [illegible] pocket ca[illegible] meters [illegible]

Promotion

An Inspector-General of Hospitals and Fleets will be selected from amongst Deputy Inspectors-General who have [illegible] in that rank three years full pay service and who have not at any time declined foreign service except for reasons which the Lords Commissioners of the Admiralty regard as good and sufficient.

A Deputy Inspector-General of Hospitals and Fleets will be selected for ability and merit from amongst Fleet Surgeons

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† No returns.

* If any doubt should arise on the question the burden of the proof that he [illegible] will rest upon the candidate himself.

(a) Subject to the approval of the *Lords* Commissioners of the Admiralty rank as Fleet Surgeon will be granted to Staff Surgeons at the expiration of eight years from the date of promotion to Staff Surgeon, provided they are recommended by the Medical Director General and have not declined service except for reasons which in the opinion of the Lords Commissioners of the Admiralty are satisfactory (*b*) Special promotions from the rank of Staff Surgeon to that of Fleet Surgeon will be made at their Lordships' discretion in cases of distinguished service or conspicuous professional merit Such promotions will be exceptional and will not exceed the rate of one in two years the total number at any one time of Fleet Surgeons holding that rank by such special promotions will not exceed six

(*a*) Rank as Staff Surgeon will be granted subject to their Lordships approval to surgeons at the expiration of 12 years from the date of entry provided they are recommended by the Medical Director General and have passed such examination as may be required after completion of eight years from the date of entry in the rank of surgeon (*b*) Special promotions will be made at their Lordships discretion to the rank of Staff Surgeon in cases of distinguished service or conspicuous professional merit. Such promotions will be exceptional and not exceed the rate of one a year The total number at any one time of Staff Surgeons holding that rank by such special promotions will not exceed eight No officer will be so promoted unless he passes the examination prescribed for other surgeons but in such a case the requirement of eight years time in rank of surgeon will be dispensed with (*c*) When a surgeon s promotion to the rank of Staff Surgeon has been retarded by failure to pass the qualifying examination he will should he pass and be promoted be dealt with as follows He will be granted the seniority as Staff Surgeon he would have received had he passed in ordinary course He will reckon service for increase of full and half pay only from the date of appointment to full pay as Staff Surgeon If on half pay or if placed on half pay when promoted, he will receive the lowest rate of half pay of the new rank from the date of passing the qualifying examination Where delay in passing the qualifying examination may be due to unavoidable circumstances special consideration will be given (*d*) The seniority of surgeons on entry will be determined by the sum total of the marks they obtain at the London examination and those at the conclusion of the Haslar course and their names will then be placed in the official navy list Surgeons entered without competition will take seniority next after the last surgeon entered at the same time by competition (*e*) The examination for promotion to the rank of staff surgeon will be held by the Examining Board to which a naval medical officer will be attached to conduct the examination in naval hygiene. The subjects of examination will be in writing and will include medicine surgery pathology general hygiene naval hygiene Earlier promotion to the rank of staff surgeon may be granted to those surgeons who before entry have held the post of house surgeon to a civil hospital of not less than 100 beds for a period of not less than six months provided their conduct and professional abilities have been favourably reported on during the time they have served in the navy They may be granted from six months to one year s seniority according to the time they have held their civil appointments as house surgeon but in no case will more than one year s seniority be granted This only applies to officers who enter by competition

Full Pay and Allowances

Rank	Daily	Yearly
Surgeon—	£ *s* *d*	£ *s* *d*
On entry	0 14 0	255 10 0
After 4 years full pay service	0 17 0	310 5 0
8	1 0 0	365 0 0
Staff Surgeon—		
On promotion	1 4 0	438 0 0
After 4 years full pay service in rank	1 7 0	492 15 0
Fleet Surgeon—		
On promotion	1 10 0	547 10 0
After 4 years full pay service in rank	1 13 0	602 5 0
,, 8	1 16 0	657 0 0
Deputy Inspector General	2 2 0	766 10 0
Inspector General	—	1300 0 0 Consolidated

The Inspectors-General at Haslar and Plymouth Hospitals and the corresponding officer at Chatham Hospital when the new hospital is completed will be granted an allowance of 10*s* a day as charge pay

The hospital allowances for naval medical officers at home and abroad in lieu of provisions for themselves and servants and for fuel and lights are as follows —

—	At home	Abroad
	£	£
Inspector Generals of Hospitals ..	85	150
Deputy Inspectors-General	67	112
Fleet Surgeons and Staff Surgeons	63	112
Surgeons	39	108

An allowance of 5*s* a day in addition to full pay is granted to the senior medical officer being a Fleet or Staff Surgeon of a flag ship bearing the flag of a Commander in-Chief on a foreign station or of the senior officer commanding the Channel Squadron and an allowance of 2*s* 6*d*. a day to the senior medical officer being a Fleet or Staff Surgeon of the ship of a Commodore or of a senior officer commanding a foreign station An allowance of 2*s* 6*d* a day may also be granted to the senior medical officer being a Fleet or Staff Surgeon in ships carrying the flags of flag officers or the broad pendants of Commodores not commanding stations The following charge allowances may be granted to medical officers in charge of hospital ships: if above the rank of fleet surgeon 5*s* a day and if of the rank of fleet surgeon or junior 3*s* 6*d* a day The Fleet and Staff Surgeons serving in the Admiralty and the Marine Rendezvous will be granted the Hospital allowance of £53 a year in addition to the usual lodging money Medical officers conducting the course of instruction at Haslar Hospital will receive the following allowances two senior officers employed upon this duty, £150 a year each, the junior officer assisting £50 a year and the junior officer instructing the Sick Berth Staff £50 a year Medical officers employed elsewhere than at a hospital, and not victualled in kind receive an allowance of 1*s* 6*d* a day in lieu of provisions fuel, and lights The travelling allowances extra pay lodging money and compensation for losses are fixed for naval medical officers according to their relative rank in the service

Half Pay

Rank	Daily	Yearly
Surgeon—	£ *s* *d*	£ *s* *d*
Under 2 years full pay service	0 6 0	109 10 0
After 2 years full pay service	0 7 0	127 15 0
, 4	0 8 0	146 0 0
, 6 ,	0 9 0	164 5 0
8 ,	0 10 0	182 10 0
10	0 11 0	200 15 0
Staff Surgeon—		
On promotion	0 12 0	219 0 0
After 2 years full pay service in rank	0 13 0	237 5 0
,, 4 ,, ,	0 14 0	255 10 0
, 6 ,, ,,	0 15 0	273 15 0
Fleet Surgeon—		
On promotion	0 17 0	310 5 0
After 2 years full pay service in rank	0 18 0	328 10 0
,, 4 , ,,	0 19 0	346 15 0
6 ,, ,	1 0 0	365 0 0
Deputy Inspector General—		
On promotion	1 5 0	456 5 0
After 2 years full pay service in rank	1 7 0	492 15 0
4 ,	1 9 0	529 5 0
Inspector General	1 18 0	693 10 0

Candidates will do well to notice that the regulations issued to applicants do not put any limit on the amount of half pay service which they may be compelled to undergo

Retirement

Compulsory retirement will be as follows :—

Inspector and Deputy Inspector General of Hospitals and Fleets.	At the age of 60, or at any age if he has not served for 5 years Except that if in any particular case the Lords Commissioners of the Admiralty may consider that the interests of the public service will be materially advanced by the further retention of an Inspector General of Hospitals and Fleets on the active list, the age for the retirement of such Inspector General may be extended to 62	To be retired irrespective of age if found physically unfit for service
Fleet Surgeon Staff Surgeon, and Surgeon	At the age of 55 or at any age if he has not served for 5 years	

Voluntary retirement and withdrawal will be allowed as follows (*a*) Every officer will have the option subject to their Lordships approval of retiring after 20 years full pay service on the scale of retired pay provided in paragraph 16 or with a gratuity on the scale provided in that paragraph if not eligible for retired pay (*b*) At the expiration of eight 12 or 16 years full pay service every officer will be permitted subject to their Lordships approval to withdraw from the Naval Service receiving a gratuity on the scale laid down in paragraph 16 The name of an officer so withdrawing will be removed from the lists of the Navy with which all connexion will then be severed (*c*) Voluntary retirement and withdrawal at the discretion of their Lordships will be allowed as a rule only when an officer is unemployed or serving at home Under very special circumstances however it may be permitted in the case of an officer serving abroad provided he pays his successor s passage to relieve him (*d*) Applications from officers to retire or withdraw or resign their commissions will receive every consideration, but no officer will as a rule be permitted to resign under three years from the date of entry

Gratuities and retired pay will be awarded on retirement and withdrawal on the under mentioned scale (Paragraph 16) —

Rank	Gratuities	Daily	Yearly
Surgeon and Staff Surgeon—	£ *s* *d*	£ *s* *d*	£ *s* *d*
After 8 years full pay service	1000 0 0	—	—
, 12 , ,	1500 0 0	—	—
16 ,	2250 0 0	—	—
Fleet Surgeon—			
After 20 years service (including proportion of half pay time)	—	*1 0 0	365 0 0
After 24 years service (including proportion of half pay time)	—	*1 2 6	410 12 6
After 27 years service (including proportion of half pay time)	—	*1 5 0	456 5 0
After 30 years service (including proportion of half pay time)	—	*†1 10 0	547 10 0
Deputy *Inspector* General	—	1 15 0	638 15 0
Inspector General	—	2 0 0	730 0 0

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* To obtain this rate an officer must hold the commission of Fleet Surgeon

† Or on compulsory retirement at the age of 55

An officer retired with less than 20 years service on account of disability contracted in and attributable to the Service, will receive the half pay of his rank, or with the consent of their Lordships a gratuity on the scales given in paragraphs 16 and 18 (*b*) but such officer will not be entitled to receive any special compensation for the disability in addition to the gratuity as above (Paragraph 17).[1]

An officer retired with less that 20 years service on account of disability contracted in but not attributable to the Service, will receive—(*a*) if he has over eight years full-pay service either a gratuity on the scale given in Paragraph 16 or half-pay according as their Lordships think fit; (*b*) if he has less than eight years full pay service such gratuity as their Lordships think fit, not exceeding the rate of £125 for each year of full pay service (Paragraph 18). *In circumstances other than those specified in Paragraphs* 17 and 18, and other than misconduct, neglect of duty &c an officer retired with less than 20 years service will not be allowed half pay or retired pay but will receive a gratuity on the scale laid down in Paragraph 16 if he has eight years' full-pay service, and on that provided in Paragraph 18(*b*) should his full-pay service not amount to eight years The power vested in their Lordships of granting reduced rates of half pay and retired pay in cases of misconduct is extended to the award of gratuities on retirement, and the gratuity awarded will be reduced to such an amount as is thought fit. An officer retiring after 20 years full pay service will be eligible, if recommended by the Medical *Director-General* for distinguished or meritorious service to receive a step of honorary rank such step to be awarded at their Lordships discretion and not to confer any claim to increase of retired pay or of widow's pension All retired officers will be liable, till the age of 55 to serve in time of declared national emergency in a rank *not lower* than that held *on retirement.* Retired officers will receive special consideration as regards appointments on shore connected with the Admiralty now filled by civilians

Widows Pension

When an officer retires or withdraws *on a gratuity* his widow and children will have no claim to pension or compassionate allowance.

Miscellaneous

A special cabin will be appropriated to the Fleet or Staff Surgeon or the Surgeon in charge of the medical duties in each ship Special regulations have been made as regards the mess expenses of medical officers appointed to the several divisions of Royal Marines for limited periods Every medical officer will be required to undergo a post graduate course of three months duration at a Metropolitan Hospital once in every eight years (should the exigencies of the Service permit), and this as far as possible during his Surgeon's, Staff Surgeon's and *Fleet Surgeon's period of service.* While carrying out this course the medical officer will be borne on a ship's books for full pay and will be granted lodging and provision allowances and travelling expenses as for service under the Regulations to and from his home or port but he will be required to pay the necessary fees for each course. The medical officer will be required to produce separate certificates of efficient attendance in the following: (1) the medical and surgical practice of the hospital; (2) a course of operative surgery on the dead body; (3) a course of bacteriology; (4) a course of ophthalmic surgery particular attention being paid to the diagnosis of errors of refraction; and (5) a practical course of skiagraphy

Though the improvements which have been carried out in the Naval Medical Service are substantial we think that the department might still show greater regard for the medical officer The cabin accommodation for medical officers of the navy ought to be improved and senior officer at least, serving on men-of war might well have boats at their disposal to go on shore.

THE ARMY

Consequent upon the issue of the Royal Warrant published in Army Orders dated July 1st, 1898 the Army Medical Staff and the Medical Staff Corps were formed into the Royal Army Medical Corps. Medical officers also have been placed as regards sick leave of absence on full pay on the same footing as that laid down for regimental officers. By a Royal Warrant dated Nov 10th 1891 Art. 1208*b* of the Pay Warrant was revised by inserting the words an officer of *our Royal Army Medical Corps after the words combatant* officer" thus giving medical officers an equal title with combatant officers to reckon time on half pay toward retirement when the half pay has been due to ill health contracted in the performance of military duty Under the Royal Warrant of July 1895, time on half pay not exceeding a year may in similar circumstances also reckon towards promotion In the New Royal Warrant it was announced that the late Queen had been pleased to approve of the following rank for the officers of the Royal Army Medical Corps Colonel Lieutenant-Colonel Major Captain and Lieutenant The Warrant also states that the Medical Staff of the Army shall in future consist of Surgeon Generals (ranking as Major Generals) Officers of the *Royal Army Medical Corps* holding appointments in the Household Troops are to be borne as seconded officers on the establishment of the Royal Army Medical Corps

REGULATIONS FOR ADMISSION TO THE ROYAL ARMY MEDICAL CORPS (AS [illegible] BY ARMY ORDERS DATED MAY 1ST 190[illegible])

A candidate for a commission in the Royal Army Medical Corps must be 21 years and not over 28 years of age at the date of the commencement of the entrance examination He must possess a registrable qualification *to practise He must complete the subjoined form* of application and declaration and submit it to the Director-General, A M S

Application of a Candidate for a Commission in the Royal Army Medical Corps

1 Name in full .. ..

2. Address .. ..

3. Date of birth* .. ..

4 Registrable qualifications † ....

5. Academic and other distinctions .. ..

6 Name of the Dean or other responsible authority of the *school in which the candidate* completed his course as a medical student .. ..

7 Particulars of any commission or appointment held in the public services .. ..

8. Date of examination at which the candidate proposes to present himself .. ..

Declaration

(N.B —A mis-statement by the candidate will invalidate any subsequent appointment and cause forfeiture of all privileges for services rendered)

I hereby declare upon my honour that the above statements are true to the best of my knowledge and belief and that I am a British subject of unmixed European blood.

(Signed) ....

* A certificate of registration of birth or other satisfactory evidence of age such as a declaration made before a magistrate by one of his parents or guardians giving the date of his birth, to be furnished

† A reference to be given to the Medical Register or in the absence of such reference other satisfactory evidence to be furnished

The dean of the candidate's school will be requested by the Director General to render a confidential report as to his character conduct professional ability and fitness to hold a commission in the corps and to this report special importance will be attached. The Director General will decide if the candidate may be allowed to compete *for a commission* If approved he will then be examined as to his physical fitness by a board of medical officers. The following is the order of the examinations —

1 A candidate for a commission *in the Royal Army Medical Corps* must be in good mental and bodily health and free from any physical defect likely to interfere with the efficient performance of military duty

2. The examination will be conducted by a board of medical officers

3 The attention of the board will be directed to the following points (*a*) That the correlation of age height weight and chest girth is equal or superior to that which is given in the following table —

Physical Equivalents

Age	Height without shoes	Chest	
		Girth when expanded.	Range of expansion
21 and upwards.	Inches 62½ and under 65 65 [illegible] 68 68 [illegible] 70 70 [illegible] 72 72 and upward	35 inches 35½ 36 36½ ,, 37 ,,	2 inches, 2 ,, 2 ,, 2½ 2½

(*b*) Measurement of height The candidate will be placed against the standard with his feet together and the weight thrown on the heels and not on the toes or outside of the feet He will stand erect without rigidity and with the heels calves buttocks and shoulders touching the standard; the chin will be depressed to bring the vertex of the head level under the horizontal bar and the height will be noted in parts of an inch to eighths.

(*c*) Measurement of chest The candidate will be made to stand erect with his feet together and to raise his hands above his head The tape will be carefully adjusted round the chest with its [illegible] upper edge touching the inferior angles of the shoulder blades and its upper edge touching the upper part of the nipples The arms will then be lowered to hang loosely by the side and care will be taken that the shoulders are not thrown upwards or backwards so as to displace the tape The candidate will then be directed to empty his chest [illegible] tape [illegible] This [illegible] [illegible] The tape [illegible] the lips [illegible] [illegible] [illegible] to its utmost capacity [illegible] noted The girth with the chest [illegible] expansion between the minimum and maximum [illegible]

(*f*) Weight [illegible] of the Board [illegible]

The regulations [illegible] as follows —

1 If a candidate can read D = 6 at 6 metres [illegible]

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[1] If the health of a surgeon breaks down before he completes [illegible] years service even if the disability be contracted in the Service or be due to climate [illegible] he will be placed on the retired list receiving only a gratuity This point should be well noted [illegible]

D =0 6, at any distance selected by himself, with each eye without glasses, he will be considered *fit*

2. If a candidate can only read D =24 at 6 metres (20 English feet) with each eye without glasses his visual deficiency being due to faulty refraction which can be corrected by glasses which enable him to read D =6 at 6 metres (20 English feet) with one eye and D =12, at the same distance with the other eye and can also read D =0 8 with each eye without glasses at any distance selected by himself he will be considered *fit*.

3 If a candidate cannot read D =24 at 6 metres (20 English feet) with each eye without glasses notwithstanding he can read D =0 6 he will be considered *unfit* Normal vision of one eye may be sufficient to allow a higher defect in the other to the extent of one-sixth if the defect is simple error in refraction remedied by glasses The candidate must be able to read the tests without hesitation in ordinary daylight (N B —Snellen s test types will be used for determining the acuteness of vision) Squint inability to distinguish the principal colours, or any morbid conditions subject to the risk of aggravation or recurrence in either eye will cause the rejection of a candidate

The following additional points will then be observed (*b*) That his hearing is good (*c*) That his speech is without impediment (*d*) That his teeth are in good order Loss or decay of the teeth will be considered a disqualification Decayed teeth if well filled will be considered as sound (*e*) That his chest is well formed and that his heart and lungs are sound (*f*) That he is not ruptured (*g*) That he does not suffer from hydrocele varicocele varicose veins in a severe degree or other disease likely to cause inefficiency A slight defect if successfully cured by operation is not a disqualification (*h*) That his limbs are well formed and developed (*i*) That there is free and perfect motion of all the joints (*j*) That his feet and toes are well formed (*k*) That he does not suffer from any inveterate skin disease (*l*) That he has no congenital malformation or defect (*m*) That he does not bear traces of previous acute or chronic disease pointing to an impaired constitution In any doubtful case the Board should further state: (*n*) Whether he is in their opinion of pure European descent If a candidate be pronounced physically fit for service at home and abroad he will be eligible to present himself at the entrance examination which will be held twice in the year

The Secretary of State reserves the right of rejecting any candidate who may show a deficiency in his general education

An entrance fee of £1 is required from each candidate admitted to the examination and is payable at the conclusion of his physical examination if pronounced fit.

A candidate successful at the entrance examination will be appointed a Lieutenant on probation and will be required to pass through such courses of instruction as the Secretary of State shall decide and after passing the examinations in the subjects taught and satisfying the Director General that he possesses the necessary skill knowledge and character for permanent appointment to the Royal Army Medical Corps his commission as Lieutenant will be confirmed The commission shall bear the date of the officer s appointment as Lieutenant on probation

Before the commission of a Lieutenant on probation is confirmed he must be registered under the Medical Acts in force in the United Kingdom at the time of his appointment

The precedence of Lieutenants among each other shall be in order of merit as determined by the combined results of the entrance examination and the examinations undergone while on probation

Lieutenants when appointed on probation will receive instructions as to the provision of uniform

EXAMINATIONS

Subjects for the Entrance Examination

Candidates will be examined by the examining board in medicine and surgery The examination will be of a clinical and practical character, partly written and partly oral marks being allotted under the following scheme:—

	Maximum marks
Medicine (written)	
A. Examination and report upon a medical case in the wards of a hospital	125
B Commentary upon a case in medicine	125
(Three hours allowed for A and B together)	
Medicine (oral)	
A Clinical cases clinical pathology	75
B Morbid Anatomy and Morbid Histology	75
(One quarter of an hour allowed for each table)	
Surgery (writen)	
A. Examination and report upon a surgical case in the wards of a hospital	125
B Commentary upon a case in surgery	125
(Three hours allowed for A and B together)	
Surgery (oral)	
A Clinical cases including diseases of the eye surgical instruments and appliances	75
(One quarter of an hour allowed for this table)	
B Operative surgery and surgical anatomy	75
Total marks	800

The following headings are published as a guide to candidates in drawing up their reports on cases —(*a*) A brief history of the case as given by the patient, including such points only (if any) in the family or personal history as have a distinct bearing upon the present illness or incapacity (*b*) A detailed account of the subjective symptoms and physical signs elicited by the candidate s personal examination of the patient noting the absence of any which might be expected to be present in a similar case (c) Where there is any reasonable doubt in the mind of the candidate as to an exact diagnosis he is to give the alternatives with his reasons for making the selection (*d*) A commentary upon the case as a whole, pointing out the symptoms which may be considered typical and those which appear to be unusual or only accidental complications (*e*) Suggestions as to treatment both immediate and possibly necessary at a later date (*f*) A forecast of the progress and probable termination of the case

Similarly the commentary on the report of a case submitted to the candidate should discuss: (*a*) The family and personal history and other conditions preceding the development of the condition described (*b*) The relative significance of the physical signs, symptoms other indications of disease noted and the general clinical aspects of the case (*c*) The diagnosis, with reasons for selection of the most probable, when a positive diagnosis cannot be attained (*d*) The treatment dietetic, medicinal, operative, &c including a criticism of the plan adopted, and alternative schemes of treatment in case of disagreement (*e*) The morbid appearances and an account of the post-mortem examination (if any)

The examination will be held in London and will occupy about four days

The appointments announced for the competition will be filled up from the list of qualified candidates arranged in the order of merit, as determined by the total number of marks each has obtained Having gained a place in this entrance examination the successful candidates will undergo two months' instruction in hygiene and bacteriology, after which they will be examined in these subjects. The maximum number of marks obtainable at this examination will be 100 It has been determined that this course shall be delivered in London and not as heretofore at Netley A military medical staff college is to be built in London and until the new buildings are completed the instruction will be given in the laboratories of the Conjoint Board on the Thames Embankment. At the present time the professors are Dr A E Wright in the department of bacteriology, and Major H. R Firth in that of hygiene, Major W B Leishman and Major W H Horrocks, both of the Royal Army Medical Corps, being the respective assistant professors The first course of instruction in London commences on Sept. 1st next The course of hygiene has hitherto comprised the examinations of water and air, the general principles of diet with the quality and adulterations of food and beverages, the sanitary requirements of barracks, hospitals, and camps, the consideration of the clothing, duties, and exercises of the soldier, and the circumstances affecting his health, with the best means of preventing disease and instruction in the mode of preparing the various statistical and other returns required of the medical officer The pathological course has up to the present time included bacteriology and demonstrations in physiological chemistry On completion of the above course lieutenants on probation will be ordered to proceed to the depôt of the Royal Army Medical Corps at Aldershot for a three months' course of instruction in the technical duties of the corps, and at the end of the course will be examined in the subjects taught The maximum number of marks obtainable at this examination will be 100 A lieutenant on probation who fails to qualify in either of these examinations will be allowed a second trial, and, should he qualify, will be placed at the bottom of the list. Should he again fail in either examination his commission will not be confirmed

EXAMINATIONS FOR PROMOTION IN THE ROYAL ARMY MEDICAL CORPS

These examinations are intended to test the progress and proficiency of officers in those branches of knowledge which are essential to their continued efficiency

Lieutenant before Promotion to Captain —(For Lieutenants appointed after March 31st 1901) This examination may be taken at any time after completing 18 months service and will be held in the military district in which the officer is serving The subjects of this examination which are detailed in the King's Regulations are as follows: (1) regimental duties (2) drill (3) military law (4) duties and accounts connected with military hospitals and their supplies and (5) other duties of executive medical officers

Captains before Promotion to Major —(For Captains promoted to that rank after July 27th 1895) Captains will be examined under the rules laid down in Paragraph 24 and will be eligible for acceleration in their promotion to the rank of Major under Article 352 of the Royal Warrant subject to the following restrictions—(*a*) The acceleration which can be gained by a Captain promoted to that rank in January, 1896 will be limited to six months and an officer gaining this acceleration will take precedence after the last Captain promoted Major on completion of 12 years service (*b*) The acceleration which can be gained by a Captain promoted to that rank in July 1896, will similarly be limited to 12 months and an officer gaining this acceleration will take precedence next after the last Captain promoted to that rank in January 1896 who may have gained six months service. (*c*) A Captain promoted to that rank in January 1897 can gain the full acceleration but will take precedence after any captain promoted to that rank in July 1896 who may have gained 12 months acceleration (*d*) Officers gaining acceleration under (*a*) will take precedence *inter se* in order as they have obtained a special certificate or passed in the first, second or third class and a similar course will be followed under (*b*) and (*c*) (*e*) In all other cases an officer who gains accelerated promotion will be placed for precedence after the last officer (whether subject to acceleration or not) promoted approximately 3, 6 12, or 18 months before him

This examination which may be taken at any time after completing five years service will be held in London on the termination of a period of special study The examination will consist of written papers, essays oral and practical examinations in the following subjects which are detailed in the King's Regulations: (1) medicine (2) surgery (3) hygiene (4) bacteriology and tropical disease; and (5) one special subject from the subjoined list to which additions may from time to time be made: (a) bacteriology including the preparation of antitoxins; (b) dental surgery; (c) dermatology; (d) laryngology; (e) midwifery and gynæcology; (f) operative surgery advanced; (g) ophthalmology; (h) otology; (i) pediatrics; (k) psychological medicine; (l) skiagraphy; and (m) specific fevers Captains serving in that rank before July 27th 1895, will be promoted under the old regulations contained in Appendix I Regulations for Army Medical Services and will not be eligible for acceleration

Majors before Promotion to Lieutenant-Colonel (for Majors promoted to the rank after March 31st 1895) —This examination, which may be taken at any time after three years in the rank of Major will be held in the military district in which the officer is serving at times which will be duly notified. The subjects of this examination which are detailed in the King's Regulations, are as follows: 1 Military law 2. Army medical organisation 3. Sanitation of towns camps transports, &c 4. Epidemiology and the management of epidemics 5. One special subject from the subjoined list to which additions may from time to time be made: (a) medical history of important campaigns; (b) a general knowledge of the Army Medical Services of other Powers; and (c) the laws and customs of war in relation to the sick wounded

PAY

The following shall be the rates of pay additional pay and charge pay of the Army Medical Staff and Royal Army Medical Corps:—

Army Medical Service	Inclusive of all allowances except field and travelling allowances (yearly)
At Headquarters	£
Director-General	2000
Deputy Director-General	1500
Assistant Director General	850
Deputy Assistant Director-General	750
	Exclusive of allowances (daily)
At Other Stations	£ s d
Surgeon General	3 0 0
Colonel	2 0 0
Lieutenant-Colonel	1 10 0
Lieutenant-Colonel specially selected for increased pay after at least eight years service abroad	1 15 0
Major	1 3 6
After three years as such	1 6 0
Captain	0 15 6
After seven years total full-pay service	0 17 0
After ten years total full pay service	1 1 0
Lieutenant on probation and Lieutenant	0 14 0
Adjutant of the Royal Army Medical Corps (Volunteers)	The pay of his rank

A Captain of the Royal Army Medical Corps holding the brevet rank of Major shall receive pay at 2s a day in addition to the rates laid down.

Additional Pay

An officer not serving on the Headquarters Staff appointed a member of the Advisory Board £150 a year An officer serving as secretary of the Advisory Board and Nursing Board £100 a year An officer under the rank of Lieutenant Colonel holding an appointment as specialist, 2s 6d daily

Charge Pay

(a) An officer in charge of a general or other hospital or of a division of a general hospital—

	Daily s d
If in charge of at least 50 beds	[illegible] 6
" 100	5 0
" 200	7 6
" 300	10 0
(b) Officer in command of the Depôt Royal Army Medical Corps	5 0
(c) The Senior officer of the Army Medical Service with an army in the field— A rate to be fixed by the Secretary of State according to the magnitude of the charge.	
(d) In a command abroad— The senior medical officer if the number of soldiers is 1500 or upwards	5 0

Extra-duty Pay

An officer of the Royal Army Medical Corps appointed to act as adjutant or quartermaster of the Royal Army Medical Corps (Militia) during preliminary drill or training shall receive extra-duty pay at the following rates:—

	Daily s d
Acting Adjutant	2 6
Acting Quartermaster	2 0

Reserve of Officers

On completion of three years service an officer of the Royal Army Medical Corps may be permitted by the Secretary of State to [illegible] an Army Reserve Officer for a period of seven years and [illegible] so serving he shall receive pay at the rate of £25 a year With the sanction of the Secretary of State such officer may be allowed to return to the active list and if the [illegible] in the reserve of [illegible] amounted to at least one year [illegible] he shall be allowed to reckon one third [illegible] towards promotion gratuity and pension

[illegible] Officers

A Lieutenant on probation who at the time of passing the examination [illegible] admission to the Royal Army Medical Corps [illegible] to hold a resident appointment in a recognised civil hospital may be seconded for a period not exceeding one year during which he holds the appointment While seconded he shall not receive pay from army funds but his service shall reckon towards promotion increase of pay gratuity and pension

PROMOTION

Every promotion of a medical or departmental officer shall be given upon the recommendation of the Commander in Chief with the approval of the Secretary of State Promotion by selection shall be given on the ground of ability and merit due consideration being given, however to length of efficient service

An officer shall be eligible for promotion to the rank of Captain on the completion of three and a half years service and to the rank of Major on the completion of 12 years' service provided that in each case he has previously qualified in such manner as may be prescribed by the Secretary of State

Promotion to the rank of Lieutenant-Colonel shall be made by selection from officers who have completed at least 20 years service and have qualified in such manner as may be prescribed by the Secretary of State

If an officer has passed with distinction the examination qualifying for promotion to the rank of Major the period of service required to render him eligible for the rank of Major or Lieutenant-Colonel may be reduced as follows:—

	Months
If he obtained a "special certificate	18
passed in the 1st Class	12
2nd "	6
3rd	3

Promotion to the rank of Colonel shall be made by selection from Lieutenant-Colonels who have been specially selected for increased pay and from Lieutenant-Colonels or Surgeon Lieutenant-Colonels of the Household Troops specially recommended to the Secretary of State for distinguished service in the field Promotion to the rank of Surgeon General shall be made by selection from Colonels. A Colonel may also be promoted to the rank of *Surgeon-General for distinguished service* in the field In cases of distinguished service in the field a departmental officer may [illegible] the Treasury be pr[illegible] and shall if promo[illegible] remain supernumerary [illegible] rank or class until the occurrence of the vacancy to which in the ordinary course he would have been promoted. An officer of the Royal Army Medical Corps is eligible for promotion to brevet rank. A captain after at least 6 years service a Major or Lieutenant-Colonel, may be promoted to the next higher rank by brevet for distinguished service in the field or for distinguished service of an exceptional nature other than in the field. If the officer dies before the date on which the notification of his promotion for distinguished service in the field appears in the *London Gazette* the promotion shall bear the date which it would have borne had the officer not died Distinction in original investigation or research may, in the case of officers of the Royal Army Medical Corps be regarded as "distinguished service of an exceptional nature other than in the field." An officer who does not qualify for promotion to the rank of Captain or Major within the periods specified shall be placed on the supernumerary list until he qualifies or is retired from the service Service on the supernumerary list shall not reckon towards promotion increase of pay gratuity or pension

RANK

The Director-General of the Army Medical Service shall hold the substantive rank of Surgeon-General and shall rank in relation to combatant officers as a Lieutenant General. All other Surgeon Generals shall rank as Major-Generals in relation to combatant officers.

RETIREMENT

An officer of the Army Medical Service will be permitted to retire in cases in which such retirement may be deemed expedient by the Secretary of State.

Scale of Retired Pay

	Yearly £
Director-General after 3 years service in the appointment (with 30 years service)	1125
Under 3 years service as Director General and after not less than 30 years service	[illegible]
	Daily £ s d
Surgeon-General	[illegible] 0 0
Colonel R.A.M.C. and Household Troops	1 15 0
Lieutenant-Colonel R.A.M.C. and Surgeon-Lieutenant-Colonel Household Troops—	
After 20 years service	1 [illegible]
25	1 2 [illegible]
30	1 5 0
Lieutenant-Colonel after having been in receipt of the increased pay [illegible] for 3 years or a Brigade Surgeon Lieutenant Colonel of the Household Troops—	
Under 30 years service	1 [illegible]
After 30	1 10 0
Major or Surgeon Major of the Household Troops—	
After 20 years service	1 0 0
15 years service if his service reckoning for promotion is insufficient to qualify him for promotion to the rank of Lieutenant Colonel under Article [illegible]	[illegible] Gratuity
Major or Captain—	
After 5 years service [illegible] rank of captain	[illegible]
3 [illegible]	[illegible]
6	[illegible]
Surgeon Lieutenant Colonel or Surgeon Major of the Household Troops—	
After 15 years service	[illegible]
[illegible]	[illegible]

[illegible] Medical Service [illegible] three years in the rank [illegible] the gratuity [illegible]

Retirement on Account of Age or Limitation of Period of Service.

The Director General of the Army Medical Service shall retire on completion of the term of his appointment and the retirement of other officers of the Army Medical Service (except Quartermasters) shall be compulsory at the following ages: Surgeon General, 60 Colonel 57 and other officers 55 A Major shall retire on completion of 25 years service or if he fails to qualify for promotion on completion of 20 years service A Captain or Lieutenant shall retire on completing six months' service on the Supernumerary list It shall be competent to the Secretary of State to place a medical officer on the retired list after 30 years service

Retirement on Account of Medical Unfitness

An officer of the Army Medical Service or a medical officer of the Royal Malta Artillery placed on the half pay list on account of medical unfitness shall if not previously retired be retired from the Army at the expiration of five years from the date on which he was placed on the half pay list or if reported by the regulated medical authority to be permanently unfit for duty on the officer s application, at such earlier date as may be decided by the Secretary of State.

An officer whether on full pay or half pay placed in detention as a person of unsound mind shall be retired from the Army with the retired pay to which he would be entitled if reported by the regulated medical authority to be permanently unfit for duty If his disability was not caused by military service and he is not entitled to permanent retired pay by length of service he shall receive temporary retired pay equivalent to the half pay and temporary retired pay if any which he would have received if his disability had been other than insanity

Rates of Officers not qualified for Retired Pay on Voluntary Retirement

If the unfitness was caused by military service retired pay equal to the half pay of his rank If not so caused, provided the officer has at least 12 years service retired pay equal to the half pay of his rank for such period only not exceeding five years from the date of the officer s retirement from the Army after five years on half pay under Article 306 as the Secretary of State shall determine according to the merits of the case

KING S HONORARY PHYSICIANS AND HONORARY SURGEONS

Six of the most meritorious officers of the Army Medical Service shall be named Honorary Physicians and six Honorary Surgeons On appointment as Honorary Physician or Honorary Surgeon an officer under the rank of Colonel in the Royal Army Medical Corps may be promoted to the brevet rank of Colonel A Lieutenant-Colonel appointed Honorary Physician or Honorary Surgeon shall receive pay at the rate laid down for a Colonel of the Royal Army Medical Corps when qualified for promotion to that rank

MEDICAL OFFICERS OF THE REGIMENTS OF HOUSEHOLD TROOPS

Appointment

A Major or Lieutenant Colonel of the Royal Army Medical Corps may on the nomination of the titular colonel of the regiment be transferred from his corps into the rank of Surgeon Major or Surgeon Lieutenant Colonel respectively in one of the regiments of Household Troops

Pay

	£	s	d
Brigade Surgeon Lieutenant Colonel	1	15	0
Surgeon Lieutenant Colonel	1	10	0
Surgeon Major	1	3	6
After three years service as such	1	6	0

Promotion

A Surgeon Major shall be eligible for promotion to the rank of Surgeon Lieutenant Colonel on completing 20 years service, provided that he has previously qualified in such manner as may be prescribed by the Secretary of State Promotion to the rank of Brigade-Surgeon Lieutenant Colonel shall be made by seniority on the medical establishment of the brigade

A Surgeon Major may be promoted to the rank of Surgeon Lieutenant-Colonel for distinguished service in the field

EXCHANGES AND TRANSFERS

An officer of the Royal Army Medical Corps shall be permitted to exchange with another officer of such corps or with a medical officer of the Household Troops under such conditions and regulations as may from time to time be made

A medical officer of the Household Troops may be permitted to exchange with an officer of the Royal Army Medical Corps provided that an officer exchanging into the Royal Army Medical Corps has fulfilled any conditions as to service abroad required of officers of such corps

Exchanges between officers of the Royal Army Medical Corps under the rank of Major and medical officers of Indian Military Forces and transfers of such officers from either of the above services to the other shall only be permitted subject to the approval of the Secretary of State for India in Council and on the following conditions (1) That the officers have less than seven years service (2) that the senior officer exchanging takes the place of the junior on the list and shall not be promoted until the officer next above him has been so promoted (3) that the junior officer exchanging is placed for seniority next below all medical officers whose commissions have the same date as his own and (4) that the officer transferred is placed for seniority below all medical officers holding the same rank at the time of his transfer and shall not be promoted until the officer next above him has been promoted

An Officer of the Royal Army Medical Corps who has exchanged or been transferred from the Indian Military Forces shall reckon subject to the conditions of that article his previous service with the said forces towards promotion increase of pay gratuity and pension

LEAVE OF ABSENCE.

Full pay during ordinary leave of absence for the period admissible in the case of a staff officer may be granted to a medical officer provided that no additional expense is incurred thereby

When the periods of leave referred to in Article 457 have been exhausted or exceeded in consequence of sickness no further pay during ordinary leave shall remain due.

SICK LEAVE.

An officer of the Army Medical Staff or Royal Army Medical Corps may be allowed full pay during sick leave of absence on the same conditions as those laid down for regimental officers

SERVICE ON THE WEST COAST OF AFRICA

An officer volunteering for or ordered to, the West Coast of Africa shall receive double pay while actually serving on the coast, and for any time spent at Madeira or the Canary Islands on sick leave or on ordinary leave not exceeding 61 days in a year

For each year s service on the coast a medical officer shall be entitled to full pay during a year s leave at home and for every additional period beyond a year he shall have an equivalent extension of full pay during leave

Each year or portion of a year served on the West Coast of Africa by an officer of the Royal Army Medical Corps shall reckon double towards voluntary retirement or retired pay provided that he has served 12 months on the coast In ordinary cases the 12 months may be made up of two separate periods of not less than six months each and if an officer leaves the coast on account of sickness he may reckon any period of service on the coast however short in order to make up the 12 months coast service which is required to entitle him to count his service double Except when the officer has been invalided any broken period if amounting to less than six months of service on the coast, and leave on full pay, shall not reckon double under this article

WIDOWS PENSIONS

Widows pensions and compassionate allowances for children and other relatives of deceased officers are given under certain conditions specified in the Royal Warrant for Pay and Promotion There is also an Army Medical Officers Widows Annuity Fund on mutual assurance principles

INDIAN MEDICAL SERVICE.

The grades of officers in the Indian Medical Service are the same as those of the Army Medical Service and Royal Army Medical Corps

REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR ADMISSION TO THE INDIAN MEDICAL SERVICE

Candidates must be natural born subjects of His Majesty, between 21 and 28 years of age at the date of the examination of sound bodily health and in the opinion of the Secretary of State for India in Council in all respects suitable to hold commissions in the Indian Medical Service. They may be married or unmarried They must possess a diploma or diplomas entitling them under the Medical Acts to practise both medicine and surgery in Great Britain and Ireland

They must subscribe and send in to the Military Secretary India Office Westminster *so as to reach that address by the date fixed in the advertisement of the examination* a declaration according to the annexed form

Declaration and Schedule of Qualifications to be Filled up by Candidates

* I ..

Years of Age in last *vide accompanying Certificate* a Candidate for employment in His Majesty s Indian Medical Service do hereby attest my readiness to engage for that service and to proceed on duty immediately on being gazetted

I declare that I labour under no Mental or Constitutional Disease nor *any imperfection* or disability that can interfere with the most efficient discharge of the Duties of a Medical Officer

† I have the Degree of A.M or A B from the

I have the Degree of M D or M B from the ..

I have a Licence to Practise Medicine from the ..

I have a Diploma in Surgery from the

‡ I have a Licence to Practise Surgery from the

..

(Signature at full length) .. ..

(Date)

(Place of residence) ..

Candidates who desire to undergo the voluntary examination are to sign the following declaration:—

It is my intention to undergo the voluntary examination in §

* Christian and surname at full length

† The dates of graduations and the universities or colleges are to be stated

‡ The candidate should here state whether he has served in the Medical Department of the Army or Navy or in the subordinate Medical Department in India

§ State whether Botany or Zoology will be taken up

This declaration must be accompanied by the following documents:— *a* *Proof of age* either by Registrar General s certificate, or where such certificate is unattainable by the candidate s own statutory declaration form of which can be obtained at the India Office supported, if required by the Secretary of State by such evidence as he may consider satisfactory A certificate of baptism which does not afford proof of age will be useless *b* A recommendation from some person of standing in society—not a member of his own family—to the effect that he is of regular and steady habits and likely in every respect to prove creditable to the service if admitted and a certificate of moral character from a magistrate or a minister of the religious denomination to which the candidate belongs *c* *A certificate of registration* under the Medical Acts of the degrees diplomas, and licences possessed by the candidate. *d* A certificate of having attended a course of instruction for not less than three *months* at an ophthalmic hospital or the ophthalmic department of a general hospital which course shall include instruction in the errors of refraction.

The physical fitness of each candidate will be determined by a Board of Medical Officers who are required to certify that his vision is sufficiently good to enable him to pass the tests laid down by the regulations Every *candidate must also be free* from all other organic disease and from constitutional weakness or other disability likely to unfit him for military service in India. The standard of eyesight is the same as for the Royal Army Medical Corps and the physical examination is in all respects the same (see under Royal Army Medical Corps). Candidates who pass the physical examination will be required to pay a fee of £1 before being permitted to compete. No candidate will be permitted to compete more than three times.

On producing the foregoing qualifications the candidate will be examined by the Examining Board in the following subjects and the highest number of marks attainable will be distributed as follows:—

	Marks.
1. Medicine, including therapeutics	1200
2. Surgery including diseases of the eye	1200
3. Surgical anatomy and physiology	600
4. Pathology and bacteriology	600
5. Midwifery and diseases of women and children	600
6. Chemistry and pharmacy with either botany or zoology	600

N.B.—The examination in medicine and surgery will be in part practical and will include operations on the dead body the application of surgical apparatus and the examination of medical and surgical patients at the bedside. The examination in chemistry will be limited to the elements of the science and to its application to medicine pharmacy, and practical hygiene. No candidate shall be considered eligible who shall not have obtained at least *one third* of the marks obtainable in each of the above subjects and *one half* of the aggregate marks for all the subjects.

After passing this examination the successful candidates will be required to attend one entire course of practical instruction at the Army Medical School and elsewhere, as may be decided in (1) hygiene, (2) clinical and military medicine, (3) clinical and military surgery and (4) pathology of diseases and injuries incidental to military service. This course will be of not less than four months duration.*

During this period of instruction each candidate will receive an allowance of 8s per diem with quarters with the usual fuel and light allowances of a subaltern to cover all costs of maintenance, and he will be required to provide himself with uniform (viz., the regulation undress uniform and mess dress of a Lieutenant of the Indian Medical Service, as described in Indian Army Regulations Vol. VII but without the sword).

Candidates will be required to conform to such rules of discipline as may from time to time be laid down.

At the conclusion of the course candidates will be required to pass an examination on the subjects taught during the course of instruction.

Officers appointed to the Indian Medical Service will be placed on one list, their position on it being determined by the combined results of the preliminary and final examinations and so far as the requirements of the service will permit, they will have the choice of commands in India (i.e. Bengal Punjab Madras or Bombay) *according to their* position on that list. Though ordinarily employed within the limits of the command to which they may have been posted they will be liable to employment in any part of India according to the exigencies of the service. Examinations for admission to the service usually take place twice in the year—i.e. about February and August.

At Netley the probationers for the Indian Medical Service are required to attend the Royal Army Medical Corps mess *and to conform to the rules and regulations thereof.* The staff of the school at Netley consists of two professors. The Professorship of Military Medicine is held by Colonel K. Macleod, M.D. I.M.S. Colonel W. F. Stevenson M.B. C.B. is Professor of Military Surgery. The lectures on Military Surgery include gunshot and other wounds transport of sick and wounded, duties of army medical officers in the field on board troopships and transports, recruiting and other duties incident to military service. Those on Military Medicine treat of tropical and other diseases to which soldiers are exposed in the course of their service, the mortality and invaliding by disease, in peace and war at home and abroad the management of lunatics under the conditions of military service, &c. The course of six lectures on Lunacy and Military Asylum work is delivered at the Netley Lunatic Asylum by Lieutenant-Colonel Chester M.B. The probationers are detailed for duty in the wards of the hospital under the Professors of Medicine and Surgery. There they are taught practically the details of the management of patients in a military hospital, the registration of their diseases the duties of invaliding the modes of filling up the regulation statistical returns, and other service documents. The probationers are provided with quarters and are extra members of the mess at Netley. They are required to provide themselves with the regulation undress and mess uniform of a Lieutenant but without the sword sword belt, dress trousers forage cap, patrol jacket, and badge of rank. After having passed through the course of instruction they are required to pass a qualifying examination in the subjects taught in the school and their position on the list of those recommended for commissions is determined by the combined results of the competitive and final examinations. At the close of each session nine prizes have hitherto been awarded the Herbert Prize of £20 to the surgeon-on probation who has obtained the highest number of marks at the Netley examination the Parkes Memorial Bronze Medal to the one who gains the highest number of marks in the examination in Hygiene, the de Chaumont prize of books to the one who takes second place in Hygiene the Martin Memorial Gold Medal for the highest number of marks in the examination of Military Medicine the Montefiore Medal and £21 awarded for Military Surgery the Montefiore Second Prize, a cheque to the surgeon-on probation who obtains the second highest number of marks in this branch the Maclean prize of books for Clinical Medicine and Surgery and for Ward Work a prize of books for the highest number of marks gained in Pathology and the Marshall Webb prize of £5 and a bronze medal for Hospital Administration. No ruling has as yet been promulgated with regard to the distribution of these prizes in the future. Hitherto they have been equally open to the officers of either service, but as the Lieutenants of the Royal Army Medical Corps are only to be instructed in Hygiene and Bacteriology it would appear that the prize in these subjects will be alone open to the dual competition and that the other prizes will be open to the probationers of the Indian Service only.

At the close of the Netley Session those surgeons-on probation who have obtained one-third of the possible total of marks in each subject and have satisfied the authorities that they possess the necessary skill, knowledge, and character for permanent appointment are recommended for commissions as Lieutenants in the Indian Medical Service.

Officers on appointment are when possible, provided with passage to India by troopship, when troopship accommodation is not available passage at the public expense is provided by steamer or a passage allowance granted if preferred. A charge for messing during the voyage is made at the rate of 2s a day. This payment does not include the *cost of* liquors which are charged for as extras. Any officer who may neglect or refuse to proceed to India under the orders of the Secretary of State for India within two months from the date of leaving Netley will be considered as having forfeited his appointment unless special circumstances shall justify a departure from this regulation. A Lieutenant's commission is dated from the day he passes out of the Army Medical School. Lieutenants are promoted to the rank of Captain on completing three years full pay service Captains to the rank of Major after 12 years full pay service and Majors to the rank of Lieutenant-Colonel after 20 years full pay service. No examination to qualify for promotion is required. All promotions to higher grades are to be given by selection for ability and merit. In case of distinguished service in the field a medical officer may be at once promoted from any rank to the one next above it, remaining supernumerary in the higher rank until he would have been *promoted in ordinary* course or until selected for further promotion for which he is eligible. The ages for compulsory retirement are the same as those for the Royal Army Medical Corps. Officers of the Indian Medical Service below the rank of Colonel may be granted 1. Privilege leave under such regulations as may from time to time be in force. 2. Leave out of India for no longer period than one year capable of extension to two years absence from duty on the following pay:—After arrival in India, *on first* appointment £200 a year after the commencement of the fifth year's service for pension £250 a year after the commencement of the tenth year's service for pension £300 a year after the commencement of the fifteenth year's service for pension £400 a year after the commencement of the twentieth year's service for pension £450 a year and after the commencement of the twenty fifth year's service for pension, £500 a year. 3. Leave in India, but for the period of one year only on *full military pay* and half the staff salary of appointment. No extension of leave involving absence from duty for more than two years whether taken in or out of India, can be granted except on specially urgent grounds and without pay. An officer unable on account of the state of his health to return to duty within the maximum period of two years absence unless he is specially granted an extension [illegible] without pay is placed on temporary half pay or the retired list as the circumstances of the case may require. An officer is also liable to be placed on half pay or the retired list should his health require an undue amount of leave whether in or out of India. Leave may be granted at any time but solely at the discretion of the Commander-in-Chief or of the Local Governments in India in the case of officers not under the direct orders of a Commander in Chief. Officers of the Administrative grades may be granted one period of leave not exceeding eight months during their tenure of appointment. An officer on leave is required to join at once on being recalled to duty unless certified by a medical board as unfit to do so

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* For the present it has been arranged that two months of the course will be spent in London where the probationers will be instructed with the Lieutenants on probation for the Royal Army Medical Corps in Hygiene and Bacteriology. The probationers for the Indian Service will subsequently proceed to Netley for a two months course in military surgery tropical medicine and asylum and hospital administration. While at Netley they will also undergo a course of instruction in company and ambulance drill and in other military duties.

Pay and Allowances §

The rate of pay drawn by Lieutenants from the date of passing the final examination at the Army Medical School until arrival in India is 10s a day

Pay at the above rate is issued in this country up to the date of embarkation and an advance of two months pay at the same rate is also made prior to embarkation, which is adjusted in India.

The following are the rates of Indian pay and allowances" which will be drawn by officers hereafter appointed to the Indian Medical Service —

Rank	Years service	Indian pay and allowance per mensem	
		When not holding an appointment carrying higher pay	
		Rs a. p	
Lieutenant-Colonel (Senior)		900 0 0	
Lieutenant-Colonel	25 and over	888 12 0	
Lieutenant Colonel	20 ,,	852 3 7	
Major	15 ,,	677 6 11	
,,	12 ,	640 14 6	
		A When not receiving any staff allowance	B When receiving staff allowance in addition
		Rs a p	Rs a p
Captain	10 ,	500 0 0	450 0 0
	5 ,,	450 0 0	400 0 0
Captain and Lieutenant	under 5	350 0 0	300 0 0

On first appointment they will only come into receipt of "Indian pay and allowances from the date of their arrival in India

Officers holding the principal administrative appointments and substantive military charges of the Indian Medical Service receive at present the following consolidated salaries —

		Rs per mensem
Surgeon General		2700 to 2200
Colonel ..	from	2250
	to	1800
Lieutenant Colonel in substantive charge of a native regiment		1000 or 1100 with Rs 90 horse allowance in cavalry regiments
Major in substantive charge of ditto		800 with Rs 90 ditto
Captain above 5 years' full pay service in substantive charge of a native regiment		600 with Rs 60 ditto
Captain or Lieutenant under 5 years ditto in substantive charge of a native regiment		450 with Rs 60 ditto

The salaries of other substantive medical appointments in the Civil and Military Departments are consolidated and vary from Rs 1800 to Rs 400 per mensem

Medical charges are of two kinds—substantive and officiating The first is held by an officer as his fixed permanent appointment For this he is entitled to the monthly consolidated pay as above shown An officiating charge is held by an officer who is acting temporarily in an appointment during the absence of an officer whose substantive charge it is The officer thus officiating receives not the consolidated pay of the appointment but the Indian pay allowance of his own grade plus half the staff pay of the appointment in which he is officiating (plus half the staff pay of his own appointment if he have one) The staff pay of an appointment is the difference between the Indian pay and allowances and the consolidated pay of the permanent incumbent The extra allowance for an officiating charge cannot be less than Rs 100 a month

Qualified officers of the Medical Service are also eligible for appointments in the Assay Department The salaries of these appointments are from Rs. 600 to Rs 2250 per mensem

Officers are required to perform two years regimental duty in India before they can be considered eligible for civil employment

Except in the administrative grades and in certain special appointments officers are not debarred from taking private practice as long as it does not interfere with their proper duties

Under present arrangements officers who are not statutory natives of India receive exchange compensating allowance, to compensate them for the fall of the value of the rupee The allowance consists of an addition to their salaries equal to half the difference between their salaries converted at (1) 1s 6d the rupee and (2) the average market rate for each quarter

Tenure of Office in Administrative Grades

The tenure of office of Surgeon Generals and Colonels is limited to five years

Colonels if not disqualified by age are eligible either for employment for a second tour of duty in the same grade or for employment in the higher grade of Surgeon General by promotion thereto

Absence on leave in excess of eight months during a five years tour of duty involves forfeiture of appointment

Surgeon Generals and Colonels on vacating office at the expiration of the five years tour of duty, are permitted to draw *in India* an unemployed salary of Rs 1200 per mensem in the former, and Rs 900 in the latter case for a period of six months from the date of their vacating office after which they are placed while unemployed on the following scale of pay

—	Surgeon General Per diem	Colonel Per diem
	£ s d	£ s d
After 30 years service on full pay	2 5 0	1 14 0
,, 25 , , ,,	2 5 0	1 10 0
,, 20 , , or on promotion should this period of service not be completed	2 0 0	1 8 0

A Surgeon General or Colonel who has completed his term of service and has reverted to British pay may reside in Europe at the same time qualifying for higher pension

Retiring Pensions and Half Pay

Officers of the Indian Medical Service will be allowed to retire on the following scale of pension, on completion of the required periods of service —

After 30 years service for pension	£700 per annum + £350 after five years' active employment in India as a Surgeon General or + £250 per annum after five years active employment as a Colonel
,, 25 ,, ,, ,,	£500 per annum
,, 20 , , ,,	£365 ,
,, 17 ,, ,, ,,	£292 ,,

Time (not exceeding one year) passed on temporary half pay reckons as service for promotion and pension in the case of an officer placed on half pay on account of ill health contracted in the performance of military duty

Officers of the Indian Medical Service are liable after retirement on pension before completing 30 years service to recall to military duty in case of any great emergency arising up to 55 years of age

All officers of the rank of Lieutenant-Colonel and Major are placed on the retired list at the age of 55 and all Surgeons General and Colonels at the age of 60

Officers not entitled to pension when placed on temporary or permanent half pay, will be granted the British rate of half pay of their military rank, as under :—

Rank	Rates of Half pay ‖	
	Per diem.	Per annum
	s d	£ s d
Lieutenant-Colonel (Senior) Lieutenant-Colonel	11 0	200 15 0
Major	9 6	173 7 6
Captain	7 0	127 15 0
Lieutenant	3 0	54 15 0

Invalid Pensions

An officer who has become incapacitated for further service in India on account of unfitness caused by duty may after he has been two years on temporary half pay, be granted an Invalid Pension on the following scale —

	Per annum
After 16 years pension service	£272
, 15 , ,	252
, 14 , , ,,	232
, 13 , ,	212
12 , ,	192

Wound Pensions

Officers are entitled to the same allowances on account of wounds and injuries received in action as are granted to combatant officers of His Majesty's Indian Military Forces holding the corresponding military rank

Family Pensions

The claims to pension of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being

The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must as a condition of their appointment subscribe from the date of their arrival in India

Honours and Rewards

Officers of the Indian Medical Service are eligible for the military distinction of the Order of the Bath and for other Orders British and Indian and for good service pensions Six of the most meritorious officers are named Honorary Physicians and six are named Honorary Surgeons to His Majesty On appointment as Honorary Physician or Surgeon an officer below the rank of Colonel is promoted to that rank remaining supernumerary until absorbed

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§ No staff or regimental allowance can be drawn until the lower standard examination in the Hindustani has been passed As many lieutenants have been sent to the frontier immediately on arriving in India they have found it impossible to study and pass this examination and have consequently been doing regimental and other work for Rs 350 a month Lately a concession has been granted to medical officers so situated on the frontier, but the rule is still most illiberal and requires alteration

‖ Officers cannot retire *in India* on half pay (No 45, Feb 28th 1865) (This is a rule that should be abolished)

PUBLIC HEALTH

INSTRUCTION FOR DIPLOMAS IN STATE MEDICINE.

ENGLAND

THE following recommendations, designed with a view of ensuring 'the possession of a distinctively high proficiency scientific and practical in all the branches of study which concern the public health," were adopted by the General Medical Council in 1902. The regulations require that—"(1) A period of not less than twelve months shall elapse between the attainment of a registrable qualification in Medicine Surgery and Midwifery and the examination for a diploma in Sanitary Science Public Health, or State Medicine, (2) every candidate shall have produced evidence of having attended after obtaining a registrable qualification during a period of six months, practical instruction in a laboratory British or foreign, approved of by the body granting the qualification and in which chemistry bacteriology and the pathology of diseases of animals transmissible to man are taught (3) every candidate shall have produced evidence that after having obtained a registrable qualification, he has for six months practically studied the duties, routine and special of Public Health administration either under a medical officer of health who is a teacher in public health in a recognised school, or in England under the medical officer of health of a county or of a single sanitary district of 50,000 or in one or more districts of 30 000 in Scotland or Ireland provided that the six months may be reduced to three if a candidate produces evidence that after obtaining a registrable qualification he has for three months attended a course of recognised instruction in sanitary law sanitary engineering vital statistics, and other subjects bearing on Public Health administration (4) every candidate shall produce evidence that after having obtained a registrable qualification he has attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration (5) the examination shall have been conducted by examiners specially qualified and shall comprise laboratory work as well as written and oral examination (6) the rules as to study shall not apply to medical practitioners registered, or entitled to be registered on or before Jan 1st, 1890 It was enacted by Section 18 (2) of the Local Government Act [England and Wales] 1888, that after Jan 1st 1892, no such appointment (that of medical officer of health) may be made in any county or in any district or combination of districts with a population of 50 000 or upwards, unless the officer—having of course, qualifications in Medicine, Surgery and Midwifery—is registered as the holder of a diploma in Sanitary Science, Public Health, or State Medicine under Section 21 of the Medical Act 1886 or has during any three consecutive years preceding 1892 been medical officer of a district or combination of districts with a population of 20 000 at least, or has for three years previously to August 13th 1888 been a medical officer or inspector of the Local Government Board With the sanction of the Local Government Board the same person may be appointed medical officer for two or more districts

The regulations in question as to study may be procured at the office of the General Medical Council in London

London University—Sanitary Science is included under the head of State Medicine in the M.D degree and a certificate has to be produced showing that a course of practical instruction has been attended for the prescribed period, and that the course has included such chemical, microscopical, and meteorological work and exercises as more especially relate to sanitation. The attendance includes six months practical instruction in a laboratory and six months outdoor sanitary work. Certificates will be received from the holder of any public health office directly or indirectly subject to control by a Secretary of State or a Government Department. Candidates for the M D degree in State Medicine must have (1) studied State Medicine for two years or (2) have studied State Medicine for one year and have held for a period of two years the position of medical officer of health in any sanitary district or (3) without having studied State Medicine have held for a period of three years the position of medical officer of health in any sanitary district

Cambridge University—Two examinations in so much of State Medicine as is comprised in the functions of medical officers of health will be held during the year 1902-3 in Cambridge Each examination will consist of two parts Part I will begin on the first Tuesday in April and October respectively Part II will begin on the second Tuesday in April and October respectively, and each part will end on the following Thursday Any person whose name is on the Medical Register is admissible as a candidate for this examination provided (1) a period of not less than twelve months shall have elapsed between the attainment of registrable qualification and the time when he presents himself for either part of the examination, (2) he produce evidence of having after obtaining a registrable qualification attended during three months the practice of a hospital for infectious diseases at which opportunities are afforded for the study of methods of administration (3) he produce evidence of having, after obtaining a registrable qualification attended during a period of six months on one or more courses approved by the Syndicate of practical laboratory instruction in Chemistry Bacteriology and the Pathology of those diseases of animals that are transmissible to man (4) he produce evidence of having after obtaining a registrable qualification for six months (of which at least three months shall be distinct and separate from the period of Laboratory instruction) been associated day by day in the duty routine and special of public health administration under the supervision of (*a*) in England and Wales either the medical officer of health of a county or of a single sanitary district having at the date of the last census a population of not less than 50 000 or the medical officer of health of a combination of two or more sanitary districts having collectively at the date of the last census a population of not less than 35 000 or (*b*) in Scotland or Ireland the medical officer of health of a county or of one or more sanitary districts having at the date of the last census a population of not less than 30 000 or (*c*) a medical officer of health who is a teacher in the department of public health of a recognised medical school A certificate of an assistant officer of health of a county or a large urban district may be accepted, provided the medical officer of health of a county or district consents to the assistant officer giving such instruction Any candidate who shall produce evidence that he has himself held an appointment as medical officer of health under conditions not requiring the possession of a special sanitary diploma shall be exempt from this regulation The provisions as to previous study shall not apply to medical practitioners registered, or entitled to be registered, on or before Jan 1st 1890 The first part of the examination will have reference to the general principles of sanitary science and will comprise the following subjects The elements of chemistry and physics methods of chemical analysis and in particular the analysis of air and water The laws of heat and the elements of pneumatics hydrostatics, and hydraulics in their application to warming ventilation water supply and drainage The geological and other conditions determining the healthiness of sites for dwellings Sources storage, and purification of water-supply The elements of meteorology in relation to health Principles of building construction in their application to dwellings hospitals and schools The disposal of sewage and refuse and the general principles of sanitary engineering Disinfectants their chemistry and use The chemical and microscopical examination of foods and the detection of the commoner forms of contamination The methods of bacteriological investigation and analysis The bacteriology of air water food and soil The general pathology of infection and of the diseases of animals that are transmissible to man The second part of the examination will have reference to State Medicine and to the applications of Pathology and Sanitary Science, and will comprise the following subjects Laws and Statutes relating to Public Health[1] The model by laws of the Local Government Board Sanitation of dwellings, schools factories, and workshops, and of villages and towns Inspection of slaughter houses cowsheds &c Inspection of meat and other articles of food General epidemiology with special reference to the origin pathology symptoms prevention geographical distribution, and prevention of the epidemic, endemic and other infective diseases both of temperate and of tropical climates The methods applicable to the medical investigation of epidemics Effects on health of over crowding, vitiated air, impure water, polluted soils, and bad or insufficient food Unwholesome trades and occupations, and the diseases to which they have rise Nuisances injurious or dangerous to health The effects on health of season and climate. The principles and methods of vital statistics in relation to public health. (N B —The foregoing schedule is not to be understood as limiting the scope of the examination, which will include every branch of sanitary science No candidate will be approved by the examiners who does not show a high proficiency in all the branches of study, scientific and practical, which bear upon the duties of medical officers of health) The examination in both parts will be oral and practical as well as in writing One day at least will be devoted to practical laboratory work and one day to oral and practical examination in, and reporting on, subjects connected with outdoor sanitary work Candidates may present themselves for either part separately or for both together at their option , but the result of the examination in the case of any candidate will not be published until he has passed to the satisfaction of the examiners in both parts Every candidate will be required to pay a fee of £6 6*s* before admission or re admission to *either part* of the examination, but candidates who have presented themselves before the year 1896 will be re admitted to either part on payment of a fee of £5 5*s* Every candidate who has passed both parts of the examination to the satisfaction of the examiners will receive a diploma testifying to his competent knowledge of what is required for the duties of a medical officer of health All applications for information respecting this examination should be addressed to Dr Anningson, Walt-ham-sal Barton road, Cambridge, Secretary to the Syndicate Candidates who desire to present themselves for the examination must send in their applications on forms supplied for the purpose and transmit them with the fees to J W Clark M A., Registrary, University of Cambridge, for the April examination on or before March 17th and for the October examination on or before Sept 15th The prescribed certificates must be sent to the Registrary so as to reach him not later than 10 A M on March 29th and Sept 27th respectively Cheques should be crossed "Barclay and Co , Ltd " The fee for either part of the examination cannot be returned to any candidate who fails to present himself, but he will be entitled, without an additional fee, to be a candidate on one subsequent occasion Candidates must before admission to either part of the examination produce evidence of having satisfied provisions (1), (2), and (3), and before admission to Part II having satisfied provisions (4), above mentioned The following is a list of colleges and schools of medicine at which the courses of laboratory instruction have, for the purposes of this examination, been already approved by the State Medicine Syndicate The Chemical and Pathological Laboratories Cambridge , the London Hospital Medical College , St Bartholomew's Hospital Medical College , King's College, London , University College, London , the Army Medical School, Netley , Owens College, Manchester , the University of Durham Medical School, Newcastle on-Tyne , Mason College, Birmingham , University College and Southern Hospital School, Liverpool, St Mary's Hospital Medical College , Charing cross Hospital College , Westminster Hospital Medical School, University College, Bristol , Yorkshire College, Leeds , Guy's Hospital Medical School , St Mungo's College, Glasgow , Edinburgh University Public Health Laboratory , Middlesex Hospital Medical School , Royal Southern Hospital, Liverpool , Royal Colleges, Edinburgh , Surgeons' Hall, Edinburgh , British Institute of Preventive Medicine , Trinity College, Dublin , Queen's College, Belfast , St Thomas's Hospital Medical School , University College, Cardiff , University College, Sheffield , and Medical School, Catholic University, Dublin

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[1] All candidates will be examined in the provisions of the English Statutes relating to public health but any candidate will be given an opportunity of showing a special knowledge of other sanitary laws in operation within the British Empire, provided that [illegible] [illegible] [illegible] to the examiners [illegible] [illegible] the special law he proposes to offer

University of Oxford (Diploma in Public Health) —An examination, open to all registered medical practitioners, conducted partly in writing, partly *vivâ voce*, and in each subject partly practical, is held in Michaelmas Term in the following subjects —General Hygiene, General Pathology (with special relation to Infectious Diseases), the Laws relating to Public Health, Sanitary Engineering, Vital Statistics The fee for admission to the examination is £10 The names of candidates must be sent on or before Nov 8th to the Secretary to the Boards of Faculties, to whom applications for any further information should be made

University of Durham —Sanitary Science is the special object of the degrees in Hygiene Candidates for the degree of Bachelor in Hygiene (B Hy) must be at least twenty two years of age, registered, and a graduate in Medicine of a recognised university, and at least twelve months shall have elapsed after the date when the candidates obtained their first registrable qualification in Medicine, Surgery, and Midwifery before presenting themselves for examination They shall spend six months at Newcastle upon Tyne studying Comparative Pathology, Practical Bacteriology, Outdoor Sanitary Work, Infectious Diseases, Sanitary Chemistry, and Physics. They have to pass an examination in Sanitary Chemistry, Physics, Comparative Pathology, Sanitary Legislation, Vital Statistics, Nosology, Climatology, Meteorology, Distribution of Health and Disease, Sanitary Medicine and Practical Hygiene The fee for the examination for the degree of B Hy is 10 guineas, and for the degree £6 6*s* The examination is divided into two parts and candidates may present themselves for either part or both together at their option Candidates for the degree of Doctor in Hygiene (D Hy) must have acquired the degree of Bachelor in Hygiene, must for two years subsequently have been engaged in practice as a medical officer of health and must write an essay upon some practical hygienic subject The fee for the examination for the degree of D Hy is £5, and for the degree £6 6*s* The regulations for education and examination for the Diploma in Public Health (D P H) are the same as those for the degree of Bachelor of Hygiene, except that the candidate is not required to be a graduate in Medicine of a recognised University, and the course of study need not be passed at Newcastle upon Tyne The fee for the examination and Diploma in Public Health is 10 guineas

Victoria University —An examination in Public Health is held yearly under the following regulations The examination is in two parts, and is written, oral, and practical Candidates before entering for either part of the examination must have held for not less than twelve months a registrable qualification in Medicine, Surgery and Midwifery, and must present satisfactory certificates of having attended courses of instruction in Public Health in a college of the University, or in a college or medical school recognised for this purpose by the University , of having attended, after obtaining a registrable qualification, during at least six months, practical instruction in a laboratory approved by the University, the courses including Chemistry as applied to Public Health, Bacteriology, and the Pathology of those diseases of animals which are communicable from animals to man , of having attended for three months the clinical practice of a hospital for infectious diseases , of having practically studied the duties of outdoor sanitary work for not less than six months under the medical officer of health of a county or of a large urban district Candidates may present themselves for Parts I and II separately or at the same time, provided that no candidate be admitted to Part II unless he has already passed in Part I No candidate's name will be published until he has satisfied the examiners in both parts of the examination The fee for each part is £5 5*s* , and must be paid on or before July 1st in each year For any subsequent examination in the same part the fee will be £3 3*s* Every candidate who has passed both parts of the examination to the satisfaction of the examiners, and who is legally registered, will receive a Diploma in Public Health The examinations will begin on the third Monday in July each year

Royal College of Physicians of London and the Royal College of Surgeons of England — The following are the regulations for obtaining the Diploma in Public Health Section 1 Candidates must be registered under the Medical Act The examination consists of two parts The fee for each part is £6 6*s* A candidate intending to present himself must give fourteen days' written notice to the Secretary, at the Examination Hall, Thames Embankment, W C A candidate registered under the Medical Act on or before Jan 1st, 1890, will be admissible to Part I of the examination on producing evidence of being at least twenty three years of age, and to Part II. on producing evidence of being at least twenty-four years of age A candidate registered under the Medical Act after Jan 1st, 1890, will be admissible to examination in Part I on producing evidence (1) of having been in possession of a registrable qualification in Medicine Surgery and Midwifery for at least twelve months (2) of having attended, after obtaining such registrable qualification practical instruction in a laboratory recognised by the Examining *Board in England during* a *period of six months* and (3) of being at least twenty three years of age A candidate will be admitted to Part II of the examination on producing evidence (1) of having been associated day by day in the duty routine and special of Public Health administration during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under Par 2 for Part I) under the supervision of a medical officer of health who fulfils certain conditions which can be ascertained on application to the secretary (2) of having attended the clinical practice of a hospital for infectious diseases recognised by the Examining Board in England after obtaining his registrable qualification in Medicine, Surgery and Midwifery and (3) of being at least twenty four years of age.

King's College London — The necessary Laboratory Instruction to comply with the regulations of the various Universities and other Medical Licensing Bodies will be given by Professor William R. Smith, M D D Sc and Professor Hewlett, M D Lond The syllabus includes Physics Chemistry Microscopy, Parasites and other Organisms Infesting Food stuff or the Human Body Bacteriology including the Cultivation and Recognition of Micro-organisms The course will last six months, four months of which will be spent in the Laboratories of Public Health, and two months in the *Bacteriological Laboratory Fee 20 guineas* payable in advance in the College office Under the direction of Professor William R. Smith, M D D Sc., and Demonstrator E Russell B Sc. F C S., practical instruction will be given in the laboratories in the methods of Analysis of Air Water Foods &c., Detection of Poisons. Fees, one month £4 4*s*, three months, £10 10*s* The laboratories are also available for original investigations and practical work in Public Health and are open daily from 9 A.M to 4 P M. and on Saturdays to 1 P M In Public Health special classes will be held during the winter session by Professor W R Smith fee, £12 12*s* The Bacteriological Laboratory is open daily for original research under the direction of the professor and demonstrator of General Pathology and Bacteriology For one month for original research 5 guineas For a longer period by arrangement. For one month for private study with supervision 5 guineas For a longer period by arrangement Practical course for a month with attendance on lectures 5 guineas For a year 30 guineas. Professor H G Seeley F R S. will deliver a *course of six lectures on* Physiography

University College Bristol —A course of lectures on the Principles and Practice of Hygiene is given at the College by D S. Davies M D Lond. D P H Cantab on Mondays and Fridays, 10–11 A M., commencing on the first Monday in October A six months course of Practical Laboratory Instruction is given at the Western Counties Laboratory Park street, by Mr F Wallis Stoddart commencing on the first Wednesday in October and including the subjects of Chemistry and Physics Instruction in Bacteriology is given at the College by Professor A. F Stanley Kent, M.A. F L.S F G S Demonstrations on the provisions and practical working of the various Acts relating to Public Health and on the Orders Circulars, and By laws of the Local Government Board are delivered by Mr J C Heaven on Mondays and Fridays commencing on the first Monday in October Gentlemen taking out the course are admitted to practical outdoor sanitary work during the session under the supervision of the medical officer of health for the city and port of Bristol They are considered as pupil assistants and are required to carry out diligently such of the duties of medical officers of health as they may be directed to undertake Facilities are afforded during the course for the study of those diseases of the lower animals which are communicable to man Fee for the entire course 30 guineas

University of Birmingham —The University grants a degree of B Sc in Public Health and also a Diploma in the same subject on the following conditions Graduates in Medicine of this University may become candidates for the degree of Bachelor of Science in Public Health by conforming to all the requirements laid down for candidates for the Diploma in Public Health except that after graduating in Medicine all courses of study must be taken out in the University and they must in addition have attended a three months course of Geology in the University The following are the regulations for Diploma in Public Health (general conditions) —1. All candidates must be registered under the Medical Act 2 The examinations will be held in the months of January and June and will consist of two parts No candidate will be allowed to pass Part II until he has passed Part I 3 Candidates may enter for Parts I and II separately or at the same time 4 The examination in each part will be written oral and practical 5 Candidates intending to present themselves for either part of the examination must give 14 days notice in writing to the registrar of the University 6. The fee for each part of the examination is £5 The conditions of admission to the examinations are identical with those recently approved by the General Medical Council

SCOTLAND

Edinburgh University —Two degrees in Science in the Department of Public Health are conferred by the University of Edinburgh, viz. Bachelor of Science in Public Health and Doctor of Science in Public Health Candidates for the degree of B Sc in Public Health must be graduates in Medicine of a University of the United Kingdom, or of some other University recognised for the purpose and must pass two examinations for the first of which they must, after graduation in Medicine have worked for at least twenty hours per week during a period of not less than eight months of which at least five consecutive months must be in the *Public Health Laboratory of the University of Edinburgh* and the remainder either there or in a laboratory recognised by that University they must also have attended lectures on Physics and Geology in some Scottish University Candidates are not admitted to the Second Examination sooner than six months after having passed the First Examination nor sooner than eighteen months after having taken their degree in Medicine and they must have attended two separate courses in Public Health in some University of the United Kingdom or in such medical school or Indian Colonial or Foreign University as may be approved for the purpose by Edinburgh University each course consisting of forty lectures at least one of these courses shall deal with medicine and the other with engineering each in its relation to public health They must also give evidence (1) that for six months they have practically studied sanitary work under the medical officer of health of a county or borough or district containing a population of not less than 25 000 (2) that they have had three months clinical instruction regarding *fevers* and infectious diseases and (3) that they have had three months instruction in mensuration and drawing The subjects of examination include Laboratory work Physics, Geology Medicine in its application to Public Health, Sanitation, Sanitary Law and Vital Statistics Graduates who have held the degree of B Sc in Public Health from the University of Edinburgh *for a term of five* years may offer *themselves for the degree of* D Sc in Public Health in that University They must then present a Thesis and pass an examination in Public Health. The *fees* are £3 3*s* for the First and £3 3*s* for the Second B Sc Examinations and £10 10*s* for the degree of D Sc.

University of Aberdeen —The Diploma in Public Health (D P H.) is conferred only on graduates in Medicine of a University in the *United Kingdom and a period of not less* than twelve months must elapse between medical graduation and entrance to the examination for the diploma Every candidate must produce evidence of having attended after graduation in Medicine during a period of six months, practical instruction in Hygiene and Bacteriology in laboratories approved of by the University together with having during six months (whereof three months must be distinct from the period of laboratory instruction) been associated day by day in the duties of Public Health administration under the medical officer of health of a county or large urban district He must also have regularly attended for six months the wards of a general fever hospital containing not less than fifty beds Every candidate who is not a graduate in Medicine of this University must have attended a course of instruction in the University in one or more of the subjects embraced in the examination for the diploma The diploma is conferred after an examination in Public Health held in March and July [illegible] each year Candidates desiring to appear for examination at either of these periods must send in their names with the necessary fee, to the Secretary of the Medical Faculty a fortnight before the examination The fee is £5 5s The examination is conducted by specially qualified examiners appointed by the University Candidates may enter for the whole examination at one period or they may enter for Part I at one period and for Part II at another and subsequent period

The Royal Colleges of Surgeons and Physicians of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow —All candidates for the Diploma in Public Health must have been qualified for at least one year Those qualified before 1890 do not require to produce evidence of attendance on any special courses All other candidates must have attended, after qualifying, six months' practical instruction in a recognised public health laboratory or laboratories, and must have studied for six months the duties of outdoor sanitary work under the medical officer of health of a county or large urban district or a medical officer of health who is also a teacher of Sanitary Science in a Medical School, or must themselves have held an appointment as medical officer of health under conditions not requiring the possession of a sanitary diploma It is also recommended where possible to take out a course of instruction in the diseases of animals transmissible to man There are two examinations, and candidates may enter for both at one period or for either separately The First Examination includes (*a*) Laboratory Work (Chemistry and Bacteriology), (*b*) Physics, and (*c*) Meteorology, and the Second Examination embraces (*a*) Report on Premises visited, (*b*) Examination at Fever Hospital, (*c*) Examination at Public Abattoir, (*d*) Written and Oral Examinations on Epidemiology and Endemiology, (*e*) Vital Statistics and Sanitary Law, and (*f*) Practical Sanitation The fee is 12 guineas for both examinations, or 6 guineas for either of them A fee of £3 3s is payable by rejected candidates for either examination The examination is held twice yearly in May and October The published regulations provide detailed synopses of the subjects of examination and give lists of books from which to select The Registrar for Edinburgh is Mr James Robertson, solicitor, 54, George-square, and for Glasgow Mr Alexander Duncan, LL D, 242, St Vincent street

IRELAND

Royal University of Ireland —This University grants a Diploma in Sanitary Science. It is conferred only on graduates in Medicine of the University Candidates are not admitted to this examination until the lapse of twelve months from the time of obtaining the first registrable qualification, they must give notice in writing to the Secretaries of their intention to present themselves and must pay the fee, £2 at least one month previously to the examination Candidates are required to produce a certificate of having, after obtaining the degrees of M B, B Ch, B A O, attended six months practical instruction in a laboratory approved by the University, and also of having for six months practically studied the duties of outdoor sanitary work under the Medical Officer of Health of a county or large urban district Candidates at this examination must answer in the following subjects (1) Physics, (2) Climatology, (3) Chemistry (4) Microscopy, (5) Bacteriology, (6) Geology, (7) Sanitary Engineering, and (8) Hygiene, Sanitary Law, and Vital Statistics

University of Dublin —The Diploma in Public Health is conferred, after examination on the following conditions —The candidate must be a Doctor in Medicine or a graduate in Medicine, Surgery, and Midwifery of Dublin, Oxford, or Cambridge The name of the candidate must have been on the Medical Register at least twelve months before the examination The candidate must have completed (unless registered as a practitioner on or before Jan 1st, 1890), subsequently to registration, six months' practical instruction in a laboratory approved by the University and also have studied practically outdoor sanitary work for six months under an approved officer of health The subjects of examination will be —Part I Chemistry, Bacteriology, and Hygiene, Pathology (including methods of post-mortem examinations), Physics, and Meteorology Part II Hygiene and Epidemiology, Vital Statistics, Public Health Acts, Sanitary Engineering and Reports

Royal College of Physicians and Royal College of Surgeons in Ireland —Stated examinations for the Diploma in Public Health are held in the months of February, May, and November. A special examination for the diploma can be (except during the months of August and September) obtained on payment of £10 10s, in addition to the ordinary fees mentioned below, and on giving notice at least one fortnight before the date of the proposed examination Every candidate for the Diploma in State Medicine must be a registered medical practitioner (Candidates registered or entitled to be registered prior to January, 1890, are exempt from the rules as to study) He must subsequently to qualification (1) receive six months' laboratory instruction in Chemistry, Bacteriology, and the Diseases of Animals transmissible to man, and (2) during six months either practically study outdoor sanitary work under a medical officer of health or himself hold an appointment of medical officer of health under conditions not requiring the possession of a special sanitary diploma and shall as an additional requirement attend a hospital for infectious diseases, unless this has been already done during his ordinary medical course Candidates are examined on four days commencing on the first Tuesday of February, May, and November, Each candidate must return his name to the secretary of the Committee of Management under the Conjoint Scheme three weeks before the examination, and lodge with him a testimonial of character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh The fee for the examination is £10 10s The examination for the diploma in State Medicine comprises the following subjects —State Medicine and Hygiene, Chemistry, Meteorology and Climatology, Engineering, Vital Statistics, Law and Bacteriology For further particulars apply to the Secretary, Committee of Management, Office, Royal College of Physicians, Dublin

DENTAL SURGERY

ANYONE who is on the Medical Register is entitled to practise as a dentist, although he cannot register as such without the special licence, but it is of eminent advantage to take the L D S, otherwise few dental appointments at general or special hospitals or dispensaries are available, and, what is still more important, the manual dexterity and knowledge of mechanics requisite for the successful practice of dentistry can only be gained by long and careful training at the dental operating chair and in the dental laboratory, and, this having been attained, it is but little trouble to pass the special examinations The subjects beyond those included in the general qualification are—Dental Anatomy and Physiology (Human and Comparative), one course, a separate course of Dental Histology, including the preparation of microscopical sections, Dental Surgery, one course, a separate course of Practical Dental Surgery, a course of not less than five lectures on the Surgery of the Mouth, Dental Mechanics, one course, a course of Practical Dental Mechanics, including the manufacture and adjustment of six dentures and six crowns, Dental Metallurgy, one course, a course of Practical Dental Metallurgy, Practice of Dental Surgery at a recognised school, two years, and a certificate of having been engaged during a period of not less than two years in acquiring a knowledge of Dental Mechanics (this may be obtained by apprenticeship to a duly qualified dental practitioner or in the mechanical department of a recognised dental hospital) The Dental Schools in London are the Dental Hospital of London, the National Dental Hospital and College, and Guy's Hospital Dental School Most of the large provincial towns have now dental hospitals A convenient arrangement by which the M R C S, L R C P, and L D S can be taken is as follows —The Preliminary Examination in General Education having been passed the student should become apprenticed to a qualified dentist and register as a dental and medical student (This instruction, however, may be taken prior to the date of registration as a dental student.) During his apprenticeship the student should receive instruction in Chemistry and Physics, Pharmacy and Elementary Biology, and pass in these subjects before entering the hospital (The foregoing constitute the First Examination) Having entered the hospital the student should attend the dental and general courses contemporaneously, and pass at the end of the second winter the Second Examination—namely, Anatomy and Physiology At the completion of his second year of study the Dental Examination should be passed

The student should then devote his time to general studies and pass the Third Examination When time permits it is advisable to attend the general hospital only until after the First and Second Examinations have been passed At this point a break may be made to admit of the completion of the dental curriculum and the passing of the examinations for the L D S diploma The best course, however is to entirely finish the curriculum for the M R C S and L.R.C P and then take the special Dental work. The regulations for the Dental Licence of the Royal Colleges of Ireland and Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow are very similar to those of the English College The L D S can also be obtained alone

REGISTRATION OF DENTAL STUDENTS.

The registration of dental students is carried on at the Medical Council Office in London in the same manner as the existing registration of medical students, and subject to the same regulations as regards Preliminary Examinations Students who commenced their professional education by apprenticeship to dentists entitled to be registered or by attendance upon professional lectures before July 22nd, 1878 (when dental education became compulsory) are not required to produce evidence of having passed a Preliminary Examination. Candidates for a diploma in Dental Surgery must produce certificates of having been engaged during four years in professional studies and of having received three years instruction in mechanical dentistry from a registered practitioner One year a *bonâ fide* apprenticeship with a registered dental practitioner after being registered as a dental student, may be counted as part of the four years of professional study The three years of instruction in mechanical dentistry or any part of them may be taken by the dental student either before or after his registration as a student, but no year of such mechanical instruction will be counted as one of the four years of professional study unless taken after registration.

It is now necessary for anyone practising Dental Surgery in this country to register and no foreign qualifications are admitted

The Royal College of Surgeons of England grants a diploma in Dental Surgery under the following regulations, which apply to all candidates who have registered as dental students after Jan 1st, 1897 Candidates are required to pass three examinations the Preliminary Science Examination the First Professional Examination and the Second Professional Examination I Preliminary Science Examination —Before admission to this examination the candidate must produce a certificate of having received instruction (which may be taken prior to the date of registration as a dental student) at a recognised institution in Chemistry Physics and Practical Chemistry The examination consists of these subjects and is identical with Part I of the First Examination of the Examining Board in England *II* The First Professional Examination —The candidate must produce the following certificates 1 Of having been engaged during a period of not less than three years in acquiring a practical familiarity with the details of mechanical dentistry under the instruction (which may be taken prior to registration as a dental student) of a competent practitioner or under the direction of the superintendent of the mechanical department of a recognised dental hospital In the case of qualified surgeons evidence of a period of not less than two, instead of three, years of such instruction will be sufficient. 2. Of registration as a dental student by the General Medical Council. 3 Of having attended at a recognised Dental Hospital and School (*a*) a course of lectures on Dental Metallurgy (*b*) a course of Practical Dental Metallurgy (*c*) a course of Lectures on Dental Mechanics and (*d*) a course of Practical Dental Mechanics including the manufacture and adjustment of six dentures and six crowns Candidates may present themselves for the First Professional Examination after the completion of six months attendance at a recognised Dental Hospital and School The Examination consists of Mechanical Dentistry and Dental Metallurgy the examination in Dental Metallurgy will be by written paper III The Second Professional Examination —The candidate must produce the following certificates 1 Of having been engaged during four years in the acquirement of professional knowledge subsequently to the date of registration as a dental student. 2. Of having attended at a recognised dental hospital and school (*a*) a course of Dental Anatomy and Physiology, (*b*) a separate course of Dental Histology including the preparation of microscopical sections, (*c*) a course of Dental Surgery, (*d*) a separate course of Practical Dental Surgery, (*e*) a course of not less than five lectures on the Surgery of the Mouth, which lectures may be given at a dental hospital or at a recognised medical school; in the latter case they may form part of the course of lectures on Surgery (*f*) a course of Dental Materia Medica, and (*g*) a course of Dental Bacteriology, (*f*) and (*g*) will only be required of candidates who enter at a Dental Hospital on or after May 1st 1902. 3. Of having attended at a recognised dental hospital or in the dental department of a recognised general hospital the practice of Dental Surgery during two years 4 Of having attended at a recognised medical school (*a*) a course of lectures on Anatomy (*b*) a course of lectures on Physiology, (*c*) a separate Practical Course of Physiology (*d*) a course of lectures on Surgery and (*e*) a course of lectures on Medicine 5 Of having performed Dissections at a recognised medical school during not less than twelve months 6. Of having attended at a recognised hospital the practice of Surgery and *Clinical Lectures on Surgery during two winter sessions* 7 Of being twenty-one years of age The certificates of professional study will be required to show that students have attended the courses of professional study to the satisfaction of their teachers Candidates may present themselves for the Second Professional Examination after the completion of four years professional study from the date of registration as a dental student and after the lapse of not less than six months from the date of passing the First Professional Examination The Second Professional Examination consists of Part I. General Anatomy and Physiology General Surgery and Pathology, Part II Dental Anatomy and Physiology Dental Pathology and Surgery and Practical Dental Surgery The written examination in Part I. comprises General Anatomy and Physiology General Pathology and Surgery and in Part II Dental Anatomy and Physiology and Dental Pathology and Surgery At the Practical Examination candidates may be examined (*a*) on the treatment of Dental Caries, and may be required to prepare and fill cavities or to do any other operation in Dental Surgery (candidates must provide their own instruments) (*b*) on the Mechanical and Surgical Treatment of the various irregularities of Children s Teeth There is also an Oral Examination Candidates may take the two parts of the examination together or separately Exemption from the Preliminary Science Examination is granted to candidates who have passed an Examination in Chemistry and Physics for a degree in Medicine at a University in the United Kingdom, in India, or in a British colony Exemption from Examination in Anatomy and Physiology is granted to candidates who have passed the Second Examination of the Examining Board in England or the corresponding Examination of the Royal College of Surgeons of Edinburgh of the Royal College of Surgeons in Ireland or the Faculty of Physicians and Surgeons of Glasgow or of any University in the United Kingdom Exemption from Examination in General Surgery and Pathology is granted to candidates who have passed the Examination in Surgery of the Examining Board in England or the corresponding Examinations of the Colleges and Universities above mentioned The fee for the diploma is 20 guineas and is payable as follows:— Preliminary Science Examination, 3 guineas First Professional Examination, 2 guineas Second Professional examination 5 guineas the balance to be paid on the completion of the Examinations The Preliminary Science Examination is held in January March or April. July and October in each year The First and Second Professional Examinations are held in May and November in each year Candidates must give twenty-one clear days notice of their intention to present themselves for examination

Royal College of Surgeons Edinburgh —For the Licence in Dental Surgery all candidates must pass a Preliminary Examination in General Knowledge and have their names inscribed in the Register of Dental Students of the General Medical Council A copy of regulations giving a list of Preliminary Examinations recognised for obtaining this Licence as well as of the subjects of the Professional Examinations, may be obtained from Mr James Robertson, Clerk to the Royal College of Surgeons, at 54 George-square, Edinburgh. Students who commenced their professional education by apprenticeship or attendance on lectures before July 22nd, 1878, are exempt from the Preliminary Examinations Candidates must produce certificates of having, subsequently to the date of registration, been engaged for four years in professional studies and of three years' instruction in Mechanical Dentistry from a registered dental practitioner, except in the case of previously registered medical practitioners, when two years will be considered sufficient Candidates who have commenced their studies *after* Oct 1st, 1890, must have attended the following curriculum Anatomy, one course of six months, Practical Anatomy, twelve months, Chemistry, one course of six months, Practical Chemistry, one course of three months, Physiology one course of six months, Materia Medica, one course of three months, Surgery, one course of six months, Medicine, one course of six months, and attendance on the practice of a recognised general hospital, with Clinical Instruction, twelve months (Candidates who commenced study in accordance with the regulations in force before July, 1895, shall not be required to attend more than six months' hospital work) These courses must have been attended at a University or in an established school of medicine or in a provincial school specially recognised by the College as qualifying for the diploma in Surgery In addition to these courses candidates will be required to have attended in a recognised dental hospital, or with teachers recognised by the College, the following special courses of lectures and instruction Dental Anatomy and Physiology (Human and Comparative) (not less than 24 lectures), Dental Surgery and Pathology (not less than 20 lectures), Dental Mechanics (not less than 12 lectures)—one course each, two years' attendance at a dental hospital or the dental department of a general hospital recognised by the College Certificates of attendance on such of these courses of the new curriculum as may be respectively required will entitle candidates to appear either for the First Dental Examination or for the First and Second Examinations for the Triple Qualification, as they may select, and subject to the existing regulations for each qualification Candidates who have passed the First and Second Examinations for the Triple Qualification will be exempt from the First Dental Examination and will have the advantage of being admissible either to the Final Dental Examination or to the subsequent Examination for the Triple Qualification, or to both But the First Dental Examination will not be held as equivalent to the First and Second Triple Examinations and will admit to the Final Dental Examination only Candidates who are Licentiates of this College or who may be registered medical practitioners will be required to produce certificates of attendance on the special subjects only and will be examined in these only for the dental diploma First Professional Examination The candidate must have attended the courses on Anatomy, Chemistry, and Physiology The examination embraces Anatomy, Chemistry, and Physiology The fee for those candidates who began study before Oct. 1st, 1896, is £4 4*s* Second Examination The candidate must have attended the remaining courses of the curriculum, must produce certificates showing that he is twenty one years of age, and must pay a fee of £6 6*s* The examination embraces Surgery, Medicine, Therapeutics, and the special subjects of Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics with Dental Metallurgy Unsuccessful candidates will be repaid £2 2*s* in the First and £3 3*s* in the Second Examinations Candidates who claim exemption from the First Dental Examination on the ground of having passed the First and Second Triple Qualification Examinations will, before being admitted to the Second Dental Examination, be required to pay the total fee of £10 10*s* payable for the dental diploma, of which £3 3*s* will be returned in case of rejection The fee payable by candidates who began study after Oct 1st, 1896, shall be £15 15*s*

Faculty of Physicians and Surgeons of Glasgow—The regulations as to certificates, curriculum, number, and subjects of examinations, fees, &c, are in effect similar to those of the Royal College of Surgeons of Edinburgh Special provision is made for candidates who intend to qualify both in Medicine and in Dentistry Candidates can enter for the First Examination in two divisions, the first embracing Physics and Chemistry, and the Second Anatomy and Physiology There is a practical examination in Mechanical Dentistry and also an examination in Practical Dentistry conducted in a dental hospital

Royal College of Surgeons in Ireland—All information concerning the licence in Dentistry may be obtained from the Registrar of the College, who will receive the applications of candidates for permission to be examined The bank receipt for fees, together with all certificates, &c, are to be lodged with him at least seven days prior to the day fixed for the commencement of the examination The Primary Dental Examinations commence on the second Monday in the months of February, May, and November The Final Dental Examinations commence on the Thursdays immediately following the Primary Dental Examinations Candidates are required to pass three examinations—viz., Preliminary (in General Education), Primary Dental, and Final Dental Preliminary Examination.—All examinations in general education recognised by the General Medical Council are accepted by the College Preliminary Examinations are held conjointly by the Royal Colleges of Physicians and Surgeons on the third Wednesdays in March and September Primary Dental Examination —Fee £10 10*s*; for re-examination, if rejected, £5 5*s* Every candidate[1] is required, before admission to the Primary Dental Examination, to produce evidence—(1) of having passed a recognised preliminary examination and of having been registered as a medical or dental student by the General Medical Council, (2) of having, subsequently to registration as a dental or medical student, attended at a recognised medical school the following courses Lectures on Practical Anatomy, including Dental Anatomy, six months, Demonstrations and Dissections, two courses of six months each, Lectures on Chemistry, six months, Lectures on Physiology, including Dental Physiology, six months, Practical Histology, and Practical Chemistry, including Metallurgy, three months, (3) of having attended Clinical Instruction at a recognised general hospital for one year The subjects of this examination are (1) Physics,[2] (2) Chemistry, including Metallurgy, (3) Anatomy, (4) Physiology and Histology, and (5) Surgery Final Examination —Candidates holding L R C S I or students who have passed Primary Dental or Third Professional Examination of the College, £10 10*s*, re-examination, £5 5*s* Fees for Final Examination of all other candidates, £26 5*s*, re-examination, £10 10*s* Extra fee for Special Examination, £5 5*s* Candidates must produce evidence of having passed the Primary Dental Examination of this College, or the Third Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College, and are required to produce certificates of having attended (1) the following courses of lectures recognised by the College Dental Surgery and Pathology (two courses), Dental Mechanics (two courses), (2) for two years the practice of a dental hospital recognised by the College or of the dental department of a general hospital so recognised, (3) of having been engaged during four years in professional studies, and (4) of having received three years' instruction in Mechanical Dentistry from a registered dentist Candidates holding a diploma in Surgery shall be admissible to the Final Dental Examination on producing certificates of having attended (1) one course of Lectures on Dental Surgery and Pathology, (2) one course of Lectures on Dental Mechanics, (3) for one year the practice of a dental hospital recognised by the College, or of the dental department of a general hospital so recognised, where such attendance has been subsequent to the date of diploma (this remission (3) has been made on the understanding that the surgeon devotes his whole time to dental work), and (4) of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry under the instruction of a registered dentist The following are the subjects of examination Dental Surgery, Theoretical (including Dental Pathology), Clinical, and Operative, Dental Mechanics, Theoretical, Clinical, and Practical (including the Metallurgy of the Workshop) Examinations for the Licence in Dentistry *sine curriculo* The Council has power to admit to examination, *sine curriculo*, candidates whose names are on the Dental Register published under the direction of the General Medical Council and who are unable to furnish the certificates required by the foregoing regulations, on presentation of a special schedule of application.

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[1] Candidates educated in England or Scotland are admitted to the Primary Dental Examination on the production of the certificates that would be necessary for both Primary and Final Examinations in their own countries

[2] Candidates who have passed in Chemistry and Physics at a First Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall or an equivalent examination recognised by the College, are exempted from examination in these subjects at the Primary Dental Examination.

TEACHING INSTITUTIONS.

ENGLAND

Royal Dental Hospital of London and School of Dental Surgery, Leicester-square.—The school provides the special dental education required by the Royal College of Surgeons for the Licence in Dental Surgery The general part of the curriculum may be taken at any general hospital. The hospital is open from 9 A.M. to 4 P.M. there being one staff for the morning and another for the afternoon of each day Pupils are received for the three years mechanical training recognised by the curriculum The demonstrators at the commencement of each session give a course of lectures on Operative Dental Surgery The eight house surgeoncies are held for one year each and are open to all qualified students The lecturers in addition to their lectures give special demonstrations on the *Microscopy of Dental Anatomy and Dental Surgery* The lecturer on Dental Mechanics also gives practical demonstrations in the mechanical laboratory Two scholarships of the value of £20 have been founded by Sir Edwin Saunders and Dr Joseph Walker The Storer Bennett Research Scholarship for Scientific Research in any branch of Dental Surgery value £50 is awarded triennially Prizes and certificates are awarded by the lecturers for the best examinations in the subjects of their respective courses, at the end of the summer and winter sessions A prize of the value of 5 guineas is given by Messrs Ash and Sons for the best essay on some surgical subject connected with Dental Surgery The conditions under which this prize is to be competed for are the same as those for the Saunders Scholarship with this exception that the papers are to be written in the hospital during the summer session. Consulting Physician Sir Richard Douglas Powell Bart M D Consulting Surgeon Mr Christopher Heath F R C S Consulting Dental Surgeons Mr T Arnold Rogers M R.C.S L D S and Mr Smith Turner M R.C S L.D S Dental Surgeons Leonard Matheson, L D S, E Lloyd Williams L.R C P M R C S L.D S L S A, W B Paterson F R.C S L.D S, J F Colyer L.R.C P, M R C S. L D S C F Rilot, L R.C P M R.C S L.D S and H Lloyd Williams M.R.C S L D S Assistant Dental Surgeons W H Dolamore, L R.C.P M R C S. L. D S. G Hern L R.C P M R C S L D S. J G Turner L R.C P F R.C S L D S Russell Barrett, L R.C P M R C S L D S N G Bennett, M A., M B B C L R C P M R C S L D.S, D P Gabell L R C P M.R.C.S L D S and W J May L R.C P M R C S. L D S A. Hopewell-Smith L.R.C P M R C S L D S, W S Nowell, M A., L R C P M.R.C S L.D S H Austen M.D, L D S and H J Stevens, L R C P M.R.C S L D.S. Anæsthetists Dudley W Buxton M D B S. Lond M R.C P Lond Carter Braine F R C S, Henry Davis M.R C.S L S A. George Rowell, F R C S and E A. Bridger M D Assistant Anæsthetists R. Turle Bakewell M B Lond. L R.C P M R.C S R J Probyn Williams, M D Durh., George Flux, M D Brux H J Paterson, M.A. M B B C Cantab, F R.C S H Hilliard L.R.C P M R C.S, A M Barford M D Brux. L R.C.P M R.C S Demonstrators W J Law L D S and J R Preston L.D S Medical Tutor Wharburton Brown L R.C.P M R.C S Dental Anatomy and Physiology (Human and Comparative) A Hopewell Smith L.R C P M.R.C S. L D S. Dental Surgery and Pathology W B Paterson F R.C S L.D S Mechanical Dentistry E Lloyd Williams, L R C P., M R.C S. L D S L S A Metallurgy in its Application to Dental Purposes Dr Forster Morley M A. F I C. F C S assisted by Mr H Richards Dental Bacteriology Howard Mummery M R C S., L D S Dental Materia Medica: H A Austen M D B S. Lond M R.C S., L R.C P., L D S During the sessions the surgeons of the day will give demonstrations at stated hours The house surgeons attend daily while the hospital is open. Fee for two years hospital practice required by the curriculum including lectures £50 in one payment, or 50 guineas in two yearly instalments The curriculum requires two years to be passed at a General Hospital, the fee for this is about £55 Both hospitals can be attended simultaneously The fee for three years Mechanical Dentistry is 150 guineas. The Dean Mr Morton Smale attends at the hospital every Wednesday morning from 10 to 12, or he can be seen at other times by appointment. Letters to be addressed—The Dean, 32, Leicester square to be forwarded "

National Dental Hospital and College.—Winter Session 1902–1903, commences on Oct 1st at the new building at the corner of Great Portland and Devonshire streets W.—Consulting Physician Sir W H Broadbent Consulting Surgeon Mr Christopher Heath Consulting Dental Surgeon Mr S J Hutchinson Visiting Physician Dr James Maughan Visiting Surgeon Mr E W Roughton. Dental Surgeons: Mr F H Weiss Mr A Smith Mr E Beverley Mr T G Read and Mr Rushton Assistant Dental Surgeons Mr W Weiss Mr S Colyer Mr S. F Rose Mr A E Relph Dr J Sim Wallace and Mr H J Relph Anæsthetists Mr H P Noble Mr C F A. Macleod Mr C J Ogle, Mr G E Norton Dr J Maughan and Mr F W Collingwood Lecturers (winter) Dental Anatomy and Physiology Dr J W Pare Tuesdays and Thursdays 5 P.M. in October November and December Dental Metallurgy Mr Hugh Candy Tuesdays 5 P.M. in January February and March Dental Mechanics: Mr H Rose, Wednesdays 5 30 P.M., in January February and March Dental Materia Medica Mr Charles W Glassington Tuesdays 6 P.M. October November and December Summer—Dental Surgery and Pathology, Mr H J Relph Tuesdays and Fridays, 4 P.M. in May June, and July Bacteriology of the Mouth Mr K W Goadby Wednesdays at 4 P.M. during May June, and July Practical courses to comply with the R.C S curriculum are also held The hospital is lighted throughout by electricity and warmed and ventilated by approved methods Clinical Lectures and Demonstrations are given from time to time and each student on entering passes through a preliminary course under a demonstrator The stopping rooms have accommodation for 50 chairs *Dresserships in the extraction and stopping rooms* are re-arranged every three months An Entrance Exhibition of the value of £15 is open for competition at the commencement of each summer and winter session Prizes in medals are open for competition at the end of each course of lectures Certificates of honour are given in each class. The Rymer Medal for General Proficiency value £5 is awarded annually to the most meritorious student and the Ash Prize, value £3 3s for a Thesis on a subject in Dental Surgery Total fee for the Special Lectures and Hospital Practice required, 40 guineas Single Courses Dental Anatomy and Physiology Dental Surgery and Pathology Dental Mechanics Dental Metallurgy Bacteriology of the Mouth Dental Materia Medica Demonstration of Dental Mechanics £5 5s each. Hospital Practice to registered practitioners by special permission of Committee 12 months £15 15s The Committee also consider applications from medical men who may desire to attend the Anæsthetic Room for a course of instruction in Nitrous Oxide administration. Information respecting the Hospital Practice and the College may be obtained from the Dean Mr Sidney Spokes, who attends at the Hospital Great Portland-street on Tuesday mornings

Guy's Hospital.—The work of the Dental Department begins daily at 9 A.M. both in the extraction rooms and in the conservation room *The Extraction Rooms* Patients are admitted between 8 45 and 9.30 A.M. and are seen by the dental surgeon for the day the dental house surgeon the assistant dental house surgeon and the dressers Such cases as are suitable for conservative treatment are transferred to the conservation room, taking with them a dental chart to indicate the treatment required *The Conservation Room*: This room is open from 9 A.M. till 5 P.M. There are 55 Morrison chairs each fitted with a saliva ejector for the use of the Dressers who under the supervision of the Staff perform the various operations of Dental Surgery The members of the staff attend every morning and afternoon in the week to give demonstrations and otherwise assist students in their work in the Conservation Room and Mechanical Laboratory Dental students have the opportunity of attending concurrently at this hospital the two courses of instruction required by the examining board for the L.D S Eng viz the special lectures and practice of the *Dental Department* and the general lectures and practice of the Medical School. The fees for the two courses may be paid separately or together or they may be combined with the fees required to be paid for the course for a medical diploma Students who enter for a medical as well as a dental diploma are allowed to pursue their study of Dentistry during any period of their medical course most convenient to themselves without further charge An Entrance Scholarship in Dental Mechanics of the value of £30 is offered for competition annually in September, and prizes of the aggregate value of £35 are awarded for general proficiency and skill in Practical Dentistry Dental students are eligible for admission to the Residential College and enjoy the other social privileges of students in the Medical School

Staff — Dental Surgeons Mr F Newland-Pedley, Mr W A Maggs, and Mr J H Badcock Assistant Dental Surgeons Mr R Wynne Rouw, Mr H L Pillin, Mr M F Hopson, and Mr J B Parfitt, L R C P , M R C S , L D S E Demonstrators of Practical Dentistry Mr J L. Payne, Mr E B Dowsett, Mr P S Campkin, Mr C S Morris, and Mr F J Pearce Anæsthetists Dr F W Cock, Dr H F Lancaster, Mr C J Ogle, Dr W S Handley, Mr R P Rowlands, and Dr R H J Swan Lecturers —Dental Surgery and Pathology Mr Newland-Pedley Dental Anatomy and Physiology Mr Maggs Operative Dental Surgery Mr Badcock Dental Mechanics Mr Wynne Rouw Practical Dental Mechanics Mr Pillin Dental Microscopy Dr Beddard and Dr Spriggs. Metallurgy Mr J Wade, B Sc. Practical Dental Metallurgy Mr Hopson Curator of Dental Museum Mr Payne Dean Dr Fawcett

London Hospital —Mr Dolamore and Mr Farmer give practical instruction during the winter and summer sessions on Mondays, Tuesdays, Thursdays, and Fridays at 9 A M In selecting from candidates for the office of Dental Assistant priority will be given to those who have attended the greatest number of lectures on Dental Pathology and Surgery, and have also been the most punctual in attendance in the dental department A class for special instruction in filling teeth will be formed each term Candidates for Dressership must undertake to attend regularly on Mondays and Thursdays, or on Tuesdays and Fridays, for three months, and to follow the practical course of demonstrations

University of Birmingham —The teaching of Dentistry is undertaken by the University acting in association with the Birmingham Dental Hospital and the Birmingham Clinical Board, so that the students may fully qualify themselves for the Dental diploma of the Royal Colleges There is a special and well equipped Dental Museum and Laboratory An Entrance Exhibition, value £37 10*s* , is awarded annually at the commencement of the winter session The following are the regulations for Degrees in Dentistry —1 The degrees conferred by the University are those of Bachelor and Master of Dental Surgery (B D S and M D S) 2 All candidates for these degrees must pass the same Matriculation Examination as that required from candidates for Medical Degrees 3 The degree of Bachelor of Dental Surgery is not conferred upon any candidate who has not obtained a Licence in Dental Surgery from some body legally entitled to confer such qualification The candidate is not eligible for the degree until a period of 12 months has elapsed from the passing of his examination for the Licence in Dental Surgery Of this period at least six months must be spent in the dental department of a general hospital approved by the University 4 *A* In addition to the Licence in Dental Surgery the candidate must produce evidence that he has attended the Courses required by medical students of the University in the following subjects and passed the Examinations held in the same for Medical and Surgical Degrees (*a*) Chemistry and Practical Chemistry, (*b*) Physics and Practical Physics, (*c*) Comparative Anatomy, (*d*) Anatomy and Practical Anatomy, and (*e*) Physiology and Practical Physiology *B* That he has attended the following Courses (*f*) One Course of Lectures on Medicine, (*g*) One Course of Lectures on Surgery, (*h*) Special Courses of Lectures on the Surgery and Medicine of the Mouth, and (*i*) Pathology and Bacteriology, and has passed the examinations for candidates for Dental Degrees held in each of these subjects *C* That he has attended Courses in (*k*) Dental Histology and Patho-Histology, (*l*) Comparative Dental Anatomy, and (*m*) Dental Surgery and Prosthetic Dentistry *D* That he has received instruction in the Clinical Examination of living cases at the dental department of a general hospital for a period not less than six months 5 The Final Examination will deal with the subjects in Classes *C* and *D* 6 On the expiration of 12 months from the date of passing the Examination for the Degree of Bachelor of Dental Surgery, the candidate will be eligible for that of Master of Dental Surgery 7 For this degree candidates will be required to submit a thesis containing original work and investigations in some subject connected with Dentistry, which thesis shall be submitted to examiners to be nominated by the Board of Dental Studies The degree will be awarded or withheld according to the report of these examiners

University College, Bristol — Dental students can enter for the full curriculum at Bristol. The Lectures are delivered at the college Practical instruction is given at the *Royal Infirmary* by Mr Ackland and at the *General Hospital* by Mr Genge, both institutions being recognised by the Dental Board of the Royal College of Surgeons of England Full information may be obtained of the Dean of the Medical Faculty, Professor E Markham Skerritt, University College, Bristol

Owens College, Manchester —Arrangements have been made for dental students to attend the hospital practice at the Manchester Royal Infirmary and the practice at the Victoria Dental Hospital Lectures on special subjects will be given in the College as follows —Winter session Dental Mechanics, Mr Tanner, Thursday, 4 P M Dental Metallurgy, Mr J P Headridge, Monday, at 3 30 P M Summer session Dental Anatomy and Physiology, Dr Preston, Tuesday at 2 P M , Friday at 2 P M Dental Surgery, Mr Campion, Tuesday and Friday, 3 P M Practical and Operative Dental Surgery, Mr Whittaker, Wednesday Lecture, 2 30 P M , Demonstration, 4 P M Lectures in Dental Histology, Mr D Headridge, Monday, at 2 P M Fee for each course £4 4*s* , for the Class in Practical Metallurgy, £2 2*s* Dental practice for two years at the Manchester Royal Infirmary, £10 10*s* , at the Victoria Dental Hospital at Manchester, £21, paid in advance, or £13 13*s* for the first year and £8 8*s* for the second year At the Victoria Dental Hospital patients attend at 8 30 A M daily, and at 6 30 P M on Monday, Wednesday, and Friday Consulting Surgeon Mr J Hardie Consulting Dental Surgeon Mr H Campion Dental Surgeons Mr G G Campion, Mr H. H Dreschfeld, Mr J W Dunkerley, Mr W Dykes, Mr W Headridge, Mr W A Hooton, Mr P A Linnell, Mr F W Minshall, Mr I Renshaw, Mr W Simms, Mr C H Smale, Mr T Tanner, and Mr G O Whittaker Assistant Dental Surgeons Mr J P Headridge, Mr W H Norman, and Mr T E Sherratt Demonstrator Mr W H Jones Tutor Dr C H Preston Consulting Prosthetic Dental Surgeon Mr T Tanner House Dental Surgeons Mr W Wright and Mr H Hopkinson Curator of Museum Mr D Headridge Administrators of Anæsthetics Dr A Wilson, Mr F H Westmacott, and Dr W B Pritchard. Dean Mr William Simms

University College, Liverpool (*Liverpool Dental Hospital and School of Dental Surgery*) —The courses of systematic instruction are given in University College, five minutes from the Dental Hospital The two institutions are now closely associated and the management of the curriculum is in the hands of a joint committee At the Dental Hospital recent alterations have been made and as it now stands this school offers advantages to students which are not excelled anywhere The ground floor of the building contains the following Extraction-room, with all needful appliances, anæsthetic room, specially reserved with every convenience, and large waiting room for patients The first floor has a large board room and a very comfortable students' room set apart exclusively for the use of students The whole top floor of the building has been thrown into one fine, airy, and well ventilated operating room This room will accommodate upwards of 30 operating chairs, which are of the "Morrison pattern," and each of which has a special electric light (canting pendant) suspended before it In the basement a very convenient workroom has been fitted up containing the necessary requirements and there are commodious lavatories for students A new Laboratory for practical mechanical work has been constructed so as to meet the requirements of the curriculum It is adequately furnished with all the modern appliances of a dental workshop A skilled Dental Mechanic has been engaged and students are able to undertake at the hospital the whole of their training in Mechanical Dentistry The times of the lectures at University College are arranged to meet the convenience of students, thus allowing the maximum time for attendance upon Dental Hospital practice The staff of the hospital includes 12 honorary Dental Surgeons, Prosthetic Dental Surgeon a Demonstrator two House Surgeons and a Curator Fees for two years hospital practice £21. *Apprenticeship* —A limited number of apprentices are admitted annually Fee for three years £105 Further information may be had from the Warden, Mr W H Gilmour

The various medical and dental lectures are given at University College The Anatomical Department contains an excellent collection of skulls illustrative of human and *comparative dental anatomy The dissecting room* and theatre are lighted by electricity The Physiological and Pathological Departments are housed in new and spacious laboratories erected by the Rev S A. Thompson Yates Fees The composition fee for all lectures is £50 in one payment on entrance, or in two equal instalments (one-half on entrance and the remainder within twelve months) The fee for general hospital practice is £10 10s Further particulars can be obtained of A M Paterson M D Dean

Devon and Exeter Dental Hospital, Castle street Exeter —Established 1880 —The hospital is open daily (Sundays excepted) and patients are admitted between the hours of 9 and 11 A M Students attending the practice of the hospital must consider themselves strictly under the control of the medical officers and must not undertake any operation without the consent of the dental surgeon for the day Hon treasurer, Mr J M Ackland hon secretary Mr Henry Yeo

SCOTLAND.

The Incorporated Edinburgh Dental Hospital and School, 31 Chambers street Edinburgh —The Edinburgh Dental Hospital and School is located in a spacious and well equipped building at 31, Chambers street and offers special advantages to dental students The General Courses required for the Dental Diploma may be taken in the Medical School of the Royal Colleges of Physicians and Surgeons or in the University schools The hospital attendance and clinical instruction are taken at the Royal Infirmary The University Medical Schools and Royal Infirmary are within three minutes walk of the Dental Hospital The special courses are taken in the hospital The Dental Hospital practice extending over two years affords a student ample opportunity for a full acquaintance with every branch of dentistry The hospital admits a limited number of indentured pupils They receive their instruction in Mechanical Dentistry concurrently with the general and special courses A premium of 60 guineas is payable with each such pupil The practice and lectures of the hospital are recognised by, and qualify for all the Licensing Boards For the special classes both theoretical and practical required by dental students the directors have secured the services of an efficient staff of dental officers and lecturers There will also be a course of demonstrations in Mechanical Dentistry Students will receive instruction in Practical Dental Mechanics under the mechanician The fee for clinics in gold filling is included in the Dental Hospital fee of £15 15s The minimum cost of classes for the whole course of dental instruction amounts to £90 7s Those students who desire to take a Medical and Surgical Diploma in addition to the L D S have in this school admirable facilities for so doing The triple qualification of the Royal College of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow is recommended The minimum cost of the Professional Education, Triple Qualification and Licence in Dental Surgery amounts to £169 7s The mechanical department is large and airy and furnished with all modern tools and appliances. The Museum, which was recently enriched by the gift of the valuable collection in dental anatomy of the late Mr Andrew Wilson, L D S is open to students for study Further particulars can be obtained from the Dean Mr W Guy F R C S L D S

Dental Hospital and School Glasgow.—The winter session will begin in October and the lectures will be delivered as follows In Dental Mechanics on Monday evenings at 7 30 P M by Mr Hugh McKay L R C S L R C P Edin L.F P.S L D S. and in Dental Metallurgy on Wednesday evenings at 7 30 P M., by W D Anderson, L R C S & P E. L F P S L D S Fee for each of the above courses of lectures £3 3s The lectures and instruction at the Glasgow Dental Hospital and School are recognised by all the licensing bodies in the United Kingdom The *fees* for two years hospital practice are £15 15s Intending students before commencing to attend the lectures or hospital practice must produce evidence of having passed the preliminary examination prescribed by the regulations of the General Medical Council for registration of dental students The hospital is open daily from 5 to 7 P M (Saturdays excepted) Students may enrol either at the beginning of the winter or summer session Summer session begins in April.

Glasgow Royal Infirmary (Dental Department) —Mr W H Gray L D S attends at the Royal Infirmary at 3 P M on Mondays Wednesdays and Saturdays, and gives a course of instruction in Dental Surgery on these days in summer The following course in the curriculum can be taken at St Mungo s College Anatomy six months Practical Anatomy nine months Physiology six months, Chemistry six months, Practical Chemistry with Metallurgy three months, Surgery six months, Medicine, six months, Materia Medica, three months Clinical Surgery, six months, Dental Surgery six months and attendance for two years on the dental department of the hospital The attendance on the Dental Clinic is free to students of the hospital, to dental students one year, £5 5s perpetual £10 10s The winter session opens Thursday Oct 16th.

IRELAND

Royal College of Surgeons in Ireland —The schools of surgery are attached by Charter to the Royal College of Surgeons and have existed as a department of the College for nearly a century They are carried on within the College buildings and are specially subject to the supervision and control of the Council who are empowered to appoint and remove the professors and to regulate the methods of teaching pursued The buildings have been reconstructed the capacity of the dissecting room nearly trebled and special pathological bacteriological public health and pharmaceutical laboratories fitted with the most approved appliances in order that students may have the advantage of the most modern methods of instruction A refreshment room is now open where students can have luncheon There are special rooms set apart for lady students The entire building is heated by hot water pipes and lighted throughout by the electric light.

COOKE S SCHOOL OF ANATOMY, PHYSIOLOGY AND OPERATIVE SURGERY London.—The school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half-a-dozen students in the course of the year these have special advantages both as regards Anatomy and Physiology Charges are but slightly in excess of current charges Particulars forwarded on application By decision of various examining bodies gentlemen rejected at their Anatomical and Physiological Examinations can get signed up for the supplementary work they are required to put in before re-examination The operations of surgery are performed on the dead body; such courses are recognised for army promotion and the Royal College of Surgeons The school possesses a good collection of physiological and chemical apparatus, and gentlemen preparing for the higher examinations receive special instruction in the more difficult subjects

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS) (LONDON COMPANIES) Calthorpe-street, Gray s-Inn road W C —Officer Commanding Lieutenant Colonel J E. Squire V D The Royal Army Medical Corps (Volunteers) bears the same relation to the Volunteer Army as the Royal Army Medical Corps bears to the regular Army The course of training has the great advantage of affording in addition to a knowledge of ordinary military duties, special ambulance instruction useful in all ranks of life All who have gone through the ranks of this corps are capable of rendering valuable aid in any accident, and in cases of emergency may be the means of saving lives which would otherwise be lost. In addition to the drills of an ordinary infantry corps, the special training includes stretcher and waggon and cacolet drill the use of improvised seats and stretchers the use and application of bandages, splints &c., lectures by the officers on first aid to the injured and on the elements of anatomy physiology hygiene and nursing which are so arranged as not to interfere with the lectures &c carried on at the various hospitals in London

The Corps goes into camp for a week in the summer each year for field training There is also a Shooting Club in the corps, in which instruction in, and facilities for, the practice of rifle shooting are given There is a Transport Section in connexion with the corps, the members of which go through a course of instruction in riding and driving and transport work with the regular troops There are also sections of Cyclists and Signallers A Gymnastic Class meets once a week at headquarters, under an instructor who teaches boxing and fencing Lectures are delivered during the winter session The headquarters contain a fine drill hall, mess-rooms, canteen, &c., where dinners, suppers, dances, and smoking concerts can be held at any time. The Adjutant will give any information respecting the above on application to the headquarters, Calthorpe street, Gray's inn road, W C

School of the Pharmaceutical Society of Great Britain —Chemistry and Physics W Palmer Wynne, D Sc. Lond, F R.S Botany Professor Reynolds Green, M A, Sc D, F R S, F L S Pharmaceutics Professor Greenish, F I C, F L S (Dean of the school) The session commences on Wednesday, Oct. 1st Medical students, or pupils intending to enter the medical profession, are admitted to the lectures and laboratory work in any or all the courses Certificates of instruction in this school are received by the Conjoint Board of the Royal Colleges Application for admission to the school, or for further information, may be made to the Registrar, 17, Bloomsbury-square, London, W C

The London College of Chemistry Pharmacy, and Botany, 323, Clapham-road, London, S W — Principal, Henry Wootton, B Sc Lond This College which is established for the purpose of providing thorough and practical instruction in all branches of science, especially for students preparing for Pharmaceutical, Medical and University Examinations, includes large and completely fitted chemical, pharmaceutical, and physical laboratories, lecture-hall, museum, and class rooms Each student has a separate commodious bench, fitted with gas, water, and sink, with large locker for apparatus There is a botanic garden attached to the school

Westminster College of Chemistry and Pharmacy, Ltd, Trinity square, Borough, S E —Principal, G S V Wills, F L S, Ph C Special instruction given to medical and dental students in chemistry, physics and pharmacy Fees and time by arrangement Ladies are prepared for the Dispenser's Examination of the Apothecaries' Hall For prospectus, fees, &c, apply to J E Walden, Secretary

Royal College of Science, London (with which is incorporated the Royal School of Mines) —Mechanics and Mathematics Professor J Perry, F R S Biology Professor G B Howes, F R S (Zoology), and Professor J B Farmer, M A (Botany) Chemistry Professor W A Tilden, F R S, and Dr W P Wynne, F R S Physics Professor H L Callendar, LL D F R S, Mr W Watson D Sc, F R S, and Mr A. Fowler, A R C S, F R A S Geology Professor J W Judd, C B, F R S, and Dr Cullis Metallurgy Professor Sir W C Roberts Austen, K C B, F R S Mining Professor C Le Neve Foster F R S The College re opens on Wednesday, Oct 1st, 1902 Communications should be addressed to the Registrar, Royal College of Science, South Kensington, S W

Electrical Standardizing, Testing, and Training Institution Faraday House 8 and 10, Charing cross road, W C —Principal, Hugh Erat Harrison, B Sc Lond, F C S, A M.I C E, M I E E Instructor in Mathematics Alexander Russell, M A Glasgow and Cambridge Instructor in Chemistry Chas J Wilson, F I C F C S Instructor in Mechanical Engineering Walter H Bell, A M I C E This institution, in addition to its ordinary course of training in electrical engineering, which occupies two or three years, also arranges for special instruction in all branches of electricity either by private tuition or by a specially arranged course at the college or at the works of the companies with which it is associated There are Entrance Scholarships of the value of 80 and 50 guineas, and Exhibitions of 40 guineas Particulars may be obtained on application to the Secretary, Mr Howard Foulds Faraday House, Charing cross road, W C Session begins Sept 15th

MEDICAL TEACHERS

Mr. R. C B Kerin, B A., London, first in First Class Honours in Classics, assisted by a staff of B A. and B.Sc. Honour Graduates, prepares candidates in class and by private tuition for Medical Preliminaries, London Matriculation Preliminary Scientific Inter Science Hospital Scholarships, First Conjoint, First M B Lond., Oxon., and Camb &c. Biological, Chemical, and Physical Laboratories. For last eight years 230 London University Successes and four Hospital Science Scholarships &c.—Carlyon College 55 and 56, Chancery lane, W C

The University Examination Postal Institution prepares candidates either through the post or orally for all Medical Examinations, especially the M.D (London or Durham), the D P H (Cambridge & London) and the F R.C S (England or Edinburgh) There are five tutors holding the M.D or M S degree for the postal preparation, besides other tutors for laboratory work. The institution has a well-equipped laboratory for Public Health work including Bacteriology Oral classes are held during September to revise book work and practical work The Manager is Mr E S Weymouth, M.A., 27, Southampton-street Strand London W C

M.D, B S Lond prepares for all the Professional Exams Small classes are held for the Final College of Surgeons and Physicians the Hall, the M.D s of Brussels and Durham (15 years' standing). Tuition by correspondence.—Address, M D, 23, Wimpole-street, Cavendish-square, W

Special preparations, in class, privately and by correspondence, for the Triple Qualification, Edinburgh Also for Fellowship Examinations of Royal College of Surgeons Edinburgh, and M D Brussels Resident pupils received —Address, Class Rooms, 7, Chambers-street, Edinburgh

Coaching for Examination (University of Brussels) Also Correspondence Course for Provincial Practitioners, with practical and *vivâ voce* work in London before going to Brussels.—Address, Cantab., 2, Harewood place Hanover-square W

Mr D W Patterson M.B B S Durh (First Honours) Luke Armstrong and Charlton Scholar Gibson Prizeman Coaches in all the professional subjects of the M D Durh exam During the last two years 30 out of 36 candidates coached by Dr Patterson have been successful.—Dr Patterson, Cardigan terrace, Newcastle-on Tyne

Coaching by experienced Honours Graduates (Medicine Surgery Science) for M D (Lond and Cambridge) M.D Durham (15 years standing), M D Brux Primary Fellowship, D P H the Services 1st 2nd and Final Conjoint Tuition in class privately or by post, in Medicine, Surgery Anatomy Physiology, Materia Medica Chemistry Biology &c Laboratory Many years' continuous success Special Correspondence Courses for M.D Lond M D Durh, F R C S D.P H., &c.—E Gooch B Sc. 115 Gower-street W C

Classes for the Navy Medical Service are held at 46, Great Ormond-street, W C

Instructors in Elocution, &c.

Mr William Van Praagh, the public introducer of the Pure Oral System of teaching Deaf Mutes, has made the subject of Lip-reading and the cure of all Defects of Speech both acquired and congenital his special study Papers on the various subjects can be had at 11, Fitzroy square, W

Mrs Emil Behnke gives instruction in Voice Training and treats Stammering and other Defects of Speech at 18 Earl's-court- quare, S.W

Mr Ernest Young corrects Defects of Speech at 113, Chatham street, Liverpool. Resident Pupils are received.

A Proposed International Society of Surgery —The Belgian Society of Surgery will hold its annual congress at Brussels from Sept 8th to the 11th There will be discussions on the following subjects (1) the Treatment of Appendicitis, introduced by Dr Broca of Paris Dr Sonnenburg of Berlin, Dr Roux of Lausanne, and Dr Gallet of Brussels, (2) the Treatment of Fractures of the Limbs, introduced by Dr Tuffier of Paris, Dr Rothschild of Frankfort, and Dr Hannecart of Brussels, and (3) Operative Asepsis, with Special Reference to the Sterilisation of Ligatures and the Operators' Hands At the same meeting proposals will be brought forward for the founding of an international society of surgery Invitations to take part in the proceedings have been sent to eminent surgeons in all countries

Open-air Treatment of Consumption —The Worcestershire Consumption Sanatorium Committee has made arrangements to accept Mr Dangerfield's offer of his house and grounds at Knightwick for the purpose of a sanatorium and the work of erecting the necessary shelters will shortly be commenced. The sanatorium is intended for the reception of persons amongst the poorer classes suffering from consumption in its early stages and will supply a want that is very urgently needed in the county Accommodation will be provided at first for 15 patients and it is hoped that it will be possible to be ready for their reception by the end of September Already a very generous response has been made for the erection of shelters and towards the annual maintenance, and it is confidently hoped that now a start is made further contributions will be readily forthcoming Any donations towards (1) the building fund for shelters, &c., and (2) annual maintenance may be paid to the account of the "Consumption Sanatorium" at the Old Bank, Worcester.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY.

INSTITUTION.	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
LONDON UNIVERSITY ...	No. 1.	£40 per annum.	2 years.	Distinction at July Preliminary Scientific Examination or Intermediate Examination in Science.	Intermediate Examination in Medicine within 3 years; M.B. Examination within 5 years.
	No. 2.	£40 per annum.	2 years.	By first place with distinction in ANATOMY at July Intermediate M.B. Honours Examination.	
	No. 3.	£40 per annum.	2 years.	By first place with distinction in PHYSIOLOGY AND HISTOLOGY at July Intermediate M.B. Honours Examination.	Ditto.
	No. 4.	£30 per annum.	2 years.	By first place with distinction in ORGANIC CHEMISTRY at July Intermediate M.B. Honours Examination.	Ditto.
	No. 5.	£30 per annum.	2 years.	By first place with distinction in MATERIA MEDICA and PHARMACEUTICAL CHEMISTRY at July Intermediate M.B. Honours Examination.	Ditto.
	University Scholarship in Medicine.	£50 per annum.	2 years.	By first place with distinction in MEDICINE at M.B. Honours Examination.	
	University Scholarship in Obstetric Medicine.	£30 per annum.	2 years.	By first place with distinction in OBSTETRIC MEDICINE at M.B. Honours Examination.	
	University Scholarship in Forensic Medicine.	£30 per annum.	2 years.	By first place with distinction in FORENSIC MEDICINE at M.B. Honours Examination.	
	University Scholarship in Surgery.	£50 per annum.	2 years.	By first place with distinction in B.S. Honours Examination.	
ST. BARTHOLOMEW'S MEDICAL SCHOOL.	Entrance Scholarships. No. 1.	£75.	—	[illegible]	Full Course at St. Bartholomew's Hospital.
	„ No. 2.	£75.	—	[illegible]	Ditto.
	„ No. 3.	£150.	—	[illegible]	Ditto.
	Preliminary Scientific Exhibition.	£50.	—	[illegible] ZOOLOGY, PHYSIOLOGY.	Ditto.
	Jeaffreson Exhibition.	£20.	—	Open Competitive Examination in LATIN, MATHEMATICS and GREEK, FRENCH or GERMAN.	Ditto.
	Shuter Scholarship.	£50.	—	Competitive Examination among Cambridge Graduates in ANATOMY, PHYSIOLOGY and MATERIA MEDICA.	Ditto.
	Junior Scholarships. No. 1.	£50.	—	Competitive Examination among Students in ANATOMY and BIOLOGY.	Study at St. Bartholomew's Hospital.
	No. 2.	£20.	—	Ditto.	Ditto.
	„ No. 3.	£25.	—	Competitive Examination in CHEMISTRY, PHYSICS and HISTOLOGY.	Ditto.
	No. 4.	£15.	—	Ditto.	Ditto.
	Senior Scholarship.	£50.	—	Competitive Examination among Students in ANATOMY, PHYSIOLOGY and CHEMISTRY.	Ditto.
	Kirkes Scholarship.	£30 and Medal.	—	Competitive Examination among Students in CLINICAL MEDICINE.	
	Brackenbury Scholarships. „ No. 1.	£39.	—	Competitive Examination among Students in MEDICINE.	Ditto.
	„ No. 2.	£39.	—	[illegible]	Ditto.
	Lawrence Scholarship.	£[illegible] and Medal.	—	[illegible]	Ditto.
	Sir Geo. Burrows Prize.	£10 10s.	—	[illegible]	
	Skynner Prize.	£15.	—	[illegible]	Ditto.
	Matthews Duncan Medal and Prize.	£50.	—	[illegible] OLOGY.	Ditto.
	Research Studentship in Pathology.	£100.	—	By Election on the recommendation of the Special Committee.	Research Work at St. Bartholomew's Hospital.
CHARING CROSS HOSPITAL AND COLLEGE.	Entrance Scholarships, open to students at the commencement of curriculum. Livingstone.	100 guineas.	—	The [illegible] Scholarships are awarded annually at the commencement of each Winter Session, after a competitive examination in the following groups of subjects:—(1) ENGLISH, including LITERATURE, HISTORY and GEOGRAPHY. (2) Any two of the following four languages—LATIN, GREEK, FRENCH and GERMAN. (3) MATHEMATICS.	Open to general students.
	—	60 „	—		Open to general students.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

Institution	Title of Scholarship, &c.	Annual or total value.	How long tenable.	How obtainable.	Conditions attached to tenure.
CHARING CROSS HOSPITAL AND COLLEGE—*continued.*	Huxley	65 guineas	...	including ARITHMETIC, ALGEBRA, and GEOMETRY and MECHANICS, including STATICS and DYNAMICS, (4) INORGANIC CHEMISTRY and EXPERIMENTAL PHYSICS including ACOUSTICS, HEAT, MAGNETISM, ELECTRICITY, and OPTICS, and (5) ANIMAL and VEGETABLE BIOLOGY No Candidate may offer himself for examination in more than three of the above groups of subjects, the selection of the groups being left entirely to the Candidate.	For sons of medical men
	...	40 "	...		Open to all general students
		30 "	...		For dental students
	Epsom Scholarship	Free education	...	...	Epsom Foundation Scholars who have passed Preliminary Scientific M B Lond Univ
	Universities Scholarship (1) Universities Scholarship (2)	72 guineas 72 "	...	Examination in ANATOMY and PHYSIOLOGY, including HISTOLOGY	Oxford Students who have passed first M B. Exam Cambridge students who have passed second M.B Exam London students who have passed Intermediate Exam. in Med who have not entered at any London Medical School
	Llewellyn Scholarship	£25	...	Awarded annually to the Student of not more than five years standing, who, in the opinion of the School Committee, shall have distinguished himself the most at the Prize Examinations in the following subjects viz. —MEDICINE, SURGERY, MIDWIFERY, PATHOLOGY, THERAPEUTICS, FORENSIC MEDICINE, PUBLIC HEALTH, PSYCHOLOGICAL MEDICINE, OPHTHALMOLOGY, PRACTICAL MEDICINE, PRACTICAL MIDWIFERY	None
	Huxley Medal with Prize	£10	...	Competitive Examination in ANATOMY and PHYSIOLOGY at end of Second year	...
	Golding Prize	£10	...	Competitive Examination among First-year Students in ANATOMY and PHYSIOLOGY	Students must have attended the Classes in each subject at this School.
ST GEORGE S HOSPITAL	Entrance Scholarships. No 1	£150	...	Competitive Examination among First-year Students, being the sons of medical men, in LATIN, GREEK, FRENCH, GERMAN, MATHEMATICS PHYSICS, CHEMISTRY, and BIOLOGY, three at option.	Previous entrance at St. George s School.
	" No 2	£85	...	Competitive Examination among Students being First M.B s of Oxford or Second M B s of Cambridge, in ORGANIC CHEMISTRY, ANATOMY, PHYSIOLOGY, ZOOLOGY, and BOTANY, two at option	To enter St. George s School
	" No 3	£85	...	Ditto	Ditto
	" No 4.	£85	...	Competitive Examination among Students of Provincial University Colleges of similar standing in the same subjects.	Ditto
	" No 5	£50	...	Competitive Examination among Students in the same subjects as Entrance Scholarship No 1.	Ditto
	Wm Brown Exhibition.	£100 per annum.	2 years	Competitive Examination among Perpetual Pupils having registrable qualification in the PRACTICE OF MEDICINE, MIDWIFERY, and SURGERY	Study at St George's School
	"	£40 " "	3 years	Competitive Essay and Submission of Original Work by Perpetual Pupils qualified not more than three years previously	Ditto.
	Brackenbury Prize in Medicine	Interest on £1103	...	Competitive Examination among Students of not more than five years' standing	None.
	Brackenbury Prize in Surgery	Interest on £1103	...	Competitive Examination among Students of not more than five years' standing	None.
	Treasurer's Prize	£10 10s.	...	Proficiency in Clinical Examination of three Medical and three Surgical Cases, together with a written Examination in Medicine, Surgery, and Midwifery	None.
	H C Johnson Memorial Prize	£10 10s.	...	Competitive Examination in PRACTICAL ANATOMY	None

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
ST GEORGE'S HOSPITAL—*continued.*	Pollock Prize.	Interest on £372.	—	Competitive Examination in PHYSIOLOGY PHYSIOLOGICAL CHEMISTRY and HISTOLOGY	None.
	Clarke Prize. Thompson Medal. Brodie Prize.	Interest on £200 Interest on £185. Interest on £220.	— — —	Awarded for Clinical Reports and Commentaries.	None.
	Webb Prize.	Interest on £1000.	—	Competitive Examination among Perpetual Pupils in BACTERIOLOGY	None
	General Proficiency Prizes. No. 1.	£10 10s.	—	Competitive Examination in ELEMENTARY ANATOMY BIOLOGY CHEMISTRY, and PHYSICS.	None.
	No. 2.	£10 10s.		Competitive Examination in ANATOMY PHYSIOLOGY (including HISTOLOGY), and PHYSIOLOGICAL CHEMISTRY	None.
	" No. 3.	£10 10s	—	Competitive Examination in ORGANIC CHEMISTRY ANATOMY and PHYSIOLOGY including HISTOLOGY and PHYSIOLOGICAL CHEMISTRY	None.
	No. 4	£10 10s.		Competitive Examination in MEDICINE, SURGERY OBSTETRIC MEDICINE, and PATHOLOGY	None.
GUY'S HOSPITAL — —	Entrance Scholarships. No 1.	£100.	—	Open Competitive Examination among Candidates under twenty years of age in LATIN GREEK, FRENCH, GERMAN ARITHMETIC, EUCLID and ALGEBRA.	Course at Guy's Hospital.
	No. 2.	£40.	—	Under twenty five years of age ditto.	Ditto
	No 3.	£150.		Open Competitive Examination among Candidates under twenty-five years of age in INORGANIC CHEMISTRY GENERAL BIOLOGY and EXPERIMENTAL PHYSICS.	Perpetual Course at Guy's Hospital
	No. 4.	£60.	—	Ditto.	Ditto.
	" No. 5.	£50	—	Competitive Examination among Candidates under twenty five years of age who have completed the curriculum for, or passed, the Examinations in Anatomy and Physiology for a medical degree in any University of the United Kingdom and have not entered as Students in any Metropolitan Medical School.	Ditto
	Arthur Durham Prizes.	£15.	—	Dissections done by Students of more than one year's standing	
	"	£5.		Dissections by First year Students.	Ditto.
	Hilton Prize.	£5.	—	Ditto.	
	Junior General Proficiency	£20.	—	Competitive Examination among Junior Students in ELEMENTARY ANATOMY, HISTOLOGY and ANATOMY and PHYSIOLOGY	None
	"	£15.	—	Ditto.	Ditto
	"	£10.	—	Ditto.	Ditto.
	Michael Harris Prize.	£10.	—	Competitive Examination among Second year Students in HUMAN ANATOMY	Ditto.
	Sands Cox Scholarship.	£15 per annum.	3 years.	Competitive Examination among Second year Students in PHYSIOLOGY HISTOLOGY and PHYSIOLOGICAL CHEMISTRY	Course at Guy's Hospital.
	Wooldridge Memorial Prize.	£10.	—	Ditto.	
	Senior General Proficiency	£20.	—	Competitive Examination among Senior Students in MEDICINE SURGERY MIDWIFERY DISEASES OF WOMEN MEDICAL JURISPRUDENCE, THERAPEUTICS PUBLIC HEALTH and MENTAL DISEASES.	Ditto
	"	£15.	—	Ditto.	Ditto
	"	£10	—	Ditto	Ditto.
	Golding Bird Prize.	£20 and Medal.	—	Competitive Examination among Senior Students in SANITARY SCIENCE.	Ditto.
	Beaney Prize	£31 10s.	—	Competitive Examination among Students in PATHOLOGY	Ditto.
	Gull Studentship Pathology	£150 per annum.	3 years	Awarded without Competitive Examination to Students intending to conduct Research	
	Beaney Scholarship, Therapeutics.	£31 10s	3 years.	Ditto.	
KING'S COLLEGE — —	Warneford Scholarships. No. 1.	£25 per annum.	3 years.	Competitive Examination among Matriculated Medical Students in DIVINITY ENGLISH HISTORY LATIN, GREEK, FRENCH GERMAN and MATHEMATICS	Perpetual Course at King's College
	" No. 2.	£25 per annum.	3 years.	Ditto.	Ditto.
	Sambrooke Exhibitions. No. 1.	£60.	—	Open Competitive Examination in MATHEMATICS, ELEMENTARY PHYSICS, INORGANIC CHEMISTRY BOTANY and ZOOLOGY	Course as Medical Student at King's College
	" No. 2.	£40.	—	Ditto.	Ditto.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
KING'S COLLEGE—*continued*	Rabbeth Scholarship	£20	— —	Competitive Examination among Matriculated Students in Preliminary Scientific Subjects.	None.
	Science Exhibitions No 1	£30 per annum.	2 years	Competitive Examination among Candidates under nineteen years of age in MATHEMATICS, MECHANICS, PHYSICS, &c., or alternative Subjects	None.
	Science Exhibitions No 2.	£20 per annum	2 years	Competitive Examination among Candidates under nineteen years of age in MATHEMATICS, MECHANICS, PHYSICS, &c., or alternative subjects	None.
	Medical Entrance Scholarships.				
	,, No 1	£73 10s	— —	Open Competitive Examination in ANATOMY AND PHYSIOLOGY for Students who propose to take degree at any British University and have passed the Examination at that University in BIOLOGY, CHEMISTRY, and PHYSICS.	
	,, No 2	£63	— —	Ditto	
	Medical Scholarships No 1.	£40 per annum.	1 year	Competitive Examination among Third and Fourth year Students	
	,, No 2.	£30	1 year	Competitive Examination among Second and Third year Students.	
	,, No 3	£20	1 year	Competitive Examination among First-year Medical Students	
	,, No 4	£20	1 year	Ditto	
	Sambrooke Registrarship No 1	£50	— —	Competitive Examination among Matriculated Medical Students who have filled certain appointments at hospitals	
	,, No 2	£50	— —	Ditto	
	Daniel Scholarship	£20 per annum.	2 years	Open Competitive Examination among six months Laboratory Students in CHEMISTRY	
	Carter Prize	£15	— —	Open Competitive Examination in Botany	
	Tanner Prize	£10	— —	Competitive Examination in OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN	None
	Todd Prize	£4 4s. and medal.	— —	Competitive Examination in Clinical Medicine	
LONDON HOSPITAL	1 Price Scholarship	£120	— —	Competitive Examination among Students in subjects of Preliminary Scientific M B Examination at University of London.	Successful Candidates must enter as Full Students
	2. Entrance Scholarships				
	,, No 1.	£60	— —	Ditto	
	,, No 2.	£35	— —	Ditto	
	3 Epsom College Scholarship	Free Education.	— —		
	4 Price Scholarship	£60	— —	HUMAN ANATOMY AND PHYSIOLOGY	Study at Oxford or Cambridge
	Buxton Scholarships No 1.	£30	— —	Competitive Examination among Students in subjects of Preliminary Examination.	
	,, No 2	£20	— —	Ditto	
	Scholarship	£20	— —	Competitive Examination in CLINICAL MEDICINE.	
	,,	£20	— —	Competitive Examination in CLINICAL SURGERY	
		£20	— —	Competitive Examination in CLINICAL OBSTETRICS	
	Sutton Prize in Pathology	£20	— —	Competitive Examination in PATHOLOGY	
	Duckworth Nelson Prize	£10	— —	PRACTICAL MEDICINE and SURGERY	
	Biennially Letheby Prizes	£20 and £10	— —	Competitive Examination in CHEMISTRY	
	Scholarship	£25	— —	Competitive Examination in ANATOMY AND PHYSIOLOGY	
	,,	£20	— —	Competitive Examination in ANATOMY and BIOLOGY	
	Dressers' Prize				
	,, No 1	£15	— —	ZEAL, EFFICIENCY, and KNOWLEDGE OF MINOR SURGERY	
	,, No 2.	£10	— —	Ditto	
	,, No 3	£10	— —	Ditto	
	,, No 4	£5	— —	Ditto	
	,, No 5	£5	— —	Ditto	
	,, No 6.	£5	— —	Ditto	
	No 7	£5	— —	Ditto	
	Triennially Hutchinson Prize	£35	— —	For the best essay upon a subject in CLINICAL SURGERY	
	Practical Anatomy Prizes	£6. £4	— — —		
	Biennially Andrew Clark Prize	£26	— —	CLINICAL MEDICINE and PATHOLOGY	
	James Anderson Prizes	£9	— —	CLINICAL MEDICINE	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION.	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
ST MARY'S HOSPITAL ...	Natural Science Scholarship	£145.	—	Competitive Examination.	Course at St Mary's Hospital.
	"	£78 15s.	—	Ditto	
	"	£78 15s.	—	Ditto.	
		£52 10s.	—	Ditto.	
	University Scholarship.	£63.	—	Open to Students from Oxford or Cambridge by Competitive Examination in NATURAL SCIENCE.	
	"	£63	—		
	Epsom College Scholarship	£145	—	By nomination.	
	Kerslake Scholarship in Pathology and Bacteriology	£25.	1 year	Given for the best Essay on a Set Subject in PATHOLOGY and BACTERIOLOGY	
	Gold Medal in Clinical Medicine.	£20.	—	Given for an ESSAY ON SOME SPECIAL POINT IN CLINICAL MEDICINE.	
	General Proficiency Scholarship No. 1.	£20	1 year	Examination in ELEMENTARY ANATOMY PHYSIOLOGY BIOLOGY, and CHEMISTRY	
	" No. 2.	£20.	1 year	ADVANCED ANATOMY PHYSIOLOGY and HISTOLOGY	
	" No 3.	£20	1 year	MIDWIFERY MATERIA MEDICA, PATHOLOGY, and FORENSIC MEDICINE.	
	" No. 4	£20.	1 year	MEDICINE, SURGERY HYGIENE, and MENTAL DISEASES.	
	Ophthalmology Prize.	£10 10s.	—	Awarded twice in each year by Competitive Examination	
	Dermatology Prize.	£5 5s.	—	*Ditto.*	
	Meadows Prize in Obstetrics.	£8.	—	*Awarded in alternate years for Proficiency in* OBSTETRICS.	
	Clinical Medicine Prize.	£5 5s.		Awarded annually for Reports of *Clinical Cases by Students of* Third and Fourth Years.	
	Clinical Surgery Prize.	£5 5s.	—		
	Winter Session Prizes (10 in number).	£3 3s. and £2 2s. each.	—	Competitive Examination at the end of the Course of Lectures in each of the Subjects of the Medical Curriculum.	
	Summer Session Prizes (*7 in number*).	£3 3s. and £2 2s. each.		Ditto.	
MIDDLESEX HOSPITAL ...	Entrance Scholarship No. 1	£100.	—	Open Competitive Examination.	Course at Middlesex Hospital.
	" No. 2.	£60.	—	Ditto	Ditto.
	" No. 3.	£60	—	Competitive Examination among Students from Oxford or Cambridge (Subjects ANATOMY and PHYSIOLOGY including HISTOLOGY.)	
		£150.	—	To Students of Epsom College on Nomination of Head Master	
	Brodrip Scholarship. No. 1.	£60.	—	Competitive Examination among Senior Students in CLINICAL SUBJECTS.	
	No. 2.	£40.	—	Ditto.	
	Freeman Scholarship.	£30.		*Examination in* OBSTETRICS and GYNÆCOLOGY	
	Governor's Prize.	£21.	—	Competitive Examination among Students during Sixth Year of Study	
	Hetley Clinical Prize.	£25	—	Competitive Examination among the Students during Fifth Year of Study	
	John Murray Gold Medal and Scholarship	£20.	Every third year	Examination in MEDICINE SURGERY and OBSTETRICS.	
	Lyell Medal.	£5 5s.	—	Examination in SURGICAL ANATOMY and PRACTICAL SURGERY	
	Leopold Hudson Prize.	£11 11s.		Examination in SURGICAL PATHOLOGY and BACTERIOLOGY	
ST THOMAS'S HOSPITAL SUMMER	College Prizes. " No. 1.	£15.	—	Competitive Examination among First year Students.	
	" No. 2.	£10.	—	Ditto.	
WINTER	Entrance Science Scholarship No. 1.	150 guineas.	—	Competitive Examination in PHYSICS CHEMISTRY and either PHYSIOLOGY BOTANY or ZOOLOGY	Perpetual Course
	" No. 2.	£60.	—	Ditto.	Ditto
	No. 3.	£50.	—	Competitive Examination in ANATOMY PHYSIOLOGY CHEMISTRY (any two).	Perpetual Course from third year
	Wm. Tite Scholarship.	£27 10s.	—	Competitive Examination among First year Students.	
	College Prizes. No. 5	£15.	—	Ditto	
	" No. 6.	£10.	—	Ditto.	
	Musgrove Scholarship, or	£23 10s	2 years.	Competitive Examination among Second year Students.	
	Peacock Scholarship.	£33 10s.	2 years.	Ditto.	
	College Prizes. " No. 7	£20.	—	Competitive Examination among Second year Students	
	No. 8.	£10.	—	Ditto	
	" No. 9.	£10.	—	Competitive Examination among Fifth year Students.	
	" No. 10	£10	—	Ditto.	
	" No. 11	£10.	—	Ditto.	
	No. 12.	£10.	—	Ditto.	
	" No. 13.	£10	—	Ditto	
	" No. 14.	£10	—	Ditto	
	No. 15.	£10.	—	Ditto	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
ST THOMAS S HOSPITAL—*continued.*	Cheselden Medal.	—	— —	Competitive Examination in SURGERY and ANATOMY	
	Mead Medal.	— —	— —	Competitive Examination in MEDICINE and PATHOLOGY	
	Seymour Graves Toller Prize.	.		Ditto	Ditto
	Bristowe Medal.	— —	— —	Competitive Examination in PATHOLOGY and MORBID ANATOMY	
	Solly Medal and Prize	— —	— —	SURGICAL REPORTS.	
	Treasurer's Gold Medal.	— —	— —	General Proficiency	
	Wainwright Prize	—	— —	Medicine and Pathology	
	Hadden Prize	— —	— —	Pathology	
	Beaney Scholarship	£50 biennially	— —	For SURGERY and SURGICAL PATHOLOGY	
	Sutton Sams Memorial Prize	£5 biennially	—	Reports of Cases in OBSTETRIC MEDICINE.	
	Grainger Testimonial Prize	£15 annually		For work in ANATOMY and PHYSIOLOGY	
	The Salters' Company Research Fellowship	£100 annually	3 years.	Promotion of Research — PHARMACOLOGY	
UNIVERSITY COLLEGE, LONDON	Entrance Scholarships No 1. (Bucknill Scholarship)	£120	— —	Open Competitive Examination in CHEMISTRY, PHYSICS, BOTANY, and ZOOLOGY	Perpetual Course at University College
	,, No 2.	60 gs	— —	Ditto	Ditto
	,, No 3	60 gs.		Ditto	Ditto
	,, No 4	80 gs.	— —	ANATOMY and PHYSIOLOGY	Ditto
	,, No 5	80 gs.	—	Ditto	Ditto
	Atkinson Morley Scholarship	£45 per annum	3 years.	Theory and Practice of Surgery	
	Atchison Scholarship	£55 per annum.	2 years.	Competitive Examination among Medical Students	
	Sharpey Physiological Scholarship	About £110	— —	Proficiency in Biological Science	
	Filliter Exhibit n.	£30	1 year	Competitive Examination among Students in PATHOLOGICAL ANATOMY	
	Cluff Mem. Prize	£15	— —	Competitive Examination among Students in ANATOMY, PHYSIOLOGY, and CHEMISTRY	
	Erichsen Prize	£10 10s	— —	Practical Surgery	
	Morris Bursary	£15	2 years		
WESTMINSTER HOSPITAL	Guthrie Entrance Scholarship	£60 (total)	— —	Open Competitive Examination among Candidates under twenty five years of age in LATIN,* MATHEMATICS, EXPERIMENTAL PHYSICS, CHEMISTRY, and GREEK, FRENCH, or GERMAN	For Students entering in the Winter Session
	Entrance Scholarship	£40 (total)	— —	Ditto	Ditto
	Ditto	£30	— —	Ditto	Ditto
	Dental Scholarship	£20 (total).	— —	Ditto, as above, save that Dental Students only can compete	For Students entering in the Winter Session
	Free Presentation.	— —	— —	Open to Pupils of the Epsom Medical College, obtained by recommendation	
	Entrance Scholarship (Governors)	£40 (total)	— —	Open Competition in CHEMISTRY and EXPERIMENTAL PHYSICS according to the Synopsis of the Conjoint Board	For Students entering in the Summer Session
	Natural Science	£60	— —	Competitive Examination in subjects of Preliminary Scientific of University of London	For Students entering in the Winter Session
	University Scholarship	£40 (total).	— —	Competitive Examination among University Students in ANATOMY and PHYSIOLOGY	In April and in September
	Ditto	£30	— —	Ditto	Ditto
	Natural Science	£60	— —	Competitive Examination in subjects of Preliminary Scientific of London University	Ditto
	Arts Scholarship (Entrance)	£60	— —	Competitive Examination as for the Guthrie Scholarship, except that the Latin Book is that of the London Matriculation of the preceding January	For Students entering in the Summer Session
	Ditto	£40	— —	Ditto	Ditto
	Treasurers' Prize	£10 10s	—	Competitive Examination among First-year Students in ANATOMY, BIOLOGY, and CHEMISTRY	
	Sturges Prize in Clinical Medicine	£10	— —	Notes and commentaries on 6 cases.	
	Clinical Surgery	£5	— —	Ditto on 12 cases.	
	Chadwick Prize	£21 in books or instruments	— —	Competitive Examination among Medical Students in MEDICINE and SURGERY, including PATHOLOGY and APPLIED ANATOMY and PHYSIOLOGY	
	Bird Medal and Prize	£14 in medal, books, or instruments.	— —	Competitive Examination in MIDWIFERY and DISEASES of WOMEN, MEDICINE, and PATHOLOGY among Students who have completed their Fourth Winter Session at the Westminster Hospital School of Medicine	

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* The Latin Book is that of the Matriculation, University of London, in the preceding June

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN	Entrance Scholarship.	£30	—	Competitive Examination in ENGLISH, LATIN ARITHMETIC, EUCLID and ALGEBRA.	
	St. Dunstan's Scholarship	£60	3 years, extendible to 5 years	Ditto.	Candidates must be (1) not more than 20 years of age on June 1st preceding the examination; (2) resident in the Metropolitan Police District area; (3) Matriculated Students of the University of London; (4) in the opinion of the Governors in need of such an exhibition for the prosecution of their medical studies
	Preliminary Scientific Scholarship	£40	—	Given on results of the Examination in Preliminary Scientific Classes	
	Stuart Mill Scholarship.	£30	4 years	Ditto.	Candidates must be willing to enter into a legal arrangement to practise in India under the Countess of Dufferin's Fund.
	Bostock Scholarship.	£60.	3 or 4 years.	Given to a Student who has passed the Preliminary Scientific Examination or *Intermediate Science* Examination of the University of London.	Candidates are expected to read for the M.B. degree of the University of London.
	Mabel Webb Research Scholarship.	£30.	2 years	For Research Work in PHYSIOLOGY CHEMISTRY or PATHOLOGY	—
	Fanny Butler Scholarship.	£14 10s.	4 years.	Competitive Examination in ENGLISH LATIN ARITHMETIC, EUCLID and ALGEBRA.	Candidates must be *willing to work in* connexion with the Church of England Zenana Missionary Society
	John Byron Bursary	£20.	2 to 4 years.	—	Offered to students already in the school requiring assistance for the prosecution of their medical studies.
	Two Mackay Prizes.	£20 each.	—	Given to the two Students gaining the highest number of marks in the School Examinations during the first two years of Medical Study	
	Helen Prideaux Scholarship.	£50.	—	—	Awarded every second year to a Student who has qualified during the two years immediately preceding the date of the award and who, in the opinion of the Trustees has done the best work during her final years in MEDICINE SURGERY OBSTETRIC MEDICINE, and PATHOLOGY. The holder of the *Prize* shall submit to the Trustees for their approval a statement as to how she proposes to spend the money so as to fulfil the condition that it is for the purpose of [illegible] her [illegible] study. The next award will be in December [illegible].

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE	HOW LONG TENABLE.	HOW OBTAINABLE	CONDITIONS ATTACHED TO TENURE.
OXFORD UNIVERSITY ...	Burdett-Coutts Scholarships	£115 per annum.	2 years.	Competitive Examination.	For the promotion of the Study of Geology and of Natural Science as bearing on Geology
	Radcliffe Trav Fellowship	£200 " "	3 years.	Ditto	Foreign Travel for purpose of Medical Study
	Rolleston Prize	—	—	Original Research	This prize is given once in two years and is of the value of about £80
	Scholarships in various branches of Natural Science at many of the Colleges	£50 to £80 a year	4 years	Competitive Examination.	Satisfactory industry
UNIVERSITY OF DURHAM	Four Scholarships	£25 a year each.	4 years	The Examination will be the *September* Examination for the Certificate in General Education. Candidates must take ENGLISH LATIN, ARITHMETIC, EUCLID, ALGEBRA, with GREEK, FRENCH, or GERMAN (See College Calendar for special books)	Candidates desirous of being admitted as Medical Students The successful Candidates must take out their entire curriculum at the University of Durham College of Medicine, Newcastle-upon Tyne
College of Medicine ...	Dickinson Scholarship	Interest on £400 and Gold Medal	—	Examination in MEDICINE, SURGERY, MIDWIFERY and PATHOLOGY	Full Students of the College of Medicine who have passed the intermediate examination of any of the Licensing Bodies named in Schedule A of the Medical Act, 1858
	Tulloch Scholarship	Interest on £400	—	Examination in ANATOMY, PHYSIOLOGY, and CHEMISTRY	No Student is eligible who commenced his medical curriculum more than two academical years before the date of examination
	Charlton Memorial Scholarship	Interest on £700	—	—	Open to full Students of the College entered for the class on the Principles and Practice of Medicine
	Gibb Scholarship	Interest on £500	—	Awarded annually as a Scholarship in PATHOLOGY to full Student who passes the best examination in that subject	No Student eligible after completion of his curriculum
	Luke Armstrong Memorial Scholarship.	Interest on £680	—	Original Essay on some subject in COMPARATIVE PATHOLOGY (If no Essay of sufficient merit be presented the Scholarship may be awarded to the Candidate who, in passing the first part of the Examination for the B Hy Degree obtains the highest number of marks in COMPARATIVE PATHOLOGY during the year)	Open to all Graduates in Medicine or Hygiene and candidates for these degrees who have spent six months at the University, and whose age does not exceed thirty years.
	Stephen Scott Scholarship	Interest on £1000	—	Original essay on any Surgical subject	Any Graduate in Medicine or Surgery of the University or any Student of the College of Medicine Student's age must not exceed 30 years
	Heath Scholarship	Interest on £4000	—	Original essay on THE DEVELOPMENT AND ANATOMY OF THE PROSTATE GLAND, TOGETHER WITH AN ACCOUNT OF ITS INJURIES AND DISEASES AND THEIR SURGICAL TREATMENT	All Graduates in Medicine or Surgery of the University are eligible
Royal Infirmary	Goyder Memorial Scholarship	Interest on £825	Annually	Student who most distinguishes himself in CLINICAL MEDICINE AND CLINICAL SURGERY at the Royal Infirmary	
UNIVERSITY OF BIRMINGHAM	Myers Travelling Studentship	£150	1 year.	Awarded by vote of committee to M.B, Ch.B Birm., B Sc. candidates.	Tenable at one of certain German universities.
	Ingleby Scholarships (1 or more).	£10 to £15.	1 year	—	Candidates must have spent first two years of curriculum at the University

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION.	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY OF BIRMINGHAM—*continued.*	Sydenham Scholarship	£42.	3 years.	Award of Council to orphan sons of Medical Practitioners.	
	Sands Cox Scholarship.	£42.	3 years.	Awarded to the candidate not being more than 19 years of age taking the highest marks at the June Matriculation.	
	Dental Scholarship.	£37 10s.	3 years.	Open Competitive Examination in subjects learned during apprenticeship.	
VICTORIA UNIVERSITY ...	Gilchrist Scholarship.	£50.	3 years	Awarded annually to the candidate who shall stand highest at the June preliminary examination of the Victoria University provided that he pass in the first division	Candidates must be over 18 years of age on July 1st in the year of competition
	University Scholarship in Medicine.	£25.	1 year	Awarded annually on the results of the second examination for the degrees of M.B and Ch.B	
	University Fellowship in Medicine	£100.	1 year	Awarded annually for excellence and promise in one or more of the subjects of the Second or Final M.B Examinations	For the encouragement of Study and Research
OWENS COLLEGE MANCHESTER	General Entrance Scholarships.	——	——	——	Open to candidates above 16 and under 20 years of age
	Rogers	£40.	2 years.	Subjects: GREEK, LATIN TRANSLATIONS AT SIGHT and PROSE COMPOSITION	
	Seaton.	£40.	2 years.	Subjects GREEK LATIN TRANSLATIONS AT SIGHT and PROSE COMPOSITION	
	Dalton.	£40.	2 years	Subjects EUCLID ALGEBRA, TRIGONOMETRY GEOMETRY and CONIC SECTIONS.	
	Cartwright.*	£33.	3 years.	Ditto.	
	Hulme.	£35.	3 years.	Subjects ENGLISH LANGUAGE and LITERATURE, HISTORY GEOGRAPHY and LATIN GREEK FRENCH or GERMAN (any two subjects)	
	James Gaskill	£35.	3 years	MATHEMATICS MECHANICS and CHEMISTRY	
	Dora Muir †	£25.	3 years	Ditto	
	Manchester Grammar School.*	£18.	3 years.	MATHEMATICS, ENGLISH ESSAY with CLASSICS and PHYSICAL SCIENCE in alternate years	
	Kay-Shuttleworth.*	£30.	3 years.	Subjects as in James Gaskill Scholarships	Pupils of Sedbergh, Giggleswick or Burnley Grammar School.
	Theodores Exhibition	£15.	1 year	Subjects: FRENCH and GERMAN	Successful candidates are required to enter for a regular University course
	Robert Platt Physiological Scholarship.	£50.	2 years.	Subjects PHYSIOLOGY and COMPARATIVE ANATOMY	Open to Candidates whether or not previously students of the College
	Dauntesey Medical Scholarships (two).	£33 each.	1 year	Subjects: ZOOLOGY BOTANY and CHEMISTRY	These Scholarships are open to all students preparing for a Medical Course who shall not have attended Lectures or Laboratory Courses on Human Anatomy or Physiology, or a purely Medical or Surgical Course in the Owens College or any other Medical School in the United Kingdom. Candidates must not be more than 25 years of age on October 1st of the year of competition. Scholars must immediately upon election enter for a full course of medical studies.
	Robert Platt Exhibitions (two)	£15 each.	——	——	First and second year students in Physiology
	Sidney Renshaw Exhibition.	£15.	——	——	Second year students in Physiology
	Professor Tom Jones Exhibition in Anatomy	£25.	——	——	First year students in Anatomy

* Open to men candidates only

† Open to women candidates only

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP, &c	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENUR
OWENS COLLEGE MANCHESTER—*continued*	Turner Scholarship.	£20	——	Subjects MEDICINE, PATHOLOGY (written and practical), OBSTETRICS, PRACTICAL SURGERY, OPHTHALMOLOGY, FORENSIC MEDICINE, and PUBLIC HEALTH	Students who have completed a full course of medical study in the College are eligible only
	John Henry Agnew Scholarship	£80	——	The Scholarship is awarded on the results of an Examination partly written and partly clinical, on DISEASES OF CHILDREN, MEDICAL AND SURGICAL	Open for competition annually to all students in the Medical Department who have pursued a regular course of medical study in the College extending over a period of not less than 4 years or more than 6, and who have attended the course of lectures on Diseases of Children
	Professor Tom Jones Memorial Surgical Scholarship	£100	1 year	The scholar will be elected on the result of evidence submitted by him	Candidates must have either graduated in the Victoria University or have obtained the Diploma of the Conjoint Colleges
	Dumville Surgical Prize.	£15	——	Subjects SYSTEMATIC, PRACTICAL, and OPERATIVE SURGERY SURGICAL ANATOMY, and SURGICAL PATHOLOGY	
	Honorary Research Fellowships		years	Conferring the right of free use of the College Laboratories Awarded generally in October on application, with evidence of capacity for independent investigation	...
BRISTOL ROYAL INFIRMARY AND BRISTOL GENERAL HOSPITAL.	University College Bristol Entrance Scholarship	£50	——	Competitive Examination in Subjects of GENERAL EDUCATION	Open to Perpetual Students of Faculty of Medicine University College, Bristol
	Lady Haberfield Entrance Scholarship	Interest of £1000	——	Ditto	
	Tibbits Surgical Prize	£9 9s	——	Proficiency in PRACTICAL SURGERY	
	Martyn Memorial Pathological Prizes	Two annually, of £10 each	——	Competitive Examination in PATHOLOGY and MORBID ANATOMY	
	A Gold and a Silver Medal.	——	——	Given by the Committees of the two Institutions to most distinguished Students of Fifth Year	
Bristol Royal Infirmary	Suple Medical Prize	Gold Medal value £5 5s. and £7 7s. in money	——	Competitive Examination in MEDICINE to Students of Fourth and Fifth Years	Restricted to Perpetual Students who have done the necessary qualifying work at the Bristol Royal Infirmary
	Suple Surgical Prize	Gold Medal value £5 5s and £7 7s. in money		Competitive Examination in SURGERY of Students of Third and Fourth Years	
	Henry Clark Prize.	£11 11s.	——	Class Work of Third year Students	
	Crosby Leonard Prize	£7 7s.	——	Examination in CLINICAL SURGERY	
	August'n Prichard Prize	£6 6s	—	Examination in SURGICAL ANATOMY	
Bristol General Hospital	Sanders Scholarship	£22 10s.	——	Competitive Examination in MEDICINE, SURGERY and MIDWIFERY of Fourth year Students	Restricted to Perpetual Students who have done the necessary qualifying work at the Bristol General Hospital
	Clarke Scholarship	£15	——	Competitive Examination in SURGERY among Students of Fourth Year	
	Marshall Prize	£12.	——	To the best Surgical Dresser of the fourth year	
LEEDS SCHOOL OF MEDICINE (YORKSHIRE COLLEGE).	Entrance Scholarship	£67 4s.	——	Competitive Examination among Medical Students who have passed Preliminary Scientific Examination at London or Victoria University	Complete Course of Lectures and Practical Classes at Leeds School
	Infirmary Scholarship	£42	——	Competitive Examination in ARTS among Students who have passed one of the Preliminary Examinations.	Complete Course of Hospital Practice and Clinical Lectures at Leeds Infirmary
	Hardwick Prize.	£10	——	Competitive Examination among Clinical Clerk Students of two years' standing in CLINICAL MEDICINE.	
	McGill Prize.	£10	——	Competitive Examination among advanced Surgical Students in CLINICAL SURGERY	
	Thorp Prizes	£10 and £5.	——	Examinations in Forensic Medicine and Hygiene.	
	Thorp Prize Essay	£15	——	Essay or research on some subject connected with FORENSIC MEDICINE, TOXICOLOGY, or PUBLIC HEALTH	Every three ye to former students of the Leeds School.
	Scattergood Prize	£5.		Examination in MIDWIFERY	

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY COLLEGE, LIVERPOOL.	Robert Gee Entrance Scholarships (four annually).	£25 each.	1 year	Special College Scholarship Examination held in May	First M.B. Course
	Holt Fellowships (Physiology and Pathology).	£100 each.	1 year	Vote of Faculty to Student after graduation	Teaching and Original Research
	Gee Fellowship (Anatomy).	£100.	1 year	Ditto.	Teaching and Research.
	Alexander Fellowship (Pathology).	£100.	1 year	Ditto.	Research in Pathology
	Johnston Colonial Fellowship (Pathology and Bacteriology).	£100	1 year	Ditto	Ditto
	John W Garrett International Fellowship (Physiology and Pathology).	£100.	1 year	Ditto	Ditto
	Lyon Jones Scholarship No. 1.	£21 per annum.	2 years.	Competitive Examination among Junior Students in 1st M B. SUBJECTS.	Perpetual Course at Victoria University
	" No. 2.	£21.	—	Competitive Examination among Senior Students in ANATOMY PHYSIOLOGY and THERAPEUTICS	
	Derby Exhibition.	£15.	—	Competitive Examination among Fourth or Fifth year Students in CLINICAL SUBJECTS.	
	Ethel Boyce Fellowship in Gynæcological Pathology	£100.	1 year	Vote of Faculty to graduate	Research
DINBURGH UNIVERSITY	*Sibbald Bursaries (1 or 2 annually).	Each £30 per annum.	3 years.	Competitive Examination in Preliminary Subjects among entrants.	Continued Study
	*Heriot Bursaries (7 for men and 1 for women annually)	Each £30 per annum.	3 years.	Ditto.	
	*Thomson Bursaries (2 annually).	Each £25 per annum.	4 years	Distinction in Medical Preliminary Examination.	Ditto.
	*Grierson Bursary " No. 1.	£20	1 year	Ditto.	Ditto
	Crichton Bursaries (2 annually).	Each £50 per annum.	4 years.	Distinction in Medical Preliminary Examination with extra subjects.	Born in Scotland
	Mackie Bursary No. 1	£30 per annum.	2 years.	—	Pecuniary circumstances requiring assistance
	Junior J A Carlyle Bursary	£23.	1 year.	Distinction in Class Examinations in ANATOMY and CHEMISTRY	
	Coldstream Memorial Scholarship.	£13 per annum.	6 years.	—	Intention to become Medical Missionary &c
	Vans Dunlop Scholarship.				
	" No. 1	£100 per annum.	3 years.	First place in MEDICAL PRELIMINARY EXAMINATION	
	" No. 2.	£100 per annum.	3 years	Competitive Examination in CHEMISTRY ANATOMY and PHYSICS	Continued study
	" No. 3.	£100 per annum.	3 years.	Ditto in BOTANY and ZOOLOGY	Ditto
	Thomson Scholarship.	£40 per annum.	4 years.	Competitive Examinations in BOTANY ZOOLOGY and MECHANICS.	
	† Mackie Bursary " No. 2.	£20 per annum.	2 years.		Pecuniary circumstances requiring assistance &c.
	† Grierson Bursary " No. 2.	£20.	1 year	Competitive Examination in CHEMISTRY BOTANY ZOOLOGY and PHYSICS	
	† Senior J A Carlyle Bursary	£25.	1 year	Distinction in Class Examinations in ANATOMY and PHYSIOLOGY	
	† Sibbald Scholarship.	£40 per annum.	3 years.	Competitive Examination in CHEMISTRY BOTANY ZOOLOGY and PHYSICS.	Continued study
	† Vans Dunlop Scholarship " No. 4.	£100 per annum	3 years.	Competitive Examination in PHYSIOLOGY and SURGERY	Ditto
	† Neil Arnott Prize	£37 10s.	—	Distinction in Natural Philosophy in the M A. Examination.	Ditto
	‡ Grierson Bursary " No. 3.	£20.	1 year.	Competitive Examination in ANATOMY and PHYSIOLOGY	Ditto
	§ Syme Surgical Fellowship	£100 per annum.	2 years.	Competitive Thesis by M.B. of not more than three years standing	
	§ Goodsir Memorial Fellowship	£100 per annum.	2 years.	Competitive Essay by M.B.s &c. of not more than three years standing.	

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* For Students entering on or in their First Year

† For Students entering on or in their Second Year

‡ For Students entering on or in their Third Year

§ For Students entering on or in their Fourth or Fifth Year or for Graduates.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP, &c	ANNUAL OR TOTAL VALUE	HOW LONG TENABLE	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE
EDINBURGH UNIVERSITY —*continued.*	* Leckie Mactier Fellowship	£80 per annum.	3 years	Competitive Examination among M B s of not more than three years standing	
	* Freeland Barbour Fellowship	£100	1 year	Highest Marks in ANATOMY, PHYSIOLOGY and PATHOLOGY in Professional Examinations	One year's research in Midwifery
	* Allan Fellowship	About £40	1 year	Competitive Examination in CLINICAL MEDICINE and CLINICAL SURGERY	
	* Vans Dunlop Scholarship				
	" No 5	£100 per annum.	3 years	Competitive Examination in ANATOMY and PHYSIOLOGY	Continued study and research
	" No 6	£100 per annum.	3 years.	Do in MATERIA MEDICA (including PHARMACOLOGY).	Ditto
	" No 7	£100 per annum.	3 years.	Do in PATHOLOGY and FORENSIC MEDICINE and PUBLIC HEALTH.	Ditto.
	* Murchison Memorial Scholarship	Interest on £1000	1 year	Competitive Examination in CLINICAL MEDICINE	
	* Stark Scholarship in Clinical Medicine.	£112	1 year	Competitive Examination in CLINICAL MEDICINE.	Research in Clinical Medicine
	* Buchanan Scholarship	£40	1 year	Competitive Examination and Class Work in MIDWIFERY and GYNÆCOLOGY	Work in Gynæcological Ward, &c.
	* James Scott Scholarship	£32 10s.	1 year	Competitive Examination and Class Work in MIDWIFERY	Work in Maternity.
	* Ettles Scholarship	£31	1 year	Most distinguished M.B , Ch.B of year	
	* Crichton Research Scholarships in Anatomy Physiology Materia Medica and Pathology	£100 each per annum.	1, 2, or 3 years.	Competitive Examination for Graduates of the University	Continued Research.
	* Mouat Scholarship	£55 and Medal.	1 year	Class and Degree Examinations in PRACTICE OF PHYSIC (MEDICINE)	Continued study in Medicine.
	* Grierson Bursary				
	" No 4.	£10	1 year	Competitive Examination in MATERIA MEDICA	Continued study
	" No 5	£10	1 year	Competitive Examination in PATHOLOGY	Ditto.
	* M'Cosh Graduate's Bursary and M'Cosh Medical Bursary (for Research).	Income of £5500	1 year	Distinction in Professional Subjects and sufficient knowledge of FOREIGN LANGUAGES	Research in Medical Schools of Europe
	* Gunning Victoria Jubilee Prizes (2 awarded annually)	Each £50	——	Thesis or Original Research in ANATOMY, PHYSIOLOGY ZOOLOGY, BOTANY CHEMISTRY, MATERIA MEDICA, SURGERY PRACTICE OF PHYSIC PATHOLOGY, OBSTETRICS, and MEDICAL JURISPRUDENCE and PUBLIC HEALTH respectively	
	* Theses Gold Medals	—	——	Candidates for M D who present Theses of high merit.	
	* Wightman Prize	£12.	——	Competitive Reports on Clinical Medicine Cases	
	* Beaney Prize.	£32 10s	——	Highest Marks in ANATOMY, SURGERY, and CLINICAL SURGERY, in M.B and Ch B Examinations	
	* Ellis Prize.	£23 per annum.	——	Essay on ANIMAL OR VEGETABLE PHYSIOLOGY	
	* Cameron Prize	Annual Proceeds of £2000	——	Most valuable addition to PRACTICAL THERAPEUTICS during preceding 5 years	
	* Milner Fothergill Gold Medal.	About £20	——	Essay on PHARMACOLOGICAL or THERAPEUTIC SUBJECT	
	† Mackay Smith Scholarship in Chemistry	£25 per annum.	2 years	Competitive Examination in CHEMISTRY among University Students.	Continued study of Chemistry
	† Houldsworth Scholarship	£40	1 year	Competitive Examination in MATERIA MEDICA among University Students or Graduates	Research in Pharmacology
	† Mackenzie Bursaries (2 annually)	£20	——	Industry and Skill in PRACTICAL ANATOMY	
	† Pattison Prize.	About £11 7s 0d	——	Competitive Reports on CLINICAL SURGERY CASES	

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* For Students entering on or in their Fourth or Fifth Year, or for Graduates.
† For Students of any year (or standing of candidates not stated)

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
EDINBURGH UNIVERSITY —*continued.*	Dobbie Smith Gold Medal	...	...	Essay on BOTANICAL SUBJECT.	
	Anderson Henry Prize	Proceeds of £300 accum for 3 years.	...	Ditto	
	Gilfillan Memorial Prize	About £10.	...	Most distinguished Lady Graduate of year	
GLASGOW UNIVERSITY—QUEEN MARGARET COLLEGE*	Mackintosh Mental Science Bursary	£30	1 year	...	Open for competition to students of medicine of either sex attending the lectures on Insanity
	Dr Thos Gibson Bursary	£32.	4 years	Vacant 1904. Competition by Students at the First Professional Examination.	Open to medical students preparing to be missionaries in connexion with the Church of Scotland
	Arthur Scholarship	£20.	3 years.	Competition by Students of one year's standing in the subjects of the First Professional Examination. Next vacancy 1904.	Restricted to women students only
	Logan Bursary	£17	4 years.	Appointment by the Senate of Glasgow University. Next vacancy 1905.	Open to medical students of either sex entering on their first Winter Session of study
	Armagh Bursary in Medicine	£45.	3 years.	Competition by Students who are presenting themselves for the Final Examination for the degree of M.A. with Honours in Classics in 1902.	Open to students of either sex who have taken the course of study for graduation in Arts and intend to study Medicine
	Two Taylor Bursaries.	Each £7	4 years.	Appointment by the Senate. Both vacant in 1905.	Open to students of either sex in any faculty
	Two Dumfriesshire Society Bursaries.	Each £15.	4 years.	Appointment by the Dumfriesshire Society	Open to First and Second year Students of either sex in any faculty
	Six Buchanan Society Bursaries.	Each £36.	4 years.	Vacant 1904. Competition by students entering on the University Course, not over 21 years of age	Open to students in Arts, Science or Medicine of either sex of the names of BUCHANAN, MCMILLAN, MCAUSLAN, MCWATTIE, and RISK
	William Gardiner Bursary	£13 10s	2 years	Vacant 1903. Competition in PHYSIOLOGY, CHEMISTRY and PHYSICS of PROFESSIONAL EXAMINATIONS.	Open to medical students of either sex
	Two Pratt Bursaries.	Each £20.	4 years.	Both vacant 1902.	Open to sons and daughters of working men of the Parishes of WISTON and [illegible] LAMINGTON. Tenable in any faculty
QUEEN'S COLLEGE, BELFAST	Ten Junior Scholarships for Matriculated Students two for each of the five years curriculum.	£20 each.	1 year	Examination at the commencement of session.	Open to matriculated Medical Students of either sex.
ROYAL COLLEGE OF SURGEONS IN IRELAND SCHOOLS OF SURGERY	Class Prizes.†	£1 and £2.	...	Proficiency in Class Examination.	
	Carmichael Scholarship.	£15.	...	Examination in ANATOMY, PHYSIOLOGY, HISTOLOGY, CHEMISTRY, MATERIA MEDICA and PHARMACY	Open to students of the third year
	Mayne Scholarship	£15.		SURGERY, MEDICINE, JURISPRUDENCE, MIDWIFERY and DISEASES OF WOMEN	Open to students of third and fourth year
	Barker Bequest	£21.	...	For best DISSECTION	Open to all medical students
ROYAL UNIVERSITY OF IRELAND	Travelling Medical Scholarship	£100	...	The subjects are in rotation: (1) ANATOMY and HISTOLOGY, and (2) PHYSIOLOGY AND PATHOLOGY	Those who have passed the Medical Degree Examination either in the year of the scholarship examination or in the year immediately preceding are eligible

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* Women Students who fulfil the conditions of the Carnegie Trust for the Universities of Scotland may apply to the Secretary of that Trust for payment of their class fees.

† Given in each class at termination of each course of lectures.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued*

INSTITUTION	TITLE OF SCHOLARSHIP, &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE
ROYAL UNIVERSITY OF IRELAND—*continued*	Dr Henry Hutchinson, Stewart Medical Scholarships				
	" No 1.	£10	3 years.	Competition in the subjects of the second examination in MEDICINE	Candidates must present themselves after the lapse of not more than one medical year from the time of passing the first examination in medicine
	" No 2	£50	3 years	Subjects include PSYCHOLOGICAL MEDICINE, DISEASES OF THE NERVOUS SYSTEM, and ANATOMY, PSYCHOLOGY and PATHOLOGY OF BRAIN, CORD, AND NERVES	Competition among medical graduates of not more than 2 years standing for proficiency in the knowledge of Mental Diseases. Fee £2.
	Medical Studentship	£200	2 years	(1) PATHOLOGY and BACTERIOLOGY; and (2) PHYSIOLOGY and PHYSIOLOGICAL CHEMISTRY	Open to Graduates in Medicine of the University Fee £2.
	Exhibition at first Examination in Medicine.				
	" No 1	£20	— —	—	
	" No 2	£20		— —	
	" No 3	£10		— —	
	" No 4	£10		— —	
	Exhibition at second Examination in Medicine				
	" No 1	£25	— —	— —	
	" No 2	£25	— —	— —	
	" No. 3	£15	— —	— —	
	" No 4	£15.	—	—	
	Exhibition at third Examination in Medicine.				
	" No 1	£30	—	— —	
	" No 2	£30		— —	
	" No 3	£20	— —	—	
	" No 4	£20	— —	— —	
	M B, B Ch, and B.A.O Examinations				
	" No 1	£40	—	—	
	" No 2	£40.	— —	—	
	" No. 3	£25.	— —	—	
	" No 4	£25	— —	— —	
QUEEN'S COLLEGE, GALWAY	Eight Junior Scholarships.	£25 each and half fees	1 year	Competitive Examination at the commencement of session	Students of either sex must be of the standing of the year, and may be of any recognised school of medicine
QUEEN'S COLLEGE, CORK	Eight Junior Scholarships for Matriculated Students two for each of first four years of curriculum.	£25	1 year	Examination at commencement of session	Open to matriculated students of either sex.
	Blayney Scholarship in fifth year of curriculum	£35	1 year	Ditto	Ditto
	Senior Exhibition in fifth year of curriculum.	£30	1 year	Ditto	Ditto
	Three Exhibitions in Practical Medicine, Surgery and Midwifery respectively	£15 each		Examination at end of medical session	

Annotations.

"Ne quid nimis"

UNIVERSITY OF LONDON

WE shall shortly publish an article dealing with the Faculty of Medicine of the University of London pointing out the extent to which the reconstitution of the University has modified the conditions of education and examination in the Faculty of Medicine.

HINTS TO MEDICAL VISITORS TO BERLIN

VISITORS to foreign cities usually find it helpful to know something of the experiences of those who have already traversed the same route, more especially when the objects of the journey are in each case the same, and an article entitled "Medical Notes from Berlin" contributed by Dr Donald Bremner Waters to the July number of the *Caledonian Medical Journal* contains passages which may be of interest to some of our readers. Dr Waters commences with the remark that Berlin is a very fine city where there is a great wealth of clinical material and the teaching is exceedingly good. Most of the clinics are held in the Charité Hospital or in its vicinity and large numbers of students occupy apartments in the immediate neighbourhood, so that the "Latin quarter" of Berlin may be said to form a circle with the Charité in the centre. There is not much difficulty in finding rooms for in certain parts of the city almost every house-door has a card with the announcement, "Hier ist ein Zimmer zu vermiethen." For those who prefer to reside in one of the suburbs in order to avoid the stir and bustle of the city proper Charlottenburg may be recommended as it is not too far from the clinics and better rooms may perhaps be obtained there at no higher rates than in the central localities. Charlottenburg is three or four miles from the Charité but there is an excellent train service with trains running every five minutes and a ticket for a month costs only three marks. In exchange value a mark is almost identical with a shilling but in general a mark will go further in Germany than a shilling will in Great Britain. The rent of one room in Berlin may be estimated at from 30 to 40 marks per month varying according to size and situation, and especially according to the floor on which the room is. Rooms on the first floor cost about double of those on the fourth. The landlady provides morning coffee for which she charges from six to eight marks, but dinner and generally supper must be obtained outside in one of the numerous restaurants where the prices are moderate, especially if the visitor knows exactly where to go. The more conversant the visitor is with German the more he will profit by the opportunities offered in the clinics, and for some it would probably be advisable that they should begin by living in a pension or family. There is a truly bewildering choice of clinics for in each of the important branches of medicine and surgery there are at least two courses in some cases more conducted either by the professors or by *privat-docents* while additional classes are held by others not so intimately connected with the university. If the visitor desires to obtain a certificate from the university that he has attended classes it is necessary to matriculate. This costs only something like 16*s.* and full value is got for the money as a number of short (though by no means unimportant) courses are thereby open to the matriculant without further fee. The fees for the various clinics are much lower than for the corresponding courses in Great Britain. As a rule they cost about 30 to 40 marks with the exception of practical classes such as bacteriology &c. which are somewhat dearer. There are two *semesters* in each year the winter *semester* from Nov 1st to the end of February and the summer one from May 1st to the end of July. In addition to the courses held in the two *semesters* there are Ferien-Curs (vacation courses) held in March and October. Dr Waters says that these offer special advantages to medical men there is a course in nearly every subject and as they are for qualified men they are essentially practical. The work of the clinics begins early in the morning and continues until late in the evening. Professor Olshausen commences his gynæcological operations at 7.45 A.M. and one of the medical clinics is held from 8 to 9 A.M. There are three medical clinics in Berlin conducted by Professor Gerhardt,[1] Professor von Leyden and Professor Senator respectively. Systematic lectures are not delivered the teaching being almost entirely clinical. The patient is brought before the students a short history of the case is given and two or three students who are detailed for the purpose investigate the case under the supervision of the professor who thereupon sums up and discusses the diagnosis. A similar procedure takes place at the polyclinics the only distinction being that more cases are discussed in the time. A point of difference between the German and British method is that in the former the students rarely come into the wards. There are special classes conducted by the *privat-docents* and the assistants of the clinic, in order to instruct students in physical signs and in the method of investigating cases.

THE Working Men's College 46 Great Ormond-street London W.C. has an ambulance class in connexion with the College. The present instructor is however unable to carry on the work during the coming session. We have been requested to publish an appeal for a volunteer and we do so with pleasure. The class meets once a week in the evening at an hour to be settled by the instructor. Communications should be addressed to the secretary Mr L. C Duchesne at the College.

THE report of the Principal Chemist of the Government Laboratory upon the work of the laboratory for the year ending March 31st 1902, has been published and we propose to deal with it in a future number.

POST GRADUATE STUDY

ASSOCIATION OF METROPOLITAN SCHOOLS OF MEDICINE.

ARRANGEMENTS have now been made by which the Association of the Metropolitan Schools of Medicine is enlarged so as to include (with one exception) all the institutions recognised by the University of London as seats of medical education. On and after Oct 1st next St. Bartholomew's Hospital and the five following special hospitals—the Brompton Hospital for Diseases of the Chest the Hospital for Sick Children Great Ormond street the London School of Tropical Medicine the National Hospital for the Paralysed and Epileptic and the Royal London Ophthalmic Hospital (late Moorfields)—become members of the association which already includes nine general hospitals. It is hoped that this widening of the scope of the association will have the effect of making it even more attractive in the future than it has been in the past. Amongst other privileges its ticket (the charge for which is 7 guineas for three months or 10 guineas for six months) will admit to the post graduate courses carried on at the hospitals both general and special which share in the scheme. By means of clinical lectures and demonstrations at which, so far as is possible patients are shown, the wealth of clinical material which would otherwise be almost unmanageable is made readily accessible. In connexion with the special departments of several of the general hospitals similar lectures and demonstrations will also be given at regular hours. Qualified men have thus placed at their disposal the best of all the hospital work in London.

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[1] Since deceased.

This is a scheme of post-graduate instruction which should prove attractive above all others to graduate members of the metropolitan schools who wish to widen their ideas by observation of the methods of teaching and practice adopted at institutions other then their particular *alma mater*. The office of the Association remains as before at the Examination Hall, Victoria Embankment, W.C., where all information may be obtained between the hours of 12.30 and 3, except on Saturdays.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

This institution, of which Sir William Broadbent is President, affords to medical men special facilities for acquiring technical skill and for advancing their medical and scientific knowledge. The building contains lecture and consulting rooms, a pathological and clinical laboratory, a Roentgen ray room, an ophthalmoscope room, a museum, a library, and reading and writing rooms, &c. Clinical lectures are given each working day of the week except Saturday, at 4 P.M., and clinical lectures are given on alternate Wednesdays at 5.15 P.M. General and systematic lectures are given on special subjects twice a month. Classes are also held in practical bacteriology, mental diseases, hygiene and public health, and operative surgery. Extra classes in any subject are formed to suit the convenience of practitioners unable to attend those already provided. A complimentary ticket available for three successive days will be issued to any practitioner upon presentation of his visiting card. A monthly journal, the *Polyclinic*, recording the work done in the college, is issued free to subscribers and members. The annual subscription for practitioners residing in Great Britain and Ireland is one guinea and for practitioners non-resident in the United Kingdom half a guinea. Full information can be obtained from the Medical Superintendent at the college, 22, Chenies street, Gower street, W.C.

CHARING CROSS HOSPITAL.

Classes for post-graduate study are held on each Thursday of the week throughout the year at Charing Cross Hospital. The fee for each course of ten lectures is £1 1*s.* The first of the two winter courses this year will commence on Oct. 9th and will be conducted by the following members of the medical and surgical staff: Drs. Green, Bruce, Eden, Willcocks, Murray, and Galloway, and Messrs. Boyd, Waterhouse, Wallis, and Gibbs. Further information as to the dates and subjects can be obtained by communicating with the honorary secretary (Dr. Willcocks) at the hospital.

WEST LONDON POST GRADUATE COLLEGE: WEST LONDON HOSPITAL.

The West London Hospital, Hammersmith road, was the first general hospital in London to organise a systematic scheme for post graduate teaching and to devote the clinical material in its wards and out-patient department solely to the instruction of qualified men. The college was started in 1895, and three years later its basis was enlarged by the provision of accommodation for the post-graduates in the shape of lecture, reading, and writing rooms, &c., while owing to the continued growth of the college these were transferred last year to a building especially constructed for the purpose. The physicians and surgeons attend daily at 2.30 P.M. Post-graduates accompany the staff on their visits to the wards. Instruction is given in the out-patient department daily at 2.15 P.M. by the assistant physicians and assistant surgeons. The out-patient department has recently been enlarged and there is now ample accommodation for post-graduates to see and to examine the patients. There are special departments for Diseases of the Eye, the Ear, Throat, and Nose, the Skin, for Diseases of Women, Medical Diseases of Children, and for Orthopædic Surgery and for X-ray Work. Clinical Assistants are appointed from among the post-graduates. Practical classes for instruction in these subjects are held each session. They are limited in number and each member has opportunities of gaining experience in the methods of examination and treatment. Operations are performed on Mondays, Tuesdays, Wednesdays, Fridays, and Saturdays at 2.30 P.M. and on Thursdays at 3.30 P.M. Post-graduates are allowed to stand close to the table and can see the operations perfectly. The surgeons often avail themselves of the assistance of post-graduates at operations.

Instruction is given in the administration of anæsthetics by the anæsthetists on the operating days and post-graduates will be allowed to administer anæsthetics under their superintendence. Special classes are held each session, each will have opportunities of administering several different anæsthetics. Post-mortem examinations are performed at 5 P.M. and demonstrations on recent pathological specimens are given on Mondays and Fridays during each session, at 11 A.M. in the lecture room. Post-graduates also visit the wards in the mornings with the house surgeons and house physicians, they also often render assistance to these officers in the Casualty Department. Practical lectures and demonstrations are given each afternoon (except Saturday) at 5 P.M. during the session.

Fees.—The fee for the hospital practice, including all the ordinary demonstrations and lectures, is £1 1*s.* for one week, £2 2*s.* for one month, £4 4*s.* for three months, £6 6*s.* for six months, £9 9*s.* for one year, and £21 for a life ticket, all fees to be paid in advance. If it is wished to pay the fee by instalments the price of the yearly ticket will be £10 10*s.*, payable by one instalment of £4 4*s.* and two of £3 3*s.*, the first to be paid on joining, the second three months later, and the third at the end of six months, the fee for a life ticket will be £23 2*s.*, payable by four instalments of £4 4*s.* and two of £3 3*s.*, the first to be paid on joining, the second after three months, the third at the end of nine months, the fourth at the end of one year, and the two final ones at intervals of three months. A course of attendance on either the medical or surgical practice alone may be taken out for the fee of £3 3*s.* for three months. The fee for three months' attendance in any one special department other than medicine or surgery is £2 2*s.* for three months. Further information can be obtained on application to the Dean at the West London Hospital.

NORTH-EAST LONDON POST GRADUATE COLLEGE.

In connexion with the Tottenham Hospital, N., facilities are afforded to qualified medical men for taking part in the work of an active general hospital and of attending demonstrations of various branches of Medicine, Surgery, and Gynæcology with opportunities for other forms of clinical instruction, including Diseases of the Eye, Ear, Throat, Nose, Diseases of the Skin, and Dentistry. Clinical Lectures are given from time to time by members of the staff. Cases are demonstrated both in the wards and in the various out-patient departments, operations are performed every afternoon of the week except Saturday. The fee for a three months' course of study, which may be begun at any time, in any single department, is £1 1*s.* A fee of £2 2*s.* admits to the whole practice of the hospital for a similar term, and a perpetual ticket for the practice of the hospital may, for the present, be obtained on payment of a fee of £3 3*s.* Medical practitioners who have attended a three months' course in any department are eligible for appointment as Clinical Assistants in those departments. A certificate signed by the staff may be obtained at the end of three months' hospital attendance. Further information may be obtained from the Dean of the Post-Graduate College, Dr. A. J. Whiting, 142, Harley street, W.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL.

This hospital, which is situated in Grafton street, Tottenham-court-road, gives facilities for post-graduate study. The fee for one month's attendance at the hospital is £1 1*s.* and for three months £2 2*s.* During the forthcoming session demonstrations will be given by the members of the staff on the pathology and treatment of diseases of the ear and respiratory passages. Short practical classes will also be held in clinical pathology and surgical anatomy of these regions. Weekly clinical lectures are given by the staff on the special diseases treated at the hospital, the time, date, and subject of these lectures are previously announced in the medical journals. These lectures are free to all medical practitioners and students.

PROVINCIAL POST GRADUATE STUDY.

The Liverpool School of Tropical Medicine in connexion with University College, Liverpool, provides post-graduate classes. Clinical instruction is given at the Royal Southern Hospital, which has a special ward for the reception and treatment of tropical diseases. In the pathological department of University College (Thompson Yates Laboratories) investigations of specimens may be made.

Ample facilities are provided at Cambridge University for post-graduate study and research in anatomy, physiology, pathology pharmacology and chemistry Lectures in clinical medicine and surgery are given at Addenbrooke s Hospital

Various courses of lectures are from time to time available for graduates at the Royal Infirmary of Edinburgh, the City Hospital and some other institutions.

Instruction in bacteriology and pathology is available for medical men throughout the year also at Belfast.

THE ARMY AS A MEDICAL CAREER

FEW matters of importance and interest to the medical profession, and especially to the medical student, have been more written about than the work and position of the Royal Army Medical Corps. After years of controversy between the Army Medical Service and various Governments we appear however to have reached at length a stage affording a more secure and satisfactory footing than has hitherto been the case. It cannot, we think, be denied that, as the result of the recent movement for the reform and reorganisation of the medical service of the army many radical and salutary changes and improvements have been effected in all that appertains to that service. We are very glad to be able to say this because we have always felt that on every ground it was highly undesirable that there should be among the younger members of the profession anything like a boycott of an important public service with distinguished traditions. The present time, therefore, affords a very fitting and favourable opportunity for taking accurate stock of the Army Medical Department and for frankly and dispassionately considering what are the inducements held out to young medical men to throw in their lot with the army and to serve their country and their profession by joining the Royal Army Medical Corps.

The medical service having some years ago been organised as a corps with an autonomy of its own and the question of the military titles, rank, and status of its officers having been settled in accordance with their wishes, and with those of the profession generally there still remained for solution the problems of how the needful supply of highly qualified medical candidates could be obtained and how the State could have the assurance that their scientific knowledge and professional efficiency would be always maintained.

The official answer to these questions is to be found in the last Royal Warrant published in THE LANCET of March 29th 1902, p. 912, and in the regulations for admission into the Royal Army Medical Corps which were published in THE LANCET of May 10th, 1902, p 1339 There is little need to refer to the fierce fire of adverse criticism which hailed the advent of the report of the War Office Committee. We said at the time that at that stage of the proceedings the report should be simply regarded as outlining an immature scheme, and that many of the objections would disappear when it came to be considered in detail as it would have to be, whilst it was being formulated officially into the shape of a warrant and regulations. This is what has actually taken place, and as regards the omission of all mention of India in the Royal Warrant we have since had the satisfaction of announcing the Secretary of State s decision that the warrant is to be made applicable to that country So far then as official documents are concerned all seems to be open and above board as regards the terms material advantages and conditions of service offered to intending candidates The medical officer of the future will be largely master of his fate. He will on entering the service be in possession of a fairly liberal rate of pay and will learn much that will be both new and interesting as well as much that will hereafter prove useful to him He will while serving in the corps have special opportunities for the study of his profession and can accelerate his promotion and qualify for an appointment with extra pay as an expert in subjects for which he has any special knowledge taste, or aptitude Success in the Army Medical Service is no longer by a dead level seniority the door is thrown open to professional merit and attainments in a way that has never before been but which we have always advocated should be, the case. With the increased facilities for professional and scientific study and the establishment of a staff medical college in London, the public medical services will be brought into close relations with the medical profession in civil life and medical officers will be able to avail themselves of the large and varied field of clinical material and hospital practice to be found in this metropolis. All this should prove for the mutual benefit of the State and the medical service. There is, then no reason why a really good stamp of men should not in future be attracted to the army nor any reason why they should not, with periodically recurring opportunities provided for study be able to maintain a high professional standard and to keep themselves abreast with the progress of modern medical knowledge and thought.

Lest it be thought that we lay too much stress upon this matter we would point out that the Royal Army Medical Corps must first and foremost be regarded as a scientific branch of the service if it is to maintain a high and respected position, and that on the mere ground of self interest the officers and men of the army are quick to find out those whom they can trust when sick or wounded They are naturally only too glad to avail themselves of the aid and skill of those who show that they are keenly interested in their profession and are ready to do all they can to support the position of such men if only in order to retain the benefit of their services. It is, after all, a matter of common sense and experience that this should be so Of course in this, as in every other walk in life, a man has to a large extent to make his own position by the exhibition of his personal qualities but if in addition to being professionally capable he is in mind and manner a self respecting gentleman it would be hard to find a better or more pleasant position in life than such a medical officer will occupy An officer of this stamp has always made and will so long as human nature remains what it is continue to make, many true friends in the army And if he takes part in a campaign and serves on a battle-field he will experience what the ties of comradeship mean, will see surgery on a big scale and otherwise will learn lessons which he will never forget. There are besides some other things which medical service in the army offers that cannot be found in any other career A medical man in the army is a cosmopolitan. He sees in the course of his service-life many lands and many different peoples and meets with many new and varied experiences as he travels through fresh fields, each of them presenting stimulating subjects for curiosity observation, or inquiry; he is afforded opportunities for studying disease under different aspects and in different climates and under a variety of conditions and if he is a lover of nature and has an open and intelligent mind or a taste for natural history he cannot fail in the course of his service to meet with a variety of interesting objects and situations which rarely, if ever fall in the way of the civil practitioner in this country He is a medical officer and has perforce duties other than medical to discharge but he has a fixed and, on the whole, fairly good income and knows not the carking care and anxiety attending monetary struggles in early professional life

There is of course, another side. Many hardships are inseparable from army life and foreign service but on these things there is no need to dwell as they must all be more or less obvious. It is, perhaps, worth mentioning that if in many respects the army medical officer has to encounter obstacles and difficulties in the study and pursuit of his profession which are not present in civil life he enjoys one advantage the medical officer in dealing with soldiers is dealing with men living in community under exactly the same conditions he knows all about their environment, their mode of life and their habits so that under such circumstances the observations made regarding a body of troops often partake very much of the nature of an experiment.

To sum up the whole matter we think, then, that for young and well trained medical men generally the army as a career offers many distinct advantages and that for a certain class of enterprising and observant man service in it holds out unique opportunities

CONGRESS OF MEDICAL ELECTROLOGY AND RADIOLOGY.—The Second International Congress of Medical Electrology and Radiology will be held in Berne Switzerland, from Sept. 1st to the 6th. The proceedings will commence on August 31st with a reception at the Restaurant du Musée. The meetings will be held at the Institute of Physiology Bühlplatz, on Sept 1st 2nd 4th, 5th, and 6th, from 9 A.M. to noon and from 3 to 5 P.M. On Sept. 3rd there will be an excursion to St. Beatenberg

Looking Back.

FROM

THE LANCET, *SATURDAY, AUGUST 28*, 1824

PURULENT OPHTHALMIA

To the Editor of THE LANCET

SIR,—The prevalency of Purulent Ophthalmia, as mentioned in your last number of THE LANCET, calls upon every member of the Profession to use his utmost endeavours to check its ravages, and give publicity to such remedies as appear to act most beneficially upon the disease Under this idea, I beg leave to intrude upon you, that a remedy, which in an extensive practice has proved of singular utility, may be more generally known to the medical world

From the very accurate description of this disease published in the Medical and Chirurgical Transactions, by P MACGREGOR, in the year 1811, it would be superfluous to enumerate the symptoms, which must be so generally known With respect to the treatment in the first or inflammatory stage, those remedies which act generally on the constitution, I have invariably found highly beneficial, and for this purpose have employed a solution of Antim Tart. given in small doses every five or ten minutes, until nausea is produced, this, with leeches to the eye, a strict antiphlogistic regimen, and a mild fomentation or collyrium, are often sufficient to stop its progress, and frequently eradicate the disease More generally, however, an indolent inflammatory state remains, for which various astringent medicines have been employed, such as a solution of Argent. Nitr Cupri Sulph, and various others, both of the mineral and vegetable kingdoms, all of which I have extensively tried, and some with advantage But the remedy I have found of most essential service, is the Liq Plumb Subacet. in a concentrated form, and the best method for its use is by exposing the under surface of the palpebræ, whilst an assistant, with a camel's hair pencil, gently applies it to the part This is repeated every morning, and in a few days an evident improvement will be manifest From the number of cases in which I have tried it, I can speak positively as to its effect, which has proved beyond comparison superior to those in general use, and, I doubt not, should it be applied by more of the Profession, the trial will exceed their expectation

Yours, &c.

London, Aug 16 1824 T G

OPENING OF THE MEDICAL SCHOOLS

WINTER SESSION 1902–1903

LONDON

St Bartholomew's Hospital —The session will begin on Wednesday, Oct. 1st. The old students' dinner will be held in the evening in the Great Hall of the hospital, when Dr Norman Moore will preside

Charing-cross Hospital —The session will be opened on Wednesday, Oct. 1st, by the delivery of the Fourth Biennial Huxley Lecture on Recent Advances in Science and their Bearing on Medicine and Surgery, in the Anatomical Theatre of the Medical School at 4 P M, by Professor W H. Welch, M D, of the Johns Hopkins University, Baltimore. The old students' dinner will be held at the Hotel Cecil the following evening, Dr C Pye Oliver in the chair

St George's Hospital —The session will commence on Wednesday, Oct. 1st, with an introductory address, at 4 P M, by Dr T T Whipham The annual dinner will be held the same evening at the Hôtel Métropole, when Sir W H Bennett, K C V O, will preside.

Guy's Hospital —The session will begin on Wednesday, Oct. 1st, when the Lord Mayor of London will distribute the prizes A house dinner will be held in the Students' Club the same evening under the presidency of Dr Pye Smith.

King's College Hospital —The session will open on Wednesday, Oct. 1st, and the old students' dinner will be held the same evening at the Hotel Cecil, Dr T C Hayes in the chair

London Hospital —The session will begin on Wednesday, Oct. 1st. The old students' dinner will be held in the college library at 6 30 P M, Mr E Hurry Fenwick in the chair

St Mary's Hospital —The session will commence on Friday, Oct 3rd, with an address and distribution of awards by Sir A. W Rücker, D Sc, F R.S, Principal of the University of London. The annual dinner of past and present students will be held the same evening at the Whitehall Rooms, Hôtel Métropole, when the chair will be taken by Mr Edmund Owen

Middlesex Hospital —The session will open on Wednesday, Oct 1st at 3 P M Mr Stephen Paget will give an introductory address, after which the prizes gained during the previous year will be distributed by the Right Hon the Lord Sandhurst, G C S I, G C I E The annual dinner of the past and present students and their friends will take place at the Trocadéro the same evening at 7 o'clock precisely, with Dr William Cayley in the chair

St Thomas's Hospital —The session will begin on Wednesday, Oct 1st. The annual dinner in which all former and present students are invited to join, will take place at the Hotel Cecil on the same day at 6 30 for 7 o'clock, with Mr G C Franklin in the chair

University College —The session will be opened on Wednesday, Oct 1st, at 4 P M, when the Dean's report on the progress of the Medical School will be read, after which an introductory lecture will be delivered by Mr Percy Flemming, B S, F R.C S, assistant ophthalmic surgeon to the hospital

Westminster Hospital —The winter session will begin on Wednesday, Oct. 1st. The annual dinner will take place on Friday, Oct. 3rd, at the Trocadéro, Dr T Colcott Fox in the chair The secretaries of the dinner are Mr William Turner and Mr Arthur Evans, 53, Queen Anne street, W

London (Royal Free Hospital) School of Medicine for Women —The introductory address will be given by Mr Charles Burt, J P, at the Medical School on Wednesday, Oct 1st, at 4 P M

London School of Tropical Medicine—The session will begin on Wednesday, Oct 1st

PROVINCIAL.

University of Birmingham —The session will begin on Wednesday, Oct 1st.

Yorkshire College, Leeds —The session will begin on Wednesday, Oct 1st, when Mr A W Mayo Robson will deliver an introductory address

University College, Bristol —The session will begin on Wednesday, Oct 1st.

University College, Cardiff —The session will begin on Tuesday, Oct. 7th The opening address to students will be given by Dr D Berry Hart on Friday, Oct 10th

University College, Liverpool —The session will begin on Wednesday, Oct 1st.

Owens College, Manchester —The session will begin on Wednesday, Oct. 1st, when an introductory address will be given by Sir Dyce Duckworth

University of Durham —The session will begin on Wednesday, Oct 1st

University College, Sheffield —The session will begin on Tuesday, Sept. 30th, when Sir H G Howse, P R.C S, will deliver the introductory address

SCOTLAND

University of Aberdeen.—The session will open on Tuesday, Oct. 14th.

University of St Andrews (United Colleges of St Andrews and University College, Dundee) —The session will open on Thursday, Oct. 16th.

University of Edinburgh —The session will commence on Tuesday, Oct. 14th.

University of Glasgow —The session will open on Thursday, Oct. 16th

Anderson's College, Glasgow —The session will begin on Thursday, Oct 16th.

St Mungo's College, Glasgow —The session will begin on Thursday, Oct. 16th.

Queen Margaret College, Glasgow —The session will begin on Thursday, Oct. 16th

IRELAND

Queen's College, Belfast —The session will begin on Tuesday, Oct. 14th

Queen's College, Cork —The session will begin on Thursday, Oct. 16th The lectures will commence on Monday, Oct 20th

University of Dublin.—The session will begin on Wednesday, Oct 1st

Medical News

PLAGUE DUTY IN THE PUNJAB —The following is the list of medical men selected by the Secretary of State for India for plague duty during the ensuing nine months in the Punjab Dr Daniel V M. Adams Dr Joseph Ashton Dr Joseph M. Benson Mr Barnabas M Bond, Mr William Burns Mr Charles Cavanagh Mr Arthur O. De Renzi, Dr Frank L. Dickson Mr Thomas E. Dobbs, Dr Archibald Douglas Dr John S O Elkington Dr Alex Macbeth Elliot, Mr Alfred P B Ellis, Dr Robert W Fisher Dr Chas E. P Forsyth Dr Henry Fraser Dr Joseph N Gardiner Dr Frederick Goldsmith, Dr Robert W Gray Mr Charles M. Heanley Mr David Heron Dr Edward A. Houseman Dr Charles E. Husband, Mr Alexander S McSorley Mr Thomas F G Mayer Mr Ralph Mitchell, Dr John W Miller Dr John F Northcott, Mr Francis J Pearson Dr. James H. Rankin, Mr Lewis St John Reilly Dr Frank Robinson, Mr Walter Somerville Dr George Taylor Mr Edward N Thornton Dr Thomas Warner and Mr Percy J Wilkinson.

LITERARY INTELLIGENCE.—Miss Agnes M Clerke's "History of Astronomy in the Nineteenth Century" which was first published in 1885, has reached a fourth edition and has just been published by Messrs Adam and Charles Black. Owing to the alterations consequent on the superannuation of doctrines and theories which only a few years ago were implicitly believed in the work has been entirely reset. It is truer of no science than that of astronomy that the old order changeth."— The Book of Jubilees, edited with Introduction, Notes, and Index by the Rev R. H. Charles, Professor of Biblical Greek, Trinity College, Dublin, will be published by Messrs Adam and Charles Black on Sept 2nd. The Book of Jubilees is the oldest commentary in the world on Genesis and the early chapters of Exodus It was written in Hebrew in the latter half of the second century B C and therefore forms an independent witness to the form of the Hebrew text of the Pentateuch at that date From Hebrew it was translated into Greek, and from Greek into Ethiopic and Latin The entire Ethiopic version has come down to us but only fragments of the original and the other versions have been preserved. The book is full of interest both to Christian and Jewish scholars It was used by some of the writers of the New Testament, and it possesses older forms of the halacha than are found in the Mishna and older forms of haggada than appeared in the Talmud

SOME NOVEL PATENTS —A coffin has been patented having covers hinged to the opposite side walls of the body portion at their outer edges and adapted to meet at their inner edges along a longitudinal line of the casket, and outer and inner handles pivoted on one cover to turn in unison." Glass tombstones have been patented by another inventor, who has devised a method of manufacturing a block of glass having an inclosed imprint or design consisting in casting a mass of glass upon the face of a plate of glass bearing the design or imprint then casting a second mass of glass upon the back of the same. A sinew-extractor has been patented comprising two holders having channels adapted to receive one leg of a fowl and provisions for imparting a movement of one of said holders relatively to the other in a path at an obtuse angle to the channels. The specifications of these contrivances, with diagrams, will be found in the *Official Gazette* of the United States Patent Office published on August 12th, 1902.

THE PUBLIC HEALTH AND THE PLUMBER —At the Congress of the Royal Institute of Public Health held at Exeter on August 25th under the Presidency of the Earl of Iddesleigh, the following resolution was carried unanimously —

> That this 1972 Congress of the Royal Institute of Public Health held at Exeter approves of the efforts made by the Worshipful Company of Plumbers in promoting the Plumbers Registration Bill, believing that such a measure will be for the safeguarding of the public health and beneficial to all classes of the community and appeals to the Government to give facilities and support to the measure

PROMISES OF SANITARY REFORM AT MARSEILLES —Apart from the political issues involved the municipal elections at Marseilles are of international interest from the sanitary point of view Marseilles has often been described as the door to the East, and it is a door by which cholera and other epidemic diseases have too often gained admission and spread to north western Europe. Whatever may be the claims to popularity which have enabled a socialist municipality to retain office for 10 years the much needed measures of sanitation, begun by the previous municipality, have not been pushed forward in a satisfactory manner At the recent municipal elections a combination of Radicals and Republicans have obtained a large majority over the Socialists and a new municipality is now in power M Chanot succeeds Dr Flaissières as mayor and a programme of some important sanitary reforms has already been made The first item on this programme is the re-organisation of the sanitary services and with ships constantly arriving in the port that have cases of plague on board this is a matter interesting not only the town of Marseilles but a large part of Europe. Further it is proposed to erect at Marseilles a school of colonial sanitation where patients suffering from the diseases contracted in the colonies may be observed by the students At present there exists only one institution of this sort in France and this is at Bordeaux. Perhaps the proposal to build a hospital for infectious cases, which has been adopted long ago and never carried out, will be taken in hand Then there is still an enormous amount of work to be done in regard to domestic hygiene Many houses remain that have no closets and the soil is still thrown out into the street or stored in small tubs that create a great nuisance An administration, whatever its political colour that would give its earnest attention to these practical questions would earn the gratitude not only of the inhabitants of Marseilles but of all France and also of neighbouring nations who receive travellers and merchandise disembarked at this port

THE GAMBIA MEDICAL EXPEDITION —Dr J E Dutton and Dr J Todd are proceeding to Gambia upon the eighth expedition of the Liverpool School of Tropical Medicine. Their plan is to pay a six months visit to Bathurst, the Gambia territory and French Senegal and to carry on research work the French authorities having placed quarters at their disposal.

Births, Marriages, and Deaths.

BIRTHS.

JONES —On St. Bartholomew's Day the wife of H Lloyd Jones, M.D Camb. Corpus Buildings Cambridge, of a daughter

MARRIAGES.

WARD—FINCH —On August 14th, at the Cathedral Cape Town, by the Rev Arthur Brooke Arthur Blackwood Ward B.A., M B. B C. Cantab M R.C.S Eng., L.R.C.P Lond. of Northumberland Lodge Bloemfontein Orange River Colony to Angela Susan Dorothea, second daughter of the late Henry C Finch J P, of Redheath, Watford in the county of Herts Esquire, and of Mrs Charles Maynard Hallewell of Vale House, Monkton Combe Bath

DEATHS

HAYWARD —On August 6th, at 180, Elizabeth-street Hightown Manchester William Henry Hayward Surgeon aged 63 years

N.B —A fee of 5s is charged for the insertion of Notices of Births Marriages and Deaths

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Unqualified —The university of which B is a graduate is recognised by the official publication of the University of the State of New York entitled "Medical Education as affording a genuine and thorough medical curriculum This official publication is very generally relied on by us in discriminating between genuine and bogus institutions in the United States Although the university in question is not included in the list of those published in the Medical Register as granting a registrable foreign degree the same is the case with a number of universities of high standing in Europe The place where A and B are practising is the capital of an absolutely independent State and we therefore think that our correspondent can perfectly well recognise B. Also it seems to us that the General Medical Council can have no possible jurisdiction over A, whose duty it is to comply with the registration formalities if any there be prevailing in the foreign country in question.

[illegible] —Our correspondent is advised to apply to the London Hospital Whitechapel road, London, E where there is a special department for the treatment about which he writes

O A —Will our correspondent kindly forward us his name and address?

ERRATUM —In our issue of Aug 23rd p. 600 there appeared a review of a book by Dr James Wallace He was erroneously described as M.D Glasgow " This should have read *M D Aberd*.

OUR CURRENT NUMBER

Being almost exclusively devoted to information especially interesting to Students we are necessarily compelled to defer the publication of communications on other important subjects

We tender our best thanks to those gentlemen who have at considerable personal trouble kindly supplied us with the returns and prospectuses upon which the information given in this Students' Number of THE LANCET *relative to the various medical examining bodies, hospitals and medical schools of the United Kingdom is based We regret that in some cases, however, owing to proofs having been either not returned at all or too late, certain inaccuracies may be found*

TO ADVERTISERS

Owing to the pressure on our advertisement columns this week some announcements have unavoidably been held over

Communications, Letters, &c, have been received from—

A.—Messrs Allen and Hanburys, Lond Messrs Anderson Anderson and Anderson Lond. Messrs Armbrecht Nelson and Co Lond Ayrshire Anderson s College Medical School, Glasgow Messrs Armour and Co Lond

B—Dr F Bushnell, Plymouth Dr H. W Borham Swindon Belgian Society of Surgery, Secretary of Mr Wm Beck, Lond., Mr P S Blacker Lond Berrow s Worcester Journal Co Burton on Trent Infirmary, Secretary of Dr R A. Brehm St Johns Newfoundland Mr S W Beck Lond. Brazilian Chargé d Affairs St. Bartholomew's Hospital Steward of; Mr J F E Bridger, St Lucia

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T—Mr W H Thomas, Bath, Dr A D Turner Felixstowe Thakar Dass Tarnaja, Mandi Dr L. Grey Thompson, Launceston, Tasmania

U—University of London, Secretary to Registrar

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Letters, each with enclosure, are also acknowledged from—

A.—Dr T Angus Stevenston, Mr T H Agnew, Birkdale; Dr P E Adams Hartley Wintney Mr A. H. Allen, Sheffield Mr W C Ambrose Barnt Green A J J A. G T A. W L J A. R G

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N—*N C*

O—*Miss R. C Osborne* Bexhill-on Sea

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S—Mr H R Salmon Lond, Dr E J Smyth Bournemouth; Sanitas Electrical Co, Lond.; Messrs H C Scales and Co, Lond St. John Ambulance Association Lond Secretary of Dr J Shaw Liverpool Surgeon Sheffield, Surgeon Kingswear, Surgeon Manchester S W W; Sports and Pastimes Co, Lond., Manager of

T—Mr J Thin, Edinburgh Mr J B Thomas, Llangadock Dr T

V—Vinolia Co, Lond Victoria Women s Settlement, Liverpool, Hon Secretary of

W—Mr A. O Way Amersham; Mrs Ward Maidstone W B; Dr H. Forbes Winslow, Aldershot W H W, W L G, Dr J H Waterhouse Rotherham; W T O, Messrs Watkins and Osmond Lond., Mr R M Wright, Wrexham; Mr J Welpton Croydon Woodilee Asylum, Lenzie, Steward of

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Agent for the Advertisement Department in France—J ASTIER, 8, Rue Traversière, Asnières, Paris.

An Address

Delivered to the Graduates on July 26th, 1902 at the University of Edinburgh on the occasion of the Admission to Degrees in Medicine, and of the Conferring of the Honorary Degree of LL.D upon the Representatives of the Colonies

BY E A. SCHAFER, LL.D, F.R.S[1]

PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY

LADIES and Gentlemen, Newly made Graduates,—This is a momentous day in the life of everyone of you. You have come to the parting of the ways. You are going out into the world many of you far afield. You possess youth, with its self-confidence, and you will doubtless be saying with Pistol The world's mine oyster!" But the world let me remind you, is an oyster which shuts itself up very tight, and it is not everyone who succeeds in opening it. You must be prepared for disappointments but resolved never to be disheartened by them. How few meet with uninterrupted success and such as do—are they always the better for it?

> Sweet are the uses of adversity
> Which like the toad, ugly and venomous,
> Wears yet a precious jewel in his head

You are leaving your studies behind, but, in one sense, the most important are yet in front of you. It is, I think, Lowell who has somewhere said that the most valuable part of our learning is that which we teach ourselves. And this is pre-eminently the case with medical learning You will find that it is experience, and the knowlege which can only be gained by experience, which will enable you to approach the sick bed with confidence. And while you employ your store of accumulated experience to assist you in the diagnosis and treatment of every new case which comes before you, you will by rightly using your trained powers of observation, be able to cull from each case something worth adding to that store.

This being in the main a medical graduation it is appropriate for me to address more especially those of you who have decided to pursue a medical career and as I myself happen to be outside the actual profession—although my subject, the Institutes of Medicine, belongs in a very real sense to it—I am able to view medical practice from a relatively impartial standpoint, and may therefore venture in the first place to offer some reflections upon the advantages which the profession of medicine offers to those who, like yourselves, take it up as the occupation of their lives. These advantages are, I believe, considerable, and to use a phrase which has lately become current, are not only material, but also moral and intellectual. The most obvious benefit of a material character is connected with the fact that the practice of medicine is to be for most, if not for all of you, your source of livelihood. The education which you have received in preparation for practice has been a long and expensive one, but it has a good, and probably an increasing market value. What its relative value as compared with that for one of the other learned professions may be it is not easy accurately to estimate but one thing is certain—that it is in the power of any one of you to secure at once an income which, if not large, is at least sufficient for any immediate wants you are likely to have Thanks to the abolition of the unqualified assistant good positions as assistant are at a premium, and as an introduction to family practice there is no better opening than the opportunities which such a position frequently affords. As an alternative you have the choice of many residential positions in provincial and other hospitals most of which offer unrivalled facilities for the acquirement of experience. But unless under the pressure of necessity I would not advise either of these as the best method of spending the first year or so after graduation. I would most strongly urge those who are in the position to afford the time and money to continue their clinical and pathological studies in other places or even in other countries. Nothing is better calculated to enlarge your mental vision than making the acquaintance of men and methods other than those to which you have been accustomed, nothing will develop your critical powers to the same extent. And your facility in diagnosis, which must always be the first qualification of the physician, will largely depend upon the development of those powers. But the material benefit which is represented by a fair and let us hope, a steadily increasing income, is by no means the only advantage to be gained by your having joined the ranks of the medical profession there are moral and intellectual benefits, which if less tangible are no less valuable. For it seems certain that the calling or profession to which one belongs may react upon the individual pursuing it, and may be capable of modifying his character for better or worse. It would not be difficult to illustrate this by examples drawn from any of the learned professions, but my present purpose will be served if I can point out the effect which the practice of medicine tends to produce not only on the character of the individual practitioner but also on the profession as a whole leaving the more general investigation to future philosophers, who will without doubt find it a very fertile subject of study

It will, I think, be denied by no one that the tendency of the doctor's occupation is to cultivate a sympathetic attitude towards his fellow man No matter what the sphere of his labours—whether he be the court physician making a princely income and accustomed to move in the highest circles of society, or the poorest general practitioner earning with unremitting labour little more than a living wage—we find the same qualities tending to accentuate themselves—the same disregard of self the same devotion to the interests of his patients. This is the character which has been so sympathetically depicted by a master hand in the old doctor of Drumtochty and I venture to assert that the type is to be met with, under different guises, in every town and village throughout the length and breadth of the land. In what other profession do we find so much gratuitous benevolence? Look at the amount of invaluable time which is placed at the service of the suffering poor in our hospitals and dispensaries, the numberless visits which are paid to private patients whose circumstances are such that the doctor either refuses to accept a fee at all, or makes a demand of a merely nominal nature, nay more, in many instances is ready to put his hand into his own pocket to relieve the necessities which the accident of his occupation has revealed to him. How many the instances of doing good by stealth unnoted by any pen of man but let us trust not forgotten by the Recording Angel.

See, further how this spirit of altruism, which has existed amongst physicians from time immemorial has spread from the individual to the mass and has infected the profession as a whole. In what other branches of applied science are inventions and discoveries made over as free gifts to mankind? Consider from the commercial point of view alone the enormous value of vaccination, of antisepsis in surgery We are in the habit, and rightly of recompensing the successful leaders of our armies not only with titles but with still more tangible marks of our gratitude and appreciation. But

> A wise physician, skilled our wounds to heal,
> Is more than armies to the publick weal."

Jenner it is true, obtained a grant from Parliament of £10,000, which was eventually increased to £30 000 as an acknowledgement of his services in introducing a practice which has been the means of saving thousands of lives annually and which has rendered innocuous the greatest scourge by which mankind has ever been visited but this is almost a unique instance of a pecuniary reward being conferred upon a medical man for public services. Had Jenner had Lister instead of giving freely to the world the methods which are associated with their names, patented those methods, they migh have heaped up riches beyond the dreams of avarice. But we take such gifts as a matter of course and if we ask why this is so, while workers in other branches of applied science are permitted to reap the fruit of their investigations the answer is that it is the established tradition of the medical profession to have no secret remedies and to establish no monopolies but to consider only how mankind may best be benefited. Ladies and gentlemen, it is the existence of such traditions as this which exhibits the true nobility of the profession you have chosen.

You whom I am addressing are fortunate in the time at

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[1] The publication of this address has been unavoidably delayed owing to the pressure on our space caused by the report of the proceedings of the British Medical Association and by the publication of the Students Number

OUR CURRENT NUMBER

Being almost exclusively devoted to information especially interesting to Students we are necessarily compelled to defer the publication of communications on other important subjects

We tender our best thanks to those gentlemen who have at considerable personal trouble kindly supplied us with the returns and prospectuses upon which the information given in this Students' Number of THE LANCET *relative to the various medical examining bodies, hospitals and medical schools of the United Kingdom is based We regret that in some cases, however, owing to proofs having been either not returned at all or too late, certain inaccuracies may be found*

TO ADVERTISERS

Owing to the pressure on our advertisement columns this week some announcements have unavoidably been held over

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An Address

Delivered to the Graduates on July 26th, 1902 at the University of Edinburgh on the occasion of the Admission to Degrees in Medicine and of the Conferring of the Honorary Degree of LL.D upon the Representatives of the Colonies,

BY E A. SCHAFER, LL.D, F.R.S.[1]

PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY

LADIES and Gentlemen, Newly made Graduates,—This is a momentous day in the life of everyone of you. You have come to the parting of the ways. You are going out into the world, many of you far afield You possess youth, with its self-confidence, and you will doubtless be saying with Pistol The world's mine oyster!" But the world, let me remind you, is an oyster which shuts itself up very tight and it is not everyone who succeeds in opening it. You must be prepared for disappointments, but resolved never to be disheartened by them. How few meet with uninterrupted success, and such as do—are they always the better for it?

> Sweet are the uses of adversity
> Which like the toad, ugly and venomous,
> Wears yet a precious jewel in his head."

You are leaving your studies behind, but, in one sense, the most important are yet in front of you. It is, I think, Lowell who has somewhere said that the most valuable part of our learning is that which we teach ourselves. And this is preeminently the case with medical learning You will find that it is experience, and the knowlege which can only be gained by experience, which will enable you to approach the sick bed with confidence. And while you employ your store of accumulated experience to assist you in the diagnosis and treatment of every new case which comes before you, you will, by rightly using your trained powers of observation, be able to cull from each case something worth adding to that store.

This being in the main a medical graduation it is appropriate for me to address more especially those of you who have decided to pursue a medical career and as I myself happen to be outside the actual profession—although my subject, the Institutes of Medicine belongs in a very real sense to it—I am able to view medical practice from a relatively impartial standpoint, and may therefore venture in the first place to offer some reflections upon the advantages which the profession of medicine offers to those who, like yourselves, take it up as the occupation of their lives. These advantages are, I believe considerable, and to use a phrase which has lately become current, are not only material but also moral and intellectual. The most obvious benefit of a material character is connected with the fact that the practice of medicine is to be for most, if not for all of you, your source of livelihood. The education which you have received in preparation for practice has been a long and expensive one, but it has a good, and probably an increasing market value. What its relative value as compared with that for one of the other learned professions may be it is not easy accurately to estimate, but one thing is certain—that it is in the power of any one of you to secure at once an income which, if not large, is at least sufficient for any immediate wants you are likely to have Thanks to the abolition of the unqualified assistant good positions as assistant are at a premium, and as an introduction to family practice there is no better opening than the opportunities which such a position frequently affords. As an alternative you have the choice of many residential positions in provincial and other hospitals most of which offer unrivalled facilities for the acquirement of experience. But unless under the pressure of necessity I would not advise either of these as the best method of spending the first year or so after graduation. I would most strongly urge those who are in the position to afford the time and money to continue their clinical and pathological studies in other places or even in other countries. Nothing is better calculated to enlarge your mental vision than making the acquaintance of men and methods other than those to which you have been accustomed, nothing will develop your critical powers to the same extent. And your facility in diagnosis, which must always be the first qualification of the physician will largely depend upon the development of those powers. But the material benefit which is represented by a fair and, let us hope, a steadily increasing income, is by no means the only advantage to be gained by your having joined the ranks of the medical profession, there are moral and intellectual benefits, which if less tangible, are no less valuable. For it seems certain that the calling or profession to which one belongs may react upon the individual pursuing it, and may be capable of modifying his character for better or worse. It would not be difficult to illustrate this by examples drawn from any of the learned professions, but my present purpose will be served if I can point out the effect which the practice of medicine tends to produce not only on the character of the individual practitioner but also on the profession as a whole leaving the more general investigation to future philosophers, who will without doubt find it a very fertile subject of study

It will I think, be denied by no one that the tendency of the doctor's occupation is to cultivate a sympathetic attitude towards his fellow man No matter what the sphere of his labours—whether he be the court physician making a princely income and accustomed to move in the highest circles of society or the poorest general practitioner earning with unremitting labour little more than a living wage—we find the same qualities tending to accentuate themselves—the same disregard of self the same devotion to the interests of his patients. This is the character which has been so sympathetically depicted by a master hand in the old doctor of Drumtochty and I venture to assert that the type is to be met with, under different guises, in every town and village throughout the length and breadth of the land. In what other profession do we find so much gratuitous benevolence? Look at the amount of invaluable time which is placed at the service of the suffering poor in our hospitals and dispensaries, the numberless visits which are paid to private patients whose circumstances are such that the doctor either refuses to accept a fee at all, or makes a demand of a merely nominal nature nay more, in many instances is ready to put his hand into his own pocket to relieve the necessities which the accident of his occupation has revealed to him How many the instances of doing good by stealth unnoted by any pen of man but let us trust not forgotten by the Recording Angel.

See, further, how this spirit of altruism, which has existed amongst physicians from time immemorial, has spread from the individual to the mass and has infected the profession as a whole. In what other branches of applied science are inventions and discoveries made over as free gifts to mankind? Consider from the commercial point of view alone the enormous value of vaccination, of antisepsis in surgery We are in the habit, and rightly, of recompensing the successful leaders of our armies not only with titles but with still more tangible marks of our gratitude and appreciation. But

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Jenner it is true obtained a grant from Parliament of £10 000 which was eventually increased to £30 000, as an acknowledgement of his services in introducing a practice which has been the means of saving thousands of lives annually and which has rendered innocuous the greatest scourge by which mankind has ever been visited; but this is almost a unique instance of a pecuniary reward being conferred upon a medical man for public services. Had Jenner had Lister instead of giving freely to the world the methods which are associated with their names, patented those methods, they might have heaped up riches beyond the dreams of avarice. But we take such gifts as a matter of course, and if we ask why this is so, while workers in other branches of applied science are permitted to reap the fruit of their investigations the answer is that it is the established tradition of the medical profession to have no secret remedies and to establish no monopolies but to consider only how mankind may best be benefited. Ladies and gentlemen it is the existence of such traditions as this which exhibits the true nobility of the profession you have chosen.

You whom I am addressing are fortunate in the time at which you are commencing practice, in the time during which you have received your training, for it is not likely that there will occur during your lifetime such a complete change in the manner of viewing nearly all problems in both medicine and surgery as we of the latter half of the nineteenth century have witnessed, nor will you be compelled to remodel all your ideas upon pathology and treatment as your predecessors of my own generation have found themselves under the necessity of doing This change has been the result of the recognition of a single principle, and the consequences of its recognition have been so momentous that I have no hesitation in affirming that the relation which it occupies to the science of medicine is of not less importance than that which the principle established by Darwin bears to biology This principle, or doctrine, if that term be preferred, which has so completely revolutionised the practice of both medicine and surgery, is, as you are aware, the doctrine of the parasitic nature of disease. Unlike the Darwinian hypothesis this one has not been sprung suddenly upon the world, but has been the slow growth of years It has, however, no less surely taken its place in medical science as an established hypothesis—nay, more than a mere hypothesis, as a well founded fact Unlike the Darwinian theory, its establishment cannot be allocated to an individual, but is the result of the independent investigations of many workers during the latter half of the last century The great French chemist, Pasteur, was a pioneer in this field of exploration, which has since yielded such remarkable results, but even before Pasteur the opinion was beginning to spread that many diseases of plants and animals, other than those which were obviously due to moulds and worms, might be caused by parasitic organisms Look, however, at the position which the doctrine now holds and see how intimately it is interwoven with the whole fabric of medicine and surgery Listerism is founded upon it, and upon Listerism is dependent the marvellous advance which surgery has made within the memory of many who are here present Consider what surgery was in the ante Listerian days You must all of you have heard, many of us know from personal experience. It was not skill that was lacking but knowledge of the nature of infective processes There have probably never been surgeons more expert than Liston and Syme, and yet, thanks to this knowledge, which has been acquired since their time, there is not one of you graduating to-day who could not with confidence approach problems in operative surgery which they with all their skill would never have dared to venture upon And if the change which has taken place in medicine is not so striking as in surgery it is none the less real The practice of protective inoculation, which was introduced some two centuries ago to mitigate the ravages of small pox, was a dim foreshadowing of what now forms the basis of the preventive and remedial treatment of a large number of affections How many diseases, the parasitic nature of which was not so much as suspected some 15 or 20 years back, are now known to belong to that class Nor is it only a question of treatment but also of diagnosis, the whole range of practice in all its aspects is affected by the establishment of this doctrine.

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[1] The publication of this address has been unavoidably delayed owing to the pressure on our space caused by the report of the proceedings of the British Medical Association and by the publication of the Students Number

And yet we are only at the commencement of its application Every day almost sees some new fact recorded, some new discovery made, as a result of the assumption—for in many cases it must at first be only an assumption—that this or that pathological condition is produced by the growth of a parasitic organism Nor have we far to go to-day for an illustration of this statement seeing that we have just presented the Cameron Prize to Major Ronald Ross in recognition of his brilliant researches into the life-history of the parasite which produces malaria.

By the same methods as the problems of health and disease have been attacked in the past must they also be pursued in the future What are those methods? The answer is undoubted they are the methods of experiment. Although invaluable as an adjunct and for purposes of corroboration, clinical and pathological observations in man are in themselves insufficient, as a rule, for the definite establishment of any new and important principle in medicine. This is recognised by the lay press. Quite recently the *Times* newspaper, alluding to the alleged inhumanity to animals which is involved in the performance of experiments directed to the determination of questions of a physiological or pathological character, made the following remarks in a leading article "Every improvement in the healing art, from the Middle Ages downwards, has been made or perfected by the results of such experiments, which are indispensable to the progress of science and which govern the daily practice of men who never performed an experiment in their lives and possibly never saw one It would be impossible for the most ardent anti-vivisector, if he were ill, to find in any civilised country a single doctor whose treatment of his case would not be guided by the knowledge gained by past experiment, possibly by experiment performed yesterday, possibly by experiment performed 200 years ago "

It may be affirmed, without fear of contradiction, that the advance of medical science will move along the same lines in the future as in the immediate past. It is rash to prophesy, but, at any rate, one may safely commit oneself to the opinion that the problems which are at present offering themselves most prominently for solution are of a chemical nature. The chemical characters of the products which the disease parasites form within the body, the physiological action of those products, and the circumstances of their formation, the chemical characters, modes of formation, and action of the anti products which are formed by the organism for purposes of defence—these are a few of the questions which are just now awaiting solution. The sooner it is recognised that this is the direction which research must take in the immediate future the better for the progress of medical science. It must be frankly admitted that at the present moment we in this University—nay, in this country—are not in a position to satisfy the demand for research in this particular direction Nor is it a demand to be easily satisfied For the subject is one requiring a special knowledge of the principles and methods of modern chemistry as well as a thorough acquaintance with physiology This is a combination which it has hitherto been difficult to meet with, probably because most of those who take up the study of physiology and pathology have studied chemistry only in so far as it seemed necessary for the ordinary medical course and not as if chemistry were to be the subject of their life work, whereas for such investigations as these it is imperative that those who undertake them should be thoroughly trained chemists But as it is practically impossible for anyone who has not gone through the medical mill to obtain a teaching post in physiology, still less in pathology, there has been hitherto no inducement to trained chemists to direct their attention to this branch of their subject. The difficulty must be met by the establishment of special chairs of physiological and pathological chemistry to be occupied by men who are primarily chemists, but who have also some knowledge at least of physiology The necessity for this has already been recognised in some quarters In this matter, as in many others in which medical reform has been concerned, University College, London, has been the pioneer A chair of chemical pathology was established there in 1896 and an old alumnus of this University, Professor Vaughan Harley, was placed in charge. But the accommodation which the College was able to allot to the new department was sadly lacking in both extent and equipment and as the chair was without endowment it was not possible for the occupant to devote his undivided attention to his special subject. The wonder only is that with so many drawbacks so much good work has been turned out. With this partial exception there has hitherto been no chair in any university in the United Kingdom dealing exclusively or even primarily with this important branch of medical science (although the Universities of Oxford and Cambridge have made a beginning by the establishment of special lectureships in physiological chemistry) But it has been reserved for one of the newest universities—for what, indeed, may be termed a university yet unborn—University College, Liverpool—to lead the van in this movement and not only to establish but also liberally to provide for an independent chair of biological chemistry, a step which has been rendered possible by the munificence of one of the citizens of Liverpool Happy the university whose lot is cast in a wealthy city, the citizens of which are guided in the bestowal of their gifts towards objects tending to the advancement of knowledge and the alleviation of the sufferings of humanity

You will have no difficulty in perceiving that in bringing before you the example of Liverpool my object is to point out that we in Edinburgh must also be moving, we cannot allow ourselves to remain behind any university in the world in a matter pertaining to the progress of medical knowledge The need for such a chair is very evident and no one looking at the recent history of this University and considering the Carnegie benefaction, unique in its amount and object, as well as the magnificent gifts of the Hughes-Bennett Laboratory, the Usher Institute, and this very hall in which we are assembled, can entertain a doubt that when we recognise and state our wants the means of providing for them will be forthcoming Let us therefore hope that we may soon see the establishment of this chair so that the University to which we belong may maintain her place on the crest of the ever advancing wave of medical science

I have only now ladies and gentlemen, to congratulate you in the name of the Senatus upon having reached the termination of your academic career and to wish you success in your future profession. You have become members of no mean university and in taking up your membership you have also assumed the obligation to uphold all that is most worthy of the ancient reputation of your alma mater

In ordinary circumstances I should have concluded my address with these words. This is, however no ordinary function but one never to be forgotten in the annals of our University For we are assembled here not only for the customary purpose of admitting to the ordinary degrees but also that we may confer the highest distinction which it is in our power to bestow upon the chosen representatives of the British dominions beyond the seas. To you gentlemen, who have honoured us by accepting this distinction I beg to tender on behalf of my colleagues, for whom on this occasion I am privileged to speak a cordial welcome into this University Of all the universities of the United Kingdom it is the one which is, perhaps the most closely connected with our great colonies receiving on the one hand as it does, each year an important contingent of students from them and on the other hand sending out of its best to assist in establishing the new universities which are springing up within the wealthy and populous communities which, on the important occasion of the King s Coronation are so worthily represented by yourselves Although we recognise that the representation of your respective countries at that historic ceremony is the primary purpose of your visit to the mother country we do not ignore the fact that there is another object, not less dear to the heart of every Briton, whether he inhabit this or the other side of the ocean. It is common knowledge that you are also here for the purpose of endeavouring to find means to weld together more securely for mutual interest and protection the scattered parts of this vast Empire, which are already united by the more sentimental ties of blood and of loyalty to the throne Gentlemen in that endeavour we devoutly wish you Godspeed !

ON THE RESULTS WHICH HAVE BEEN OBTAINED BY ANTI TYPHOID INOCULATION

With Separate Table (see Supplement)

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THE question of the utility of the process of anti typhoid inoculation has been gradually solving itself by the accumulation of statistical materials The time would now appear to be ripe for presenting this material in the aggregate, and for considering what is established by it with regard to the results of the inoculations. By the generosity of the proprietors of THE LANCET—a generosity which I desire gratefully to acknowledge—I am enabled to set out here in a synoptical form all the statistical material which I have been able to bring together in connexion with the results of anti typhoid inoculation. My cordial acknowledgments are due also to Sir William Taylor K.C B. Director General Army Medical Service for permission to make use of certain hitherto unpublished items which have been supplied to me personally

I have arranged the material at my disposal in the form of two tables. In Table I I have set out the statistical materials in the form in which those materials were originally published or rendered for consideration Into this table I have incorporated in addition to the number of the inoculated and uninoculated respectively and the number of cases and deaths in each group also certain other data, such as the period of exposure and the interval which elapsed between inoculation and the presumed exposure to infection. I have also in each case given the authority for the figures and in the case of already published statistics a reference to the literature.

In Table II I have set out such other facts as seem to me essential for the critical study of the statistics. I have had in view here on the one hand the student of statistics seeking to know how far statistical canons have in each case been conformed to and on the other hand the thoughtful man other than the professed student of statistics who may be seeking to know what conditions must be complied with before statistical evidence such as that included in Table I. becomes coercive. Let it be noted that the conditions of statistical perfection are conditions which are practically unattainable in actual life. It follows that to exact that only such statistics should be considered as are flawless would be to exact that all statistical evidence without exception should be rejected There is a way out of this dilemma. We shall, as a matter of fact, have reconciled the demands of our statistical conscience with the demands of practical life if after scrutinising and laying bare to ourselves the flaws in our statistics we in each case appraise the effect of the flaw upon the cogency of the statistical conclusion arrived at. Table II. supplying as it does examples of nearly every variety of statistical flaw will provide illustration of the importance of recognising the principle which has just been laid down. In the case of the statistics relating to the effect of anti typhoid inoculation in the garrison of India for the year 1900 (Tables I. and II. serial number 6) there is a confessed error in the enumeration of the inoculated. That error may it is estimated, amount to some hundreds " The proper way to deal with this situation is not to set aside the statistics but to consider instead what would be the maximum effect which an error of this particular magnitude is capable of exerting upon the statistical conclusion. Interpreting the error of some hundreds " in the enumeration of the inoculated in a liberal spirit as an error of 600 one way or the other the error in the enumeration of the group would amount to a 10 per cent. error This particular statistical conclusion is thus seen to be subject to a 10 per cent. error In relation to the broad issues which we propose here to discuss such an error is insignificant. It is a matter of quite subordinate interest whether the diminution of mortality in the inoculated was the 4 4-fold diminution which is actually registered or a 4 8-fold or only a 4-fold diminution.

An even more striking illustration of the importance of working in accordance with this statistical principle is afforded by the statistics relating to the garrison of Egypt for 1900 (Tables I and II. serial number 5) Here we have recorded an 18-fold diminution in the incidence of typhoid fever among the inoculated, numbering 700 odd, as compared with the uninoculated taken as some 2600 odd. If we include in the number of the inoculated those inoculated in the previous year who are specifically excluded from the statistical returns here in question we arrive at an inoculated strength of about 1000 and obtain a 25-fold diminished incidence. If again waiving the legitimacy of this course, we include among the uninoculated the full number of troops who passed through Egypt in the course of the year in connexion with military movements to South Africa we bring up our uninoculated strength to some 5000 and obtain only a 13 5-fold diminution For settling the broad issue which we have in view in this paper it matters nothing whether we accept the highest or the lowest of the above figures as representing the diminution in typhoid incidence achieved in the inoculated

Statistical flaws which make much less impression upon the imagination than those just considered may as is shown by a comparison of the conclusions arrived at in Dr A. Crombie s two statistical papers, mislead us much more seriously The conclusions arrived at in the first paper are, as is brought out (Table II 22) in connexion with the critical examination of this series of statistics invalidated by the younger age and smaller case mortality (*vide infra*) of the inoculated. In the case of Dr Crombie s second paper the first of these factors is taken into account with the result that the conclusion drawn from the comparison of the inoculated with the uninoculated falls into line with the conclusion which emerges from the aggregate of the statistics embodied in Table I

The possibility of fallacy in connexion with conclusions based on small figures is illustrated in the fact that in some of the smaller series of statistics here presented the relative case mortality of the inoculated and uninoculated differs from the relative case mortality of the two groups as deduced from the event of large comparative series of cases The possibility of a similar fallacy suggests itself also in connexion with certain of the conclusions arrived at in Dr Crombie s papers I refer (a) to the conclusion in the first paper that the protective effect of inoculation has largely disappeared after the expiration of five months

TABLE I —STATISTICS OF ANTI-TYPHOID INOCULATION

Serial number	Group which was under observation	Interval between inoculation and commencement of period of exposure	Place where group was exposed to infection	Period of observation covered by the statistics	Authority for the statistics	Reference to published literature or other source of information	Number of inoculated and uninoculated in the group		Number of cases of typhoid fever		Percentage incidence of the disease		Number of deaths from typhoid fever		Percentage death rate for typhoid fever		Case mortality—i e proportion of deaths to cases		Supplementary facts
							Inoculated	Uninoculated	In inoculated	In uninoculated	In inoculated	In uninoculated	In inoculated	In uninoculated	In inoculated	In uninoculated	In inoculated	In uninoculated	
1	Nurses and Attendants Barming Asylum	No interval	Barming Asylum, Maidstone	October to end of epidemic.	Dr J S Tew Mr A G R Foulerton Dr A M Jackson	Public Health March 1898 THE LANCET, June 2nd 1900	84	116	0	4	0	1 34	—	—	—	—	—	—	12 cases of typhoid fever had occurred in the staff numbering about 200, before the inoculations were undertaken
2	Inoculated Regiments and other Units of the British Army in India	No interval	Various Stations in India	1899	Official returns	Army Medical Report for 1899	4502	25 851	44	657	0·98	2 54	9	146	0 2	0·56	1 in 4·9	1 in 4·5	—
3	15th Hussars wives of same and officers	Probably a few weeks	Meerut India.	October 1899 to October 1900	Official returns	Brit Med Jour and THE LANCET, Feb 9th, 1901 reported by Prof A E Wright	360	179	2	11	0 55	6 14	1	6	0 27	3 35	1 in 2	1 in 2 2	—
4	Garrison of Ladysmith	Two months to 11 months	Ladysmith South Africa	Nov 2nd 1899 to Feb 28th 1900	Official returns	Brit Med Jour and THE LANCET July 14th 1900 reported by Professor Wright	1705	10 529	35	1489	2 05	14 14	8	329	0 47	3 12	1 in 4 7	1 in 4 5	—
5	British Garrison of Egypt and Cyprus	No interval	Egypt and Cyprus	1900	Report of principal medical officer Egypt	Brit Med Jour and THE LANCET May 4th 1901 reported by Professor Wright	720	2 669	1	68	0 14	2 55	1	10	0 14	0 37	1 in 1	1 in 6 8	—
6	British Garrison in India.	Varying from no interval to one year	India.	1900	Official returns	Army Medical Report for 1900	5999	54 554	52	731	0 87	1 69	8	224	0 13	0 58	1 in 6 5	1 in 3 3	—
7	Patients in Tintown Hospital Ladysmith	No data.	South Africa.	—	Dr D Melville	Brit Med Jour vol I 1901	—	—	30	265	—	—	2	5	—	—	1 in 15	1 in 53	—
8	Patients in Stationary Hospital, Harrismith.	,,	South Africa.	September, 1900 to September 1901	Major C Birt R A.M C	Brit. Med Jour Jan 11th, 1902	—	—	263	947	—	—	18	135	—	—	1 in 14·6	1 in 7	A comparison of 151 charts referring to inoculated patients with 317 charts referring to uninoculated patients showed that the height of the fever the duration of the same the percentage of relapses and the number of daily evacuations were much less in the inoculated
9	Patients in Portland Hospital	,,	South Africa	1900	Dr H H Tooth	Brit Med Jour March 16th 1901	—	—	54	178	—	—	4	25	—	—	1 in 13 5	1 in 7	—
10	Patients in the Irish Hospital.	,,	South Africa	1900	Dr J B Coleman	Transactions of the Royal Academy of Medicine in Ireland vol xix	—	—	80	592	—	—	5	74	—	—	1 in 16	1 in 8	—

11	Patients in Scottish National Red Cross Hospital.	"	South Africa.	1900	Colonel Henry Cayley I.M S	Brit. Med. Jour Jan. 12th 1901.	—	—	15	70	—	—	1	10	—	—	1 in 15	1 in 7	—
12	Patients in Imperial Yeomanry Hospitals.	"	South Africa.	1900-1901	Dr A. Elliot and Dr J W Washbourn.	THE LANCET, Jan 18th 1902.	—	—	47	301	—	—	4	28	—	—	1 in 11·8	1 in 11·8	—
13	Patients in a Variety of Military Hospitals.		South Africa.	1900-1901	Dr R. W Dodgson	Official Report.	—	—	764	3374	—	—	63	610	—	—	1 in 12	1 in 6·6	—
14	Staff of the Portland Hospital.	A few weeks	South Africa.	Part of 1900	Dr Tooth	Brit. Med Jour March 16th 1901	28	13	7	3	25	23	0	1	0	7	0 in 7	1 in 3	Five of the inoculated had very light attacks.
15	Staff of Imperial Yeomanry Hospital, Deelfontein	No data	South Africa.	No data.	Dr Elliot & Dr Washbourn.	THE LANCET, Jan 18th 1902.	59	25	4	4	6·8	16	0	0	—	—	0 in 4	0 in 4	—
16	Staff of Imperial Yeomanry Hospital, Pretoria.	In most cases a few weeks.	South Africa.	August, 1900, to March 1901.	Dr Dodgson	Official report.	32	72	3	7	9·3	9·7	0	0	—	—	0 in 3	0 in 7	—
17	No. 8 No 9 } General Hospitals (staffs of) No 10	A few weeks.	Bloemfontein, South Africa.	April to August 1900	"		21 87 } 108 0	110 47 } 276 119	5 11 } 16 —	44 13 } 93 36	} 14 8	} 33 5	0 1 } 1 —	8 2 } 16 6	} 0·9	} 5 8	} 1 in 16	} 1 in 5·8	The period of observation covers the period of the great epidemic."
18	Staff of Second Section, Scottish Red Cross Hospital.	A few weeks.	South Africa.	Part of 1900	Colonel Cayley I.M S.	Brit. Med Jour Jan. 12th, 1901	70	12	2	4	2·8	33 3	1	1	1·4	8 3	1 in 2	1 in 4	There was no enteric in the first section which consisted of 77 doubly inoculated and two uninoculated persons. The third section which consisted of 20 inoculated persons also remained free.
19	Fifth Battalion, Manchester Regiment.	A few weeks.	Winburg, South Africa.	July 1901, to February 1902.	Lieutenant J W West, R.A M C	Brit. Med. Jour and THE LANCET April 5th, 1902, reported by Professor Wright.	200	547	3	23	1·5	4 2	0	7	0	1 3	0 in 3	1 in 3 3	The three inoculated had very mild attacks. Some of the inoculated were not yet out of danger at the date of rendering the report
20	City Imperial Volunteers.	Probably a few weeks.	South Africa.	1900	Surgeon-Major R R. Sleman C I V	Privately communicated	700	494	60	39	8 5	7·9	9	11	1 3	2·2	1 in 6 7	1 in 3 5	—
21	Patient in Richmond Asylum Dublin	No interval	Dublin.	September, 1900, to December 1900.	Mr H. M Cullinan.	Brit. Med. Jour., Oct. 26th 1901; reported by Professor Wright.	339	298	6	30	1·8	10·0	1	4	0·3	1 3	1 in 6	1 in 7 5	The period of observation closed with the end of the epidemic.
22	Officers invalided from South Africa (first series)	A few weeks.	South Africa.	No data.	Colonel A. Crombie, I M.S.	THE LANCET May 3rd 1902.	112	109	32	24	28·5	22 0	—	—	—	—	—	—	—
23	Officers invalided from South Africa (second series).	In most cases only a few weeks.	South Africa	No data.	Colonel A. Crombie, I M S	THE LANCET August 16th 1902.	102	85	34	28	33 3	32·9	—	—	—	—	—	—	The proportion of typhoid convalescents among the inoculated under 25 years of age was 1 in 3; among the uninoculated 2 in 3; among 13 twice inoculated 1 in 1 3; among 89 once inoculated 1 in 3 7
24	7th Hussars, South Africa.	A few week	South Africa	Dec 27th 1901, to June 20th 1902.	Captain W A Ward R A.M C	Official report.	307	244	9	20	2·9	8 2	0	3	0	1 2	0 in 9	1 in 6 7	The incidence in 73 once inoculated was 4 1 per cent; in 234 twice inoculated 2·3 per cent.

(*b*) to the conclusion that persons who undergo double inoculation are rendered more susceptible to typhoid fever than the uninoculated, and (*c*) to the conclusion that persons over 35 years undergoing the inoculation are similarly rendered more susceptible than the uninoculated.[1]

Having said this much by way of preface and illustration of the general principle which I have taken as my guide I may endeavour to indicate the general result of the statistics

GENERAL RESULT OF THE STATISTICS

It would be illegitimate to express the results in the form of an arithmetical expression representing as the case might be the average diminution of the incidence and the average diminution in the death rate from typhoid fever in the inoculated It would be illegitimate to do so because the degree of exposure to infection and the proportion of inoculated to uninoculated are in each case different.

Incidence—A study of the statistical material will, however, show that in every case except that of the City Imperial Volunteers (where the statistical materials at my disposal consist only of the bald figures incorporated in the table) and in the case of the staffs of the Portland Hospital and Imperial Yeomanry Branch Hospital at Pretoria, there was at least a two-fold reduction in cases of typhoid fever in the inoculated In certain cases, notably in those to which the statistics designated by the serial numbers 3, 4, 5, 18, and 21 apply, a greater reduction in the incidence of typhoid fever was achieved—a reduction varying from a six-fold to a 28-fold reduction

Case mortality—Superadded to the diminished incidence of the disease there is a striking diminution of case mortality, as is attested by the extensive statistical material collected by Dr R W Dodgson (Tables I. and II, 13) and more particularly by the accurate and extensive figures furnished by Major C Birt, R A M C, personally (Tables I and II. 8) and by the Staffs of the Civil Hospitals (Tables I and II., 9, 10, 11, 12, 14) in South Africa. It may be taken that in the aggregate the proportion of deaths to cases among the inoculated is approximately half that among the uninoculated.

Death-rate—The combined effect of the diminished incidence and diminished case mortality manifests itself in the diminished death rate from typhoid fever among the inoculated. The minimum reduction of death rate chronicled in the table is the twofold diminution in the case of the City Imperial Volunteers As will be seen, the reduction of death rate in case of the inoculated has often exceeded, and has seldom fallen below, a four fold reduction

CONCLUDING REMARKS.

In bringing this summary to a conclusion I am anxious to re emphasise a point already emphasised by me in previous papers[2] that there is in connexion with all protective inoculation a risk to be considered. There is the risk that (*a*) in the case where the patient's resistance is naturally low or has been reduced, as is often the case, by a previous attack of typhoid fever, (*b*) in the case where the patient is inoculated with a full dose of vaccine in actually infected surroundings, and (*c*) in the case where the patient is inoculated with an excessive dose or is re inoculated too soon, the system may be left more open to infection at a period when it stands in need of protection The facts set out in Column VI of Table II, and possibly some of those which have arrested the attention of Dr Crombie, seem to me to indicate the reality of this risk. It must be the task of the future to try to minimise the risk, on the one hand, by working out an adequate method of standardisation of the vaccine, and, on the other hand, by combining with the study of the changes produced in the blood by anti-typhoid inoculation the study of the blood in the typhoid convalescent and the study of the gradual success or failure of the process of immunisation in the actual typhoid attack. It is not necessary to insist on the urgency of this task.

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[1] The suggestion that these conclusions may be due to the fallacy of small figures is made in the case of conclusion (*a*) in view of the fact that the Indian and Egyptian statistics which deal with an aggregate of some 4000 men inoculated in the previous year do not disclose any greater liability to attack on the part of these men than on the part of those inoculated during the current year and in the case of conclusion (*b*) in view of the fact that the larger experience of Colonel H Cayley I M S and Captain W A Ward R.A M C points (*vide* "Supplementary facts" incorporated into Table I in connexion with the eighteenth and twenty fourth series of statistics) to a greater degree of protection being conferred by double inoculation

[2] On the Changes Effected by Anti typhoid Inoculation in the Bactericidal Power of the Blood with Remarks on the Probable Significance of these Changes THE LANCET Sept 14th 1901 p 715 Notes on the Treatment of Furunculosis Sycosis and Acne by the Inoculation of a Staphylococcus Vaccine and generally on the Treatment of Localised Bacterial Invasions by the Therapeutic Inoculations of the Corresponding Bacterial Vaccines THE LANCET March 29th 1902, p 874

THE

CLINICAL USE OF THE IPECACUANHA ALKALOIDS.

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IN a paper published in THE LANCET of Nov 23rd, 1895, p 1274, upon the Pharmacology of the Ipecacuanha Alkaloids I suggested the use of the salts of cephaëline or emetine for certain clinical purposes in place of the notoriously unreliable galenical preparations of the ipecacuanha root. Since that time the new edition of the British Pharmacopœia has been issued and the liquid preparations of ipecacuanha have been standardised to total alkaloids. Considering the differences which exist in the relative actions of the two chief alkaloids, especially as regards the emetic dose, and also the very wide divergence in the relative proportions in which these alkaloids may be present in different varieties of ipecacuanha root, it is not surprising that in spite of the standardisation to total alkaloids the galenical preparations of ipecacuanha are not altogether satisfactory Paul and Cownley have shown[1] that while two samples of ipecacuanha root may each contain about 2 per cent. of total alkaloids, in the one (Brazilian) 72 14 per cent. may be emetine and 25 87 per cent. cephaëline, and in the other (Columbian) 40 5 per cent. emetine and 56 8 per cent cephaëline, thus reversing the relative proportions of the two alkaloids. Since well crystallisable salts of these alkaloids are easily to be obtained, and at a moderate cost when the small dose is remembered, it seems desirable in the interests of accurate medication to use them in place of the less certain preparations of the root, and it is to be hoped that the next edition of the Pharmacopœia will contain a stable salt of emetine. During the last seven years I have been using certain salts of cephaëline and emetine for clinical purposes as occasion offered, both personally and in my own family, and also in hospital practice, and have every reason to be satisfied that in the hydrochloride and hydrobromide of emetine we have stable salts of reliable action which can be given in small and convenient doses for expectorant, depressant, or emetic purposes. I have had no opportunity of trying the effect of the alkaloids in dysentery or in anthrax and am not convinced that they have any special diaphoretic action The alkaloids are always best given by the mouth, as local irritation is very apt to follow hypodermic injection

For the purpose of comparison solutions of the different salts were prepared in water and in different strengths of alcohol. Half of each solution was used for clinical purposes, the other half was set aside and examined from time to time as to its keeping properties and activity Some of my solutions have now been kept for several years and are still active, it is however, not advisable to expose them to a strong light. Cephaëline hydrochloride was soon found to be less suitable for the ordinary uses of ipecacuanha in catarrhal conditions and bronchitis than the emetine salts. The emetic action of cephaëline is so powerful that it is very difficult to regulate the dose so as to obtain any effect at all without causing nausea and sickness after a few days' continued use In one case in an adult I found even $\frac{1}{100}$th grain every four hours produced nausea and vomiting within three days At the same time the effect upon the secretions of the nose and respiratory tract and the depressing action on the pulse were less marked than could be obtained by doses of emetine which caused no sickness Another reason for preferring emetine to cephaëline was that the salts of the latter appeared to be less stable, since the solutions after a time became of a brownish yellow colour when those containing emetine and kept under the same conditions were still colourless I have not been able to distinguish any difference in the mode of action or keeping properties of the two salts of emetine which I have used—viz. the hydrochloride and the hydrobromide, the solutions of these salts in 20 per cent. alcohol have remained uncoloured, clear, and active for several years, and there seems no reason to doubt their permanence within reasonable limits of time. Pharmaceutically in the specimens I have obtained the hydrobromide appeared the purer salt, as it was whiter and better crystallised. The solutions at first employed were 1 in 100 and proved too strong for convenience as the expectorant dose was from one to three minims for an adult Solutions of the strength of 1 in 1000 were then prepared (for some of these I wish to thank Dr B H. Paul who also kindly supplied me with the salts of the alkaloids) but though satisfactory in their action the dose was inconveniently large, especially for emetine purposes. The 1 in 1000 solution of emetine hydrochloride does not in my experience quite equal in activity freshly made vinum ipecacuanhæ which is standardised to 1 in 1000 of total alkaloids.

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[1] Pharmaceutical Journal, April 26th, 1896

During the last two years I have used a solution of emetine hydrobromide in 20 per cent. alcohol containing one grain in each fluid ounce. This solution has proved very satisfactory as it has kept unchanged up to the present time is very active and reliable, and the dose is of a convenient size—viz. for adults from five to 20 minims for *expectorant and depressant purposes and from one to three* drachms as an emetic. I have also used a solution containing 1 in 100 of morphine hydrochloride and 1 in 600 of emetine hydrochloride as a sedative and diaphoretic in place of Dover's powder but have not been entirely satisfied that the action of the solution in equivalent doses is equal to that of the powder I am now comparing a solution containing 1 in 600 of emetine hydrochloride and 1 in 7½ of liquid extract of opium with another solution containing 1 in 10 liquid extract of ipecacuanha and 1 in 100 of morphine *hydrochloride. It is still too early to draw any conclusions* as to their relative value of the pure alkaloid and crude drug in either case.

My clinical opportunities of observing the therapeutical effects of emetics are so few that I have been unable to test sufficiently whether cephaëline possesses any properties (especially absence of circulatory depression) which will enable it to compete successfully with emetine and apomorphine as an emetic Unless clinical observation reveals such properties there does not seem any special indication for the use of cephaëline since even the emetic dose of the emetine salts is small enough for all practical purposes

I have nothing further to add to my former communication respecting the pharmacological action of the alkaloids save that subsequent experiments have only confirmed my former results. Ipecacuanhic acid has also been tried experimentally and save for some power of contracting blood vessels has not shown any marked pharmacological action No experiments have been done with respect to the third alkaloid present in small quantities in ipecacuanha root, but this has recently been shown to be comparatively inactive by Professor Kobert, whose work has also confirmed my chief conclusions respecting the relative actions of cephaëline and emetine.

Manchester

A PLEA FOR TENOTOMY OF THE TENDO ACHILLIS IN COMPLICATED FRACTURES OF THE LOWER EXTREMITY[1]

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WE all agree that in the treatment of fractures the cardinal points aimed at are the immediate reduction of the deformity and keeping the fragments in accurate apposition during a period of some weeks. An examination of the internal structure of long bones reveals a beautiful arrangement of the bone fibres through which weight and stress are transmitted in such a manner as to distribute the force in a very much divided manner over the ends of the bones where they enter into the formation of joints The shaft itself develops into a cylindrical column, the bony tissue of which is thick and compact trace this towards the ends of the bones and it will be found to get thinner and thinner but as it does so trabeculæ of bone will be seen arising therefrom and soon interlacing with others, thus allowing the bone to expand and yet still remain as strong mechanically These trabeculæ are developed as the result of weight-bearing in the lower extremity and are best marked in bones showing prominent ridges for muscular attachments After fracture the more accurately we replace the broken fragments in the first instance the less need will there be for provisional callus. This is well shown in a transverse fracture of the tibia, where reduction is easy and subsequent deformity so slight that the actual site is not readily made out on the other hand look at the callus often found around an oblique fracture of the tibia where daily attempts have been made by hands pads and traction to maintain reduction, and we often find a large mass of callus and an altered line of the limb.

If long bones unite with any degree of deformity we have disturbed the relations of the lines of force through the trabeculæ and changed the relative relation of the joint surfaces to the weight-bearing line of the limb and not until many months have elapsed during which a re-casting of the lines of bone is taking place and a re-arrangement of the forces acting on a joint, do we arrive at a result enabling the workman to carry on his work. During all this time the patient cannot dispense with crutches or sticks and Golebiewski in his book on Diseases Caused by Accidents" pointedly remarks that if the patient has to depend on a cane for walking the rate of insurance (under the German State Insurance laws) cannot well be less than 50 per cent. I doubt whether we sufficiently realise the length of time before a slightly deformed tibia is able to bear full weight. *To a labouring man this is, of course,* very serious and ought to emphasise the necessity for striving to attain in all fractures the best possible results in the least possible time. It is our duty to reduce *accurately* deformity soon after the accident by any and every means in our power and if in any doubt we may seek the aid of x rays. Deformity is produced by the force of the accident, the action of muscles, and any subsequent rough handling To overcome the action of muscles we resort to flexion, extension and traction, and maintain the reduction by the pressure of pads, splints, and position. *Should these fail, operation* becomes necessary either tenotomy pegging, wiring or screwing The great majority of fractures of the lower extremity are readily adjusted and call for no special remark but certain fractures are always troublesome and difficult to treat—e.g (1) fracture through the lower end of the femur (2) oblique fractures of the tibia, (3) fracture of the tibia and fibula low down, and (4) fractures of the os calcis Look at museum specimens or at x ray photographs in any collection and you will see that mal union in these positions is very common, and we all know *of patients limping along many months* after the accident, wearily waiting for the time when they can dispense with assistance. An examination will quickly reveal an altered line of axis and after many months the limb may become useful, although much deformed It is this long *convalescence* that we should aim at diminishing and the secret of success lies in the accurate apposition of the fragments from the beginning Innumerable appliances have been devised to overcome the action of the gastrocnemii hamstrings and extensors of the thigh. I need only mention the double *inclined plane, Syme's stirrup* splint Macintyre's splint and Houghton's splint.

When the chief deforming agent is the gastrocnemius we must effectively prevent its action and in slight deformities this is readily *brought about by flexion. Traction often in*creases the trouble or proves irksome after a few day even if it does not damage the skin. When the muscle is acting at a great mechanical advantage the hope that it may be overcome by steady slowly increasing traction is often doomed to disappointment By traction on the leg in a very oblique fracture *of the tibia the deformity* is often increased and the attempt to remedy matters by pads often makes matters worse, for although the pointed fragment under the skin in front may be depressed the *sharp* end of the other fragment may be and often is pushed backwards into the calf muscles and the subsequent result is not satisfactory Slight degrees of flexion at the knee can be tolerated but extreme degrees cannot. If then we find that a position compatible with comfort does not relax the gastrocnemius the tendo Achillis ought to be divided. We are in danger of forgetting its usefulness in the rage for wires and screws, and it came as a surprise to me to read in Tillman's Surgery "that tenotomy of the tendo Achillis is much practised—especially in England." My observations are entirely to the contrary and I should have been inclined to replace the word "practised" by "neglected" Erichsen is almost silent on the subject, merely quoting Bryant, but he qualifies the allusion by stating that tenotomy "might be of use" in fractures of the lower end of the femur The more modern text-books mention the proceeding, but lay no stress on its application. Jonathan Hutchinson, however, in a translator's note in "Helferich's Fractures" advocates tenotomy and speaks highly of it in complicated fractures

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[1] A paper read before the Liverpool Medical Institution on April 24th 1902.

It is a pleasure to see the difficulties of a case of oblique fracture disappear as soon as tenotomy is performed, the sharp projecting fragment immediately falls into line and the subsequent treatment becomes of the simplest description and entirely free from anxiety Tenotomy can easily be performed under eucaine, but in very nervous patients nitrous oxide, or even other anæsthetics, may be necessary I have only had occasion to tenotomise the tendo Achillis 12 times, but in each case any other treatment short of wiring or screwing would have resulted in faulty union. Even after wiring fractures of the lower extremity if any great gastrocnemius strain acts on the wire the tendon ought to be divided, otherwise the wire (or screw) will quickly loosen by bone atrophy Long before the patient is up the tendon has united and I have not found it necessary to keep oblique fractures longer in bed than transverse fractures The cases thus treated have been as follows Femur fracture of the lower end; mal-union, wiring and tenotomy Tibia upper third, comminuted. Tibia oblique, below middle—three simple and three compound. Tibia lower end, with fibula and displacement backwards—three cases Tibia old fracture, mal union, operation, lower third—one case The treatment should prove of use in separation of the lower epiphysis of the femur, fracture of the os calcis, and dislocation or fracture of the astragalus

Liverpool.

SOME OBSERVED VARIATIONS IN THE PHOSPHATES AND UREA OF URINE

BY EDWY G CLAYTON, F C S, F I C

THE appended results of determinations by the writer of phosphoric acid, urea, &c, in certain pathological and other urines, may be useful for reference. Such additional details are given as serve to indicate the character of the samples.

The unusually low phosphates and urea in the case of tuberculosis, and in sample B, as well as the evident general correspondence of the proportions of both constituents with the varying conditions represented by these specimens of urine, seem to be the points most worthy of remark Also the uric acid in the first case is decidedly low, but the salt and sulphuric acid do not present such notable departures from normal proportions

RESULTS.

—	Urine in a case of tuberculosis of the bladder of 12 months standing (male)	Urine in diabetes mellitus—three stages (One individual—male)			Normal urine. (One individual—male.)		
		A Midnight to 8 A M	B 7 A M to 4 P.M (10 days later than A)	C Midnight to 8 A M (13 days after B)	1 Night	2. Morning	3 Afternoon
Reaction	Barely acid.	Very acid	Moderately acid	Moderately acid	Acid	Acid	Less acid than 1 and 2
Specific gravity	1011 5	1018	1028	1025	1028	1027	1018
	(1) Grammes per litre (parts in 1000) (2) Grammes per diem (24 hours) *						
	(1) (2)	(1) (2)	(1) (2)	(1) (2)	(1) (2)	(1) (2)	(1) (2)
Phosphoric acid (P_2O_5)	0 84 = 1 26	1 38 = 2 07	1 37 = 2·05	2·06 = 3 09	3·93 = 5 89	3 57 = 5 36	1 85 = 2 78
Urea	15 66 = 23·49	25 7 = 38 5	14 6 = 21·9	29 9 = 44 85	30·0 = 45·0	—	—
Uric acid	0·24 = 0·36	—	—	—	—	—	—
Albumin	0·70 = 1·05	Minute trace	Minute trace.	None	None	None.	None
Sugar ..	None	None	1 23 = 1 84	,	"	"	"
Sulphuric acid (SO_3)	1 34 = 2 01	—	—	—	—	—	—
$= H_2SO_4$ ..	1 64 = 2 46	—	—	—	—	-	—
Sodium chloride	8 19 = 12 28	—	—	—	—	—	—
Appearance of specimen	Very pale yellow turbid *on standing* a *copious*, light coloured, translucent deposit with a pinkish red upper layer and containing a few opaque white flocculi Odour normal but feeble	Pale amber clear slight deposit on standing	Pale amber somewhat cloudy flocculent sediment	Medium yellow clear slight flocculent sediment.	Amber coloured, very slightly turbid (urates)	Amber tinted clear	Straw yellow, rather turbid (phosphates)
Nature of deposit on standing ..	Chiefly pus, some blood (confirmed spectroscopically) and numerous fat globules no urates uric acid, or phosphates visible.	Uric acid only	A little uric acid mucus epithelium débris	No uric acid some mucus and epithelium cells	Chiefly phosphates	A little mucus &c.	Phosphates only
Bacteriological investigation of the deposit	Very many tubercle bacilli (*Ziehl Neelsen* method confirmed by Bunge-Tranteroth process)	—	—	—	—	—	—

Holborn Viaduct, E C

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* Taking the average daily amount of the excretion in health as 52 ounces = 1500 cubic centimetres

Supplement to THE LANCET Sept. 6th 1902.]

PROFESSOR A. E. WR

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Serial number	Group of statistics to which the criticisms refer	I			
		Examination of the system of enumeration upon which the statistics are based		Examination of the statistic	
		A	B		
		What was the system adopted in the enumeration of the inoculated and uninoculated respectively?	How are the statistical results affected by the facts set forth under A?	1 Was there any important difference between the inoculated and uninoculated from the point of view of their average age?	Was there a difference inoculated lated from view of t conditions sure to inf
1	Nurses and attendants Barming Asylum Maidstone, 1897	Nominal rolls were made of the inoculated. The number of uninoculated was arrived at by subtraction of the inoculated from the total of staff	—	No.	The induce more expo tion the the sick laundry committed to the inoc
2	Inoculated regiment and other units of the British army in India 1899	Nominal rolls were made of the inoculated. The number of uninoculated was arrived at by subtracting the inoculated from the total strength (in most cases from the average yearly strength) of the unit.	Where the strength of uninoculated was arrived at by subtracting the actual number of inoculated from the average yearly strength this would introduce a certain inaccuracy which may have operated in favour of either group.	The inoculated would on the average be younger than the uninoculated as efforts were made to inoculate, in particular all the younger men.	It may be a there w
3	15th Hussars October 1899 to October 1901, at Meerut India.	Probably as in 2 *supra*	As in 2 *supra*	As in 2 *supra*	As in 2 *s*
4	Garrison of Ladysmith November 1899 to March, 1900	Not known	—	"	Presumably much as the belonged to ferent units of these cont inoculated oculated me
5	Garrison of Egypt and Cyprus 1900	Number of inoculated is represented to a number inoculated h adding prev us yet ther als [illegible] ted a multip	The statistical results are unduly favourable to the uninoculated. For there were reckoned as uninoculated a balance of 2[illegible] men	"	As in 2 s

RIOR GASTRO I NOTES S

AR. F.R.C.S. EDIN.
MARY AND VISITING
BRADFORD

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to the injection of this material than was the case when the

the stomach has advantages it remains a question whether

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[1] Deutsche Medicinische Wochenschrift 901 No. 11 p. 161

[2] Zeitschrift für Hygiene Band [illegible] 1901 p. 4[illegible]

the objections to the usual posterior route do not outweigh them

Whilst operating upon a case of dilated stomach some months ago I noticed how easily the posterior wall could be reached through the gastro-colic omentum and it occurred to me that by the adoption of this route the advantages of the usual posterior operation could be obtained and at the same time the objections to it entirely avoided. The gastro-colic omentum is a thin functionless and practically bloodless membrane through which the finger can be easily pushed and is readily accessible through a small abdominal incision Moreover, when the stomach is dilated its posterior wall sags downwards below the line of its greater curvature in such a way that it can be drawn through an opening in this omentum and the whole procedure performed outside the incision When the operation by this route is complete the posterior wall of the stomach remains drawn down as a funnel shaped process and any gastric contents can be seen passing through it immediately the clamps are removed

I have adopted this gastro colic route in the following four cases and have been much pleased with it. A posterior anastomosis is obtained with a minimum of peritoneal exposure and without interfering with the transverse mesocolon The jejunum is drawn up in front of the transverse colon, as in the anterior operation, but I am not aware that this is any disadvantage It usually crosses the colon well to the left where the latter passes backwards to the splenic flexure and consequently no pressure is exercised upon it.

CASE 1. *Primary gastric dilatation, posterior gastro-jejunostomy through the gastro-colic omentum, recovery* —A man, aged 48 years, was admitted into the Bradford Union Hospital under the care of Dr Crowley on Jan. 5th, 1901 He had been a heavy drinker and gave a typical history of dilated stomach He was a big tall man but considerably wasted His weight on admission was 8 stones 1 pound The stomach was much dilated, reaching well below the umbilicus There was a well marked succussion splash No tumour could be felt. He vomited at intervals large quantities of fermenting fluid containing sarcinæ Free hydrochloric acid was present He was put upon sulphite of soda in 20 grain doses and the stomach was washed out every morning The quantities obtained from lavage were considerable, usually two or three pints in excess of the fluid poured in He could easily retain five pints of fluid in the stomach He remained under medical treatment for four months and improved for a time, although he only gained eight pounds in weight. He then began to lose ground and speedily lost weight He was therefore transferred to my wards for operation

On May 21st, 1901, I opened the abdomen and found a stomach of very large proportions without any apparent pyloric obstruction. I was about to perform the posterior operation by the ordinary route when I noticed how the posterior wall of the stomach bulged behind the gastro-colic omentum and it occurred to me that a posterior anastomosis could be very easily performed through this membrane I therefore pushed my finger through and drew out a large fold of the posterior wall I then caught up the jejunum, drew it up in front of the transverse colon, and attached it to the fold of the posterior wall of the stomach. Anastomosis was effected by a double row of sutures without any mechanical appliance. The serous suture was of silk and the mucous membrane suture of catgut The opening made was a full two inches and was situated on the posterior wall close to the greater curvature of the stomach At the conclusion of the operation I noted that the stomach wall remained drawn down at the site of the anastomosis projecting through the opening in the gastro colic omentum as a wide funnel shaped tube After the operation the patient vomited twice when recovering from the anæsthetic, after which he never vomited again He was fed by the rectum for 24 hours, after which he began with small quantities of fluid On the tenth day the sutures were removed, the wound being healed. At the end of a fortnight he was taking solid food. At the end of the third week he was up and about and from this time he was weighed weekly In five weeks he gained one stone five pounds He then went into the country for six weeks when he gained another stone I saw him some months ago He has remained quite well.

This case, the first in which I adopted this method of operating, was apparently one of primary dilatation There was no pathological change of any kind about the pylorus The size of the stomach was very great. On one occasion five pints were introduced into the stomach during lavage and 172 ounces were drawn off.

CASE 2. *Dilated stomach on which pyloroplasty had been performed five years previously, posterior gastro jejunostomy through the gastro colic omentum, recovery* —A man, aged 39 years, was admitted into the Bradford Union Hospital under my care on July 13th, 1901, suffering from symptoms of dilated stomach Five years ago he suffered from severe pain and vomiting after food. In 1896 he was a patient in a hospital in which I was resident at the time. Pyloroplasty was performed upon him for a simple pyloric stricture He says that his symptoms returned within 15 months of this operation and he went back to the hospital and was then advised to submit to gastro-jejunostomy He refused and for the past three years he had been getting steadily worse, sometimes vomiting at intervals of a few days, but usually vomiting daily On admission he weighed nine stones He was somewhat emaciated but not greatly so He stated that when in health he weighed 13 stones He suffered from most obstinate constipation, his breath was very foul, and he frequently vomited fluid which looked exactly like pure yeast. After food he had severe pain coming on within an hour of the meal and relieved by vomiting There was no definite tumour evident, but in the middle line was an old scar of a former operation He was put upon sulphite of soda and the stomach was washed out daily An excess of from one to two pints of fluid over and above the quantity introduced was usually withdrawn This treatment was tried for a month. He steadily lost flesh, his weight falling to 8 stones 4 pounds before he consented to operation.

On August 20th I opened the abdomen under ether The posterior wall of the stomach was easily drawn through the gastro colic omentum and an anastomosis with the jejunum made by simple suture, as in the first case The pylorus was surrounded by adhesions which fixed it to the liver It was of abnormally large calibre, two fingers slipping through it without difficulty The patient vomited a little mucus when recovering from the anæsthetic, after which he never vomited again He got up on Sept 10th He was then taking solid food and had gained six pounds in weight. At the end of six weeks he had gained one and a half stones He left the hospital on Oct. 17th in good health and weighing 10 stones 2 pounds [1]

This case was particularly interesting from the fact that a pyloroplasty had been performed four years previously, and the condition found at the second operation demonstrated very well how pyloroplasty may fail to relieve Whilst the pylorus may be, as in this case, permanently enlarged, the operation produces adhesions which may cripple the stomach as effectually as the stricture for which the pyloroplasty was undertaken

CASE 3. *Pyloric tumour with gastric dilatation, posterior gastro jejunostomy through the gastro colic omentum, entire disappearance of the tumour in four weeks, recovery* —A married woman, aged 26 years, was admitted into the Bradford Royal Infirmary under my care on Dec. 9th, 1901. She stated that she had been quite well up to three months prior to admission, when she noticed a lump in the right side of the abdomen, just below the margin of the ribs At the same time she began to have pain coming on in paroxysms after food She gave up taking solid food and had less pain for a time During the past six weeks she had constantly vomited after meals and the pain had been more severe She had lost flesh rapidly There had never been any hæmatemesis On admission she weighed six stones eight pounds, being very thin and somewhat anæmic The stomach was considerably dilated and showed well marked peristalsis on palpation The shape of the organ could be clearly defined and succussion splash was constantly present At the pyloric end was a circular tumour It moved up and down with respiration and was apparently connected with the stomach. It felt to be of about the size of a "penny bun " She vomited daily, generally after food The vomit was fermenting and contained sarcinæ and free hydrochloric acid.

On Dec. 18th I opened the abdomen under ether The stomach was considerably dilated, the greater curvature reaching within an inch of the umbilicus On the anterior wall close to the pylorus was a radiating puckered scar To the right of this the wall was much thickened, the whole pylorus feeling like a solid cylinder This thickening spread on to the duodenum where its advancing edge could be felt and gave a sensation of cartilage to the touch. The glands along the lesser curvature were large The pylorus and adjacent infiltrated tissues had a semi translucent appearance as if they were œdematous The whole mass was suspended from the liver by adhesions. The posterior wall of the stomach was drawn through the gastro-colic omentum and an anastomosis with the jejunum made by simple suture as in the other cases The patient vomited a little mucus on returning to the ward, after which she was never sick again The sutures were removed on the ninth day On the twelfth day she had some fish At the end of three weeks she got up She then weighed six stones ten pounds. The tumour at this date was scarcely perceptible on palpation I last saw her on March 24th 1902. She weighed eight stones one pound and was perfectly well

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[1] This patient was seen in August, 1902. He was in perfect healt and weighed 12 stones

My first impression in this case was that the tumour was malignant The very short history without any previous illness suggestive of ulcer and the large size of the tumour, which was apparently only three months old, certainly favoured this view Against it was the early age of the patient and the presence of free hydrochloric acid When the abdomen was opened however the appearances were much more characteristic of inflammatory rather than malignant disease. The infiltration of tissue was evidently spreading from left to right, showing no tendency to invade the stomach itself. The old scar in the stomach wall was apparently the result of an ulcer long since healed. In the pylorus itself a recent ulcer probably existed, but without actually opening it I could not absolutely prove its presence. I was unable to introduce my finger into the pylorus from the stomach cavity The rapid disappearance of the tumour was the most remarkable instance of this phenomenon which I remember to have seen, occurring as it did within a month of operation.[2]

CASE 4. *Duodenal ulcer (?) gastric dilatation posterior gastro-jejunostomy through the gastro-colic omentum recovery*—A man, aged 43 years, was admitted into the Bradford Royal Infirmary under the care of Dr Campbell on Sept. 24th, 1901. He gave a history of "stomach trouble" of four years standing He said that he had "more or less constant" epigastric pain varying in severity Pain came on about one and a half hours after food and was for a time very severe. It gradually abated but was renewed at the next meal. He only vomited occasionally and the material ejected was not very large in quantity There had never been any hæmatemesis. He had lost three stones in weight in the past three years. On admission his condition was as follows. He was very thin and his expression was pinched and careworn. The tongue was very dirty and the breath was offensive. There was no abdominal tumour but the stomach was dilated, showing peristalsis on palpation There was a well marked succussion splash. The stomach held four pints easily The contents obtained by the stomach tube were fermenting Free hydrochloric acid was present. There was some rigidity and resistance of the abdominal wall over the pyloric region. Six weeks medical treatment combined with lavage produced only slight improvement and on Nov 11th Dr Campbell transferred him to my care and three days later I opened the abdomen under ether

The stomach was reached through the usual incision. It was considerably dilated but there was no pyloric tumour Beyond the pylorus, however there were some dense adhesions round the duodenum very suggestive of the presence of duodenal ulcer As the patient was very feeble I refrained from further exploration and at once performed a posterior gastro-jejunostomy in the same manner as in the preceding cases. He recovered rather slowly from the operation. There was no vomiting after the first two hours His pulse, however remained small and rapid for a day or two and he seemed to lack the power of recuperation After the first week he improved and a fortnight later got out of bed. He then weighed eight stones seven pounds. Before leaving hospital a fortnight later he weighed nine stones five pounds He was very well and had lost his grey ashy complexion and dirty tongue

In this case I omitted to excise the redundant gastric mucous membrane when making the anastomosis and the sequel shows the importance of this step. About a month after he left the hospital he complained of vomiting occasionally after meals and I readmitted him so as to have him under observation. The following facts disclosed themselves. He was perfectly well for a time and was quite conscious of food passing through the artificial opening Then, without any apparent reason he found that the stomach did not empty itself after a meal This usually occurred after an ordinary breakfast. He then had a good deal of pain and ultimately vomited when he was at once relieved. During an attack there was a well marked succussion splash. Sometimes he would go a week without one of these attacks, or on the other hand, he might have them two days running In the intervals washing out the stomach showed it to be empty the fluid returning quite clear and not increased in quantity. He had attacks much more frequently when he took only liquid diet. He was distinctly better on solid food and when he did not drink at meals On two occasions the vomited matter contained some blood These observations show clearly I think that there was some occasional accidental blocking of the artificial opening and I think there can be little doubt that this was due to a fold of mucous membrane. Since his second stay in the hospital these attacks have become less and less frequent and are apparently ceasing altogether He is putting on weight and looks very well.

In conclusion I would urge a trial of this method of performing the posterior operation. It is an easy and rapid method and combines the advantages of both the anterior and posterior routes. It certainly provides most efficient drainage of the stomach even when the patient is lying on his back. On two occasions I have noted fluid passing from the stomach into the intestine immediately the clamps have been removed. I am not aware that this route has been previously used by other surgeons, but in any case I would urge a trial of it as I feel confident that it possesses great advantages. On the other hand so far as my limited experience of it goes I have found no objection to the method.

Bradford

NOTE ON THE DIAGNOSTIC AND PROGNOSTIC VALUE OF THE LEUCOCYTE VARIATIONS IN ASIATIC CHOLERA.

BY LEONARD ROGERS M.D M R.C P LOND
F R.C.S. ENG
CAPTAIN I.M.S ; OFFICIATING PROFESSOR OF PATHOLOGY MEDICAL
COLLEGE CALCUTTA

DURING the last six months I have made some examinations of the blood in cases of cholera in order to determine if any guidance in prognosis and treatment could be derived from the conditions met with more especially as regards the use of transfusion Although the cases so far examined are much too few in number to allow of any final conclusions being drawn on this large question, yet in the course of the inquiry certain variations in the leucocytes have occurred so constantly as to appear to have a diagnostic value of their own which may be worth drawing attention to.

In Table I blood estimations in 23 cases of cholera are given and in Table II will be found six cases of non-choleraic diarrhœa of various kinds and of such severity that the patients were admitted into the cholera observation ward as suspected cases of true cholera These last all subsequently proved not to be cases of cholera, but they so closely resembled the specific disease clinically as to be just the class which is most difficult to diagnose from cholera in practice and hence they serve as good controls for purposes of comparing the blood change In 15 of the cholera cases stools were submitted to a bacteriological examination and in 10 of them pure cultures of comma bacilli were obtained. In the others similar bacilli were seen under the microscope but pure cultures were not obtained owing to their being mixed with so many other varieties, the stools being fæcal in character in these cases, having been taken in a late stage of the disease. When a typical rice-water stool was obtained there was usually no difficulty in isolating comma bacilli The cultural characters of those isolated varied greatly as in Cunningham's well known observations in Calcutta, but on preparing a serum by subcutaneous inoculation of one of them into a rabbit everyone of the other varieties clumped typically with it, although a comma bacillus obtained from water failed to do so This points to all the different varieties being specific cholera organisms, an interesting point which forms part of my larger inquiry and cannot be further dealt with here In the first two cases of Table II no comma bacilli could be isolated but material for examination was not received from the other cases.

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[2] This patient was seen in June 1902. There was then a large malignant mass in the abdomen with all the accompanying signs of carcinoma. There was absence of free hydrochloric acid

The red corpuscles and hæmoglobin.—All the patients in Table I. were Hindus or Mahomedans except the patient in Case 15 who was a Chinaman. In the first line of the table the normal figures for healthy natives of India belonging to the poorer and ill fed classes are given, the hæmoglobin in particular being much lower than the European standard, as I pointed out several years ago, being only on the average 70 per cent. of Gowers's standard. On the other hand, the number of red corpuscles is about 5,000,000, so that the hæmoglobin value is only 0 7 In such a severe form of diarrhœa as occurs in cholera the number of the red corpuscles and the percentage of hæmoglobin both rise with the concentration of the blood and should serve as a guide to the amount of fluid lost The estimation of the specific gravity of the blood would be a more rapid way of arriving at the same result, but it was only carried out in a few cases In two of the cases the number of red corpuscles rose to over 8,000,000 per cubic millimetre and both patients died, but one patient out of three cases in which they reached between 7,000,000 and 8,000,000 recovered, as did one of the patients (Case 1) in Table II. On the other hand, four patients out of five cases in which they numbered 5,000,000 and under also died, while of 11 cases in which they were between 5,000,000 and 7,000,000 seven patients recovered and only five died. There does not, therefore, appear to be any constant relationship between the degree of concentration of the blood as indicated by the number of the red corpuscles and the death rate The hæmoglobin varied closely with the red corpuscles, the hæmoglobin value being about normal in the majority of the cases, although somewhat high in a few of them. In only one was it below normal—namely, in Case 16—and this patient had hæmorrhagic stools

Leucocytosis —It has long been known that leucocytosis is a well-marked condition in Asiatic cholera, while it is said to be most marked in the severest and most fatal cases These statements are borne out by my observations, leucocytosis having been present in every case which was examined in the earlier stages—that is, within the first two days of the disease. In nine cases it was present in comparatively slight degree, less than 20,000 leucocytes per cubic millimetre, and five of these patients recovered.[1] On the other hand, out of 14 cases in which this number was exceeded 11 patients died and only three recovered, these three however, including two out of the three cases in which over 40,000 leucocytes were found per cubic millimetre. A high degree of leucocytosis is, then, a bad prognostic sign and a slight degree a good one, yet a very high degree is not incompatible with recovery The constancy of the occurrence of leucocytosis in cholera is of importance in distinguishing it from some forms of acute diarrhœa in which it is absent, as in most of the cases in Table II It is not, however, of absolute value, as leucocytosis occurs in ptomaine poisoning and sometimes in cases of acute dysentery beginning with severe diarrhœa, Cases 3 and 1 in Table II being cases in point, and it is just these which for a time present the greatest difficulty in diagnosis

The differential leucocyte count in cholera —While working recently at the blood changes in plague I found in some of them a peculiar form of leucocytosis characterised by an unusually large proportion of lymphocytes in proportion to the degree of total increase of the white corpuscles Thus, with a total count of from 20,000 to 60,000 white corpuscles, instead of finding from 80 to 90 per cent of polynuclear cells and only about 10 per cent. of lymphocytes, the polynuclear cells showed little or no increase above the normal percentage, but the lymphocytes formed from 20 to 30 per cent. of the whole, a condition which I have not met with in the leucocytosis of inflammatory conditions or in such diseases as pneumonia or cerebro spinal fever Unfortunately, neither a marked increase in the total leucocyte count nor this peculiar proportion of the different kinds occurs at all constantly in plague, so that I have not found these changes of much practical value in differentiating plague from other diseases, as a negative result is of no value in excluding plague, although I think the finding of the condition mentioned may be of value in confirming such a diagnosis These observations led me to make similar differential counts in cholera cases, 500 corpuscles always being counted, with the result that much more constant changes of a different nature were met with, which I have found to have great diagnostic value in the limited series of cases which have so far been examined. In cholera the percentage of polynuclear cells is increased to somewhere about 80 per cent., but it seldom rises much above that point The lymphocytes are very markedly decreased, having been under 10 per cent. in 13 out of 17 cases examined on the first or second day of the disease On the other hand, the large mononuclear cells are not only decreased proportionally with the decrease in the lymphocytes, but are usually increased above the normal percentage as well as absolutely The result of these two coincident changes is that the large mononuclear cells usually outnumber the lymphocytes often to the extent of two to one, instead of being in the normal proportion of one to five. This peculiar change occurring in a leucocytosis I have not met with in any other disease than cholera. Moreover, the increased percentage of the large mononuclear cells becomes more marked as the disease progresses, especially in fatal cases The marked character of this change is still better seen by taking the total number of the different forms of leucocytes, as shown in columns 15 to 17 of Table I The polynuclear cells show a great increase in proportion to the degree of leucocytosis The lymphocytes show no proportional increase, being actually below the normal in many cases and only showing a comparatively slight increase in those cases which in the leucocytosis is of a very marked degree. On the contrary, the large mononuclear cells show an extraordinary increase, being not infrequently more than 10 times the normal number Case 12, in which no leucocytosis was present when examined on the fourth day, was one of convalescence from cholera in a malarial subject with marked anæmia, but even here the percentage of large mononuclear cells is very high and the total number is double the normal. The constancy of this decrease of the lymphocytes and great increase of the large mononuclear cells in this series of cholera cases is very remarkable and is in marked contrast with the cases of non-choleraic diarrhœa in Table II , for in not one of these last is either the percentage or the total number of large mononuclear cells increased above the normal limits in spite of leucocytosis being present in two of the cases

It will be advisable to mention here the nature of the cases in Table II in which all of the patients were admitted into the cholera observation ward as possibly suffering from cholera. The first two patients were sent by the port medical officer as being suspected cases of cholera and were examined by me very shortly after admission, when the subject of Case 1 in particular presented the general aspect of a patient suffering from cholera The higher number of red corpuscles and the percentage of hæmoglobin in Case 1 were equal to those met with in severe cases of cholera and a slight degree of leucocytosis was present. The differential leucocyte count, however, of both cases failed to show the increase of the large mononuclear cells, which at that time had been found in 17 consecutive cases of cholera, and I thought that I had met with exceptions to the general rule On the next day it appeared that the patients were suffering from very acute attacks of dysentery and they were removed from the cholera observation ward In Case 3 the patient was taken ill 10 hours after a meal at a Bengali hotel and was admitted soon after as a case of cholera. He had profuse diarrhœa and sickness, but all the stools were coloured brown and were never typical of cholera and he made a good recovery, the physician in charge subsequently coming to the conclusion (without knowing the result of the blood examination) that the case was one of ptomaine poisoning and not cholera. Case 4 was similar to the last, only it proved fatal, but no history could be obtained and unfortunately the stools of these last two patients were not sent for bacteriological examination It is therefore just possible that they may have been cholera cases which did not show the blood changes described in this paper, but in the absence of exact proof I can only accept

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[1] In one of the fatal cases granular kidneys were found This is of interest in connexion with the fact that in 70 post mortem examinations on cholera cases which I analysed recently I found granular kidneys to be much more frequent than they were in the cases of those dying from other commoner diseases showing that if a patient had granular kidneys there was very little chance of his surviving an attack of cholera.

TABLE I.—CASES OF ASIATIC CHOLERA.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
										Percentages				Total number per cubic millimetre		
Number of case.	Caste.	Sex.	Age.	Result.	Day of disease.	Hæmoglobin	Red corpuscles.	White corpuscles.	Ratio of white to red corpuscles.	Polynuclear cells.	Lymphocytes.	Large mononuclear cells.	Eosinophiles.	Polynuclear cells.	Lymphocytes.	Large mononuclear cells.
Normal for natives				... ..		70	5 000 000	7,500	1-666	68·0	25·0	6·0	1·0	5 100	1 875	450
1	H.	M	30	D		130	7,910 000	26,000	1-304	79·6	6 8	12·2	1·4	20 696	1 768	3 172
					3		8,200 000	24 000	1-336	82·2	4·2	12·8	0·4	20,287	1 029	3 066
2	H.	F	50	D	1	107	6,180,000	33 000	1-187	83·0	5·2	11·4	0·4	26,456	1,716	4 752
3	H	M	18	D	3	107	4,500 000	19 000	1-237	80·2	6·8	12·8	0·2	15 638	892	2,432
4	H.	M.	45	R	2	114	6,200 000	15,000	1-413	87·0	4·8	8·2	—	13 050	720	1,230
5	H	F	28	D	2	—	3,160 000	26,000	1-122	85·2	6·4	7·8	0·6	22,152	1,664	2,028
6	H	M.	36	R.	1	109	6 790 000	24 000	1-283	69·0	11·8	17·4	1·8	16,560	2,832	4 176
7	M	M	28	R	2	91	5 100 000	18,750	1-273	72·8	15·2	11·2	0·8	13 650	2,848	2,099
8	H.	M	32	D	1	85	4 890 000	15 250	1-321	79·2	7 4	13 4	—	13,278	1,128	2,043
9	H.	M.	30	D	3	74	5,200 000	30 750	1-161	63·8	16·8	19·0	0·4	19 618	5,166	5,842
10	H.	M	16	D	5	81	5 000 000	15,750	1-318	80·8	8·6	10·2	0·4	12 726	1 354	1 606
11	H	F	30	R	4	97	6,810 000	12,250	1-556	79·4	10·2	9·8	0·6	9 728	1,249	1,200
12	H.	M	33	R	4	60	2,520,000	2,250	1-1120	38·8	23·6	37·6	—	873	531	840
13	H	M.	30	D	3	120	7 690,000	30,000	1-256	76 8	10·4	12·8	—	23,040	3,120	3 840
14	M	M	35	R	2	114	6 070 000	10 000	1-607	85·4	7 4	7·0	0·2	8,540	740	700
					7	102	6 070 000	4 000	1-1517	49·6	26·0	22·8	1·6	1 984	1 040	912
15	C.	M.	35	D	2	102	6,430 000	16 500	1-390	76·2	8·8	15·0	—	12,573	1 452	2,475
					6	99	6,380,000	13,500	1-473	82·4	8·0	9·6	—	11 124	1 080	1,296
16	H	M.	30	D	—	73	5 790 000	30 250	1-191	78·8	7·0	14·0	0·2	23 837	2,117	4,235
17	M.	M.	35	D	—	112	6 190 000	25 750	1-210	64·0	15·0	21·0	—	16 480	3,862	5 407
18	H.	M.	40	D	2	103	5 120,000	23,500	1-180	76·4	10·0	13·6	—	21 774	2,350	3,376
19	M	M	35	R	2	111	7,270 000	53 250	1-136	88·0	4·0	8·0	—	46,860	2,130	4,260
					4	107	6 580 000	27,250	1-240	87·4	3·8	8·8	—	23,816	1 035	2,393
					9	103	6 990 000	14,250	1-490	79·6	8·8	11·2	0·4	11,343	1,254	1,596
20	H	M	33	D	3	109	6,840 000	33 000	1-206	70·0	9·2	10·2	0·6	23,100	3 036	3 366
21	H.	M.	30	R	1	111	6,330 000	43,000	1-148	84·8	6·2	10·0	—	36 464	2,666	4,300
					9	102	5,610 000	18 000	1-313	77·0	9·6	13·0	0·4	13,860	1 728	2,340
22	H.	M.	25	D	1	116	8,420,000	55 000	1-153	78·2	8·2	13 4	0·2	43 010	4 510	7 370
23	H	M	22	D	2	94	6,550 000	37 000	1 177	83·4	6·8	9·6	0·2	30 858	2,516	3 552

TABLE II.—CASES OF ACUTE DIARRHŒA OTHER THAN CHOLERA.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
										Percentages				Total number per cubic millimetre		
Number of case.	Caste.	Sex.	Age.	Result.	Day of disease.	Hæmoglobin	Red corpuscles	White corpuscles.	Ratio of white to red corpuscles.	Polynuclear cells	Lymphocytes.	Large mononuclear cells	Eosinophiles.	Polynuclear cells	Lymphocytes	Large mononuclear cells.
1	M	M.	30	R	6	105	7 420,000	12,500	1-593	87·0	9·0	4·0	—	10 875	1 125	500
2	M.	M	23	R	6	90	5,240 000	9,000	1-582	86·8	10·4	2·8	—	7,812	936	252
3	H	M	45	R.	1	92	6 180 000	20 500	1-302	93 8	4·0	2·2	—	19,229	820	451
4	H	M	11	D	1	87	5 930 000	8 000	1 741	81·2	12 4	6 2	0 2	6 496	992	496
5	L.	F	26	R	1	—	3,250 000	3 750	1-867	58·6	32·2	14 4	1·2	2,197	1,230	540
6	L.	M	50	R.	1	83	4,610 000	7 750	1-603	61 2	31	4 4	3·2	4 723	2,415	341

the conclusion of Captain Delany, M B , I M S , that clinically they were not cholera cases, and I may also take this opportunity of thanking that officer for kindly allowing me to examine his cases The patient in Case 5 was a woman who while suffering from malarial fever took two pills, after which she was violently purged 11 times and also suffered from vomiting She was admitted into the cholera observation ward and subsequently was transferred to the general ward, where she had malignant tertian fever with ring shaped parasites Her blood while suffering from the diarrhœa showed the typical low total leucocyte count, with high percentage of large mononuclear cells, which is characteristic of malaria, together with a high percentage of lymphocytes, illustrating well the difference between the high large mononuclear counts of cholera and malaria respectively Case 6 was another case of ptomaine poisoning following the consumption of prawn curry late at night, the patient having also been admitted into the cholera observation ward, but she subsequently proved not to be suffering from cholera. This series of cases of non choleraic diarrhœa is a very small one, but they form the whole of the cases admitted as suspicious of cholera during the same period as the true cholera cases in Table I occurred, came under observation in the Medical College Hospital, and hence are just the cases which it is most difficult to differentiate from cholera The fact that none of them show the changes met with in all the cholera cases strongly supports the diagnostic value of the peculiar leucocyte count of cholera described above, although it will be necessary to examine a much larger series of cases before the exact limitations of this new method of diagnosing cholera can be established This leucocyte test has at least the great advantage that it can be carried out within an hour or so with only the aid of a slide, a simple stain, and an ordinary high-power microscope (a one sixth inch lens), whereas the bacteriological diagnosis takes a day or two with the aid of a properly equipped laboratory, while, owing to the great variability of cholera comma bacilli, both in their power of liquefying gelatin and in the presence or absence of the indol reaction, considerable experience is required for its safe application, including, in order to be quite certain, the carrying out of the serum test.

The prognostic value of the leucocyte variations in cholera —If the leucocyte variations in cholera above described are of a specific nature then it might be expected that their degree might bear some relationship to the severity and mortality of the disease The following data are of interest in this connexion We have already seen that when the leucocytosis is of less degree, with a correspondingly low total polynuclear count, the prognosis is comparatively good In the case of the leucocytes, on the contrary, we have seen that in cholera a very low percentage and a comparatively low total count is the characteristic feature On classifying the cases according to the percentage of lymphocytes met with we find that out of 16 cases in which less than 10 per cent. were found no less than 12 ended fatally, while out of seven cases in which over 10 per cent. were present four patients recovered and only three died. On the other hand, there is no such relationship between the total number of lymphocytes per cubic millimetre and the mortality, which is what might have been expected, as the tendency of the high degree of leucocytosis in fatal cases to increase the number of lymphocytes is counteracted by the opposite tendency of the low percentage of lymphocytes in severe cases Lastly, on turning to the large mononuclear corpuscles we find that out of six cases in which under 10 per cent. were found four patients recovered and only two died, while, on the contrary, out of 15 cases in which over 10 per cent. of large mononuclear cells were present only three patients recovered and 12 died. The total number of large mononuclear cells per cubic millimetre shows a similar relationship, as in this case the favourable low degree of leucocytosis coincides with the equally favourable low percentage in reducing the total number of these corpuscles and *vice versâ* Thus we find that recovery took place in no less than four out of five cases in which the total number of large mononuclear cells was less than 2000 per cubic millimetre, while out of 18 cases in which over 2000 were present 14 patients died and only four recovered We therefore conclude that there is a definite relationship between the decrease of the percentage and the total number of large mononuclear cells and the severity of the disease—a relationship of the very peculiar leucocyte changes described which it would be difficult to explain on any other ground than that these changes are of a specific nature This fact, taken with the constancy of these changes in the consecutive series of cases examined and their absence in cases of non choleraic diarrhœa, encourage one to believe that a larger experience will confirm the conclusions derived from a study of the data recorded in the tables of this paper —namely, that the leucocyte changes described above have a considerable value as a simple and rapidly applied guide in both the diagnosis and prognosis of cholera.

Calcutta.

ENVIRONMENT AS A CAUSE OF AGUE

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THE proceedings of the Malaria Congress recently held at Nagpur, Central India, under the presidency of Colonel A. Scott Reid, I M S , were full of interest and have led me once again to invite the attention of the profession to meteorological environment as a probable cause of those cases of malarial fever in which parasites cannot be discovered in the blood In a paper read at the congress Dr Stephens and Dr Christophers stated that cases occurred, with fever clinically identical with malarial fever, in which parasites could not be found in the blood, after repeated search, before quinine had been given It was also stated that in large numbers of cases of fever with enlarged spleens examined in Calcutta, the authors had seldom found the parasite in peripheral blood, although pigment was sometimes obtained by spleen puncture Instances of failure to find the parasite in undoubted cases of malarial fever were narrated and every speaker at the congress affirmed the malarial nature of the cases of chronic fever with enlarged spleen. It would appear from this that under the term "malarial fever," as it is understood at present, are included two clinically identical, yet etiologically distinct, fevers which for convenience may be referred to here as (1) parasitic malarial fever and (2) non parasitic malarial fever The diagnosis of cases of the first class would, of course, rest on the recognition of the parasite in the blood by experienced observers, for, as Manson says, "negative results by amateurs are valueless, and a positive result is not much more to be relied on "[1] The second class would include all fevers clinically identical with malarial fever in which parasites cannot be discovered in the blood It is to fevers of the latter class alone that I refer in this paper Such fevers are, in my opinion, obviously and indisputably due to the meteorological environment under which they arise By this environment I mean the hot, moist, stagnant atmosphere under which they become most prevalent and which was for many years considered a sufficient explanation of their cause First, as regards this environment it is obvious that it may be of a higher degree of intensity in some places than in others, in some years than in others, and in some seasons than in others, but I hope to demonstrate that the inevitable effect of exposure to such environment is to produce an intermittent excess of water in the blood This intermittent excess of water in the blood will be seen to afford a clear explanation of the intermittent pyrexia, the anæmia, the melanæmia, the enlargement of the spleen, and the other conditions characteristic of malaria.

I.—THE METEOROLOGICAL ENVIRONMENT UNDER WHICH INTERMITTENT FEVERS BECOME PREVALENT

The meteorological conditions under which intermittent fevers become prevalent have long been known and are indicated in the attached chart which I have constructed from figures contained in the annual report of the Army Medical Department. It shows at a glance the difference between a malarial and a non malarial environment Where intermittent fever becomes prevalent, as at Singapore, both the atmospheric temperature and the atmospheric humidity are high, the mean atmospheric temperature being above 80° F , and the mean atmospheric humidity considerably above 80 per cent. of saturation throughout the year On the other hand, where intermittent fevers are not prevalent, as in England or at Barbados, the mean atmospheric temperature or the mean atmospheric humidity, or both, will be much lower In Barbados, although the mean atmospheric temperature is indeed higher than at Singapore, the mean atmospheric humidity *is* much lower whilst in England, although the mean atmospheric humidity is as high as at Singapore for several months in the year the mean *atmospheric temperature is very much lower* Thus *from* the chart it is apparent that the meteorological environment under which intermittent fevers become prevalent is not simply a high atmospheric temperature or high atmospheric humidity but a high atmospheric temperature *and* a high atmospheric humidity, in other words the environment under which intermittent fevers become most prevalent is the hot, moist stagnant atmosphere, as has been known for a long time. What is the effect of exposure to such meteorological environment?

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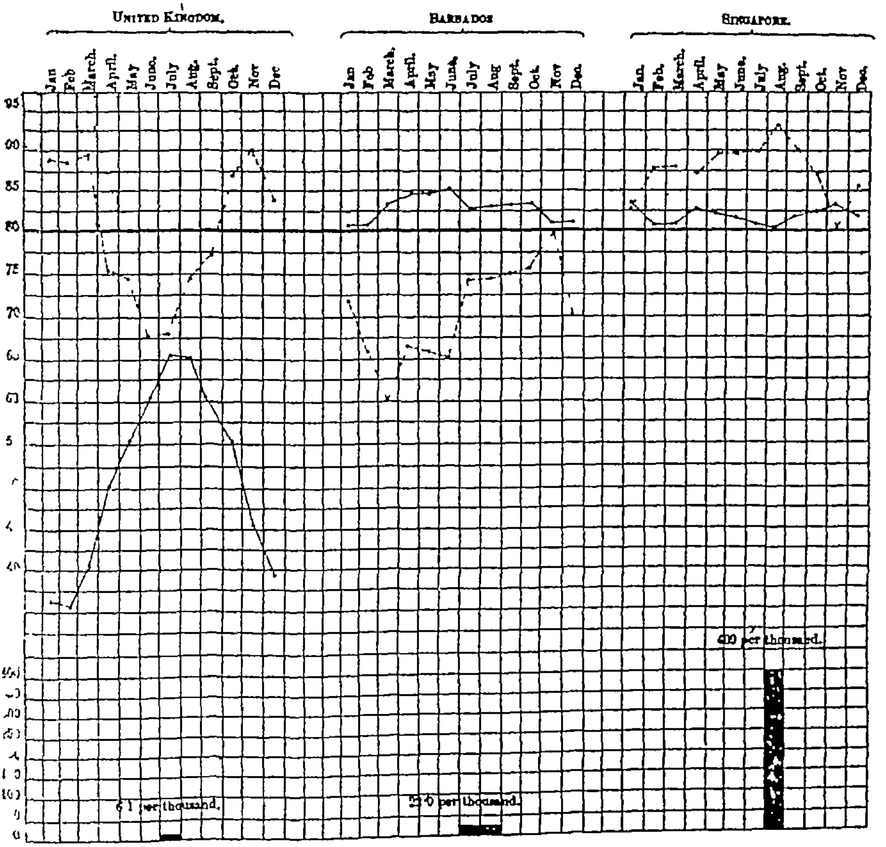
[1] Brit Med Jour , May 17th, p 1212

CHART SHOWING THE METEOROLOGICAL ENVIRONMENT UNDER WHICH INTERMITTENT FEVERS BECOME PREVALENT



The black line shows mean atmospheric temperature. The dotted black line shows mean atmospheric humidity saturation = 100 The figures 0 to 400 show admissions per 1000 of strength for ague per annum The figures 35 to 95 show degrees Farenheit and degrees of humidity

II —Exposure to this Meteorological Environment Produces Intermittent Excess of Water in the Blood

The amount of water in healthy blood is about 790 parts in 1000 During winter and spring about 80 ounces of water are taken in daily as drink and food and the same quantity or a little more excreted daily During summer and autumn the amount taken in as drink is considerably increased and there must of course be a corresponding increase in the amount excreted otherwise the amount of water in the blood would become excessive. Excretion of water from the blood takes place from the kidneys, the lungs the skin, and the intestines Practically the amount excreted by the intestines remains constant in health but the amount excreted by the kidneys and by the skin and lungs *varies according to the atmospheric temperature* In winter and spring when the atmospheric temperature is low about two-thirds of the total quantity of water or 60 ounces are excreted by the kidneys and one-third or 20 ounces by the lungs and the skin. In summer and autumn when the atmospheric temperature is high water is excreted chiefly by the skin and the lungs and the amount excreted by the kidneys is correspondingly reduced. The evaporation of this increased quantity of water from the lungs and the skin keeps the body temperature normal under exposure to very high atmospheric temperatures But if during this season when water is being excreted chiefly through the skin and the lungs any influence impedes its free excretion through these channels without at the same time producing a compensating increase in the amount excreted through the kidneys the obvious result must be an increase of water in the blood

Now the [illegible] 60 to 95 per cent throug [illegible] as shown in the char [illegible] the free excretion of water from skin and lungs For atmospheric air can only take up as much aqueous vapour as will saturate it

Moreover, there was no fall of temperature which would be sufficient to produce a compensatory increased excretion of water through the kidneys. Hence, when ague was so prevalent at Singapore the environment was such as must certainly produce increase of water in the blood. Wherever such environment is found an intermittent fever will certainly also be found. It will be explained later why this increase of water in the blood must be of an intermittent character The environment given in the chart for Singapore may be taken as typical of the environment under which intermittent fevers reach their maximum of prevalence continued throughout the year In India and some other countries such an intense degree of this environment is usually found, with few exceptions, at only certain seasons of the year For instance, in the hot season in India the atmosphere is intensely dry, containing perhaps only 20 or 30 per cent of saturation, and evaporation of water from skin and lungs is consequently enormous To this succeeds the rainy season, almost quite suddenly, and the atmospheric humidity increases to 80 or 90 per cent of saturation I have often in India seen the dry and wet bulb thermometers register the same temperature at this season, indicating that the atmosphere is saturated with aqueous vapour and therefore completely obstructing evaporation from skin or lungs. The fall of atmospheric temperature accompanying the setting in of the rains is slight and only temporary It is not sufficient to produce increased excretion of water from the kidneys, as perhaps anyone who has resided in India will have observed Consequently water must accumulate in the blood and tissues unless the amount taken in drink be largely reduced Experience, however, teaches us that instead of being reduced the amount taken during the rainy season is just as much as during the previous hot dry season

III —THERE IS KNOWN TO BE EXCESS OF WATER IN THE BLOOD OF THOSE WHO SUFFER FROM INTERMITTENT FEVER.

Manson[2] describes malarial blood as pale lake coloured, thin, and watery Liebermeister states that there is excess of water in the blood of those who suffer from ague, and that the wasting of the body in ague is sometimes concealed by the excessive amount of water in the blood and tissues. He also says that from this cause the weight of the body may be increased as much as 10 pounds, although there may be only slight œdema of the ankles to indicate an excess of water in the blood and tissues[3] In addition the dropsical effusions which are not infrequent sequelæ of ague perhaps also indicate an increase of water in the blood of those who suffer from the disease

Let us next inquire what are the obvious effects of an increase of water in the blood produced as indicated.

IV —EXCESS OF WATER IN THE BLOOD PRODUCES PYREXIA.

The normal temperature of man is 98 4° F or 37 0° C and this is the product of two factors—(*a*) the amount of heat produced within the body and (*b*) the amount of heat given off, or lost, from the body As regards the first it is known that the source of heat production within the body is the metabolism or tissue change which takes place in every act of vital energy It has long been known that this metabolism can be increased by the free internal administration of water If experimental proof of this be asked for pathologists tell us that injection of water into the blood causes a rise of temperature[4] Hence there can be no doubt but that an increase of water in the blood produced by meteorological environment will in its turn produce an increase of metabolism or heat-production in the body But meteorological environment produces excess of water in the blood by impeding evaporation of water from the skin and lungs—that is, by diminishing heat loss If it thus causes increased production of heat within the body and diminished heat loss from the body, as above described, the result must be increase of body temperature—pyrexia. Indeed, this has been proved experimentally by Frey and Heiligenthal who found that exposure in a Russian or hot vapour bath of 113° F (45 5° C) for 25 minutes raised the body temperature to 104 3° F (40 3° C), whilst exposure in a Turkish or hot dry air bath of 149° F (64 5° C) for 50 minutes only raised the body temperature to 101 6° F (38 6° C) The explanation of this is plain. In the hot dry air bath evaporation of water from the skin is much increased and keeps the temperature down In the hot vapour bath evaporation of water from skin and lungs is much impeded by the amount of water vapour in the air and therefore the body temperature rises The temperature and humidity of the air during the fever season in tropical countries differs very little from those of the Russian vapour bath, and therefore such environment will as certainly, if not so rapidly, produce pyrexia in those exposed to it.

The weakest link in the parasitic theory of malarial fevers always seems to me to be the unsatisfactory explanation which it affords of the pyrexia, which is, after all, the chief clinical feature of these diseases Laveran himself and other eminent authorities on malaria, when referring to the pyrexia, are compelled to say that the pyrogenic agency is "most likely" or "presumably" or "probably" some toxin, which is liberated from the sporulating parasite shortly before or during the rigor, and which is a solvent of hæmoglobin. The existence of any such toxin, however, is not only apparently not proven, it is but plausible conjecture But where is the necessity for assuming the existence of a problematical toxin born of a sporulating parasite in those cases clinically identical with malaria in which parasites cannot be found, when Payne assures us that injection of water into the blood causes a rise of temperature when Liebermeister declares there is this increase of water in the blood in ague, and when, as I have shown above, this increase of water in the blood is the inevitable result of exposure to the meteorological environment found in malarial countries or climates?

V —THE PYREXIA CAUSED BY INCREASE OF WATER IN THE BLOOD DUE TO METEOROLOGICAL ENVIRONMENT MUST BE OF AN INTERMITTENT CHARACTER.

To make this evident it is only necessary to point out that the environment which produces excess of water in the blood is of intermittent intensity, for in all climates atmospheric temperature and humidity undergo a diurnal variation. The highest atmospheric temperature is usually about 4 o'clock P M daily, when, as a rule, the atmospheric humidity is at its lowest This is the period when evaporation of water from skin and lungs is free On the other hand, the lowest atmospheric temperature is reached daily about 4 or 5 o'clock A M , and then the atmospheric humidity is at its maximum. This is the time when free evaporation from the skin and lungs is most impeded In cold climates this is compensated for by the increased flow of urine produced by the fall in atmospheric temperature at night. But in the unhealthy season in tropical climates there is little or no fall in atmospheric temperature at night to produce this compensating excretion of water through the kidneys, as I daresay anyone will admit who has lived in a malarial climate during the unhealthy season. Consequently water accumulates in the blood, chiefly during the night. Now, as we have seen, the causes producing this increase of water in the blood are more active during the period from sunset to sunrise in the tropics and less active during the period from sunrise to sunset. This intermission in the activity or intensity of the cause must produce a similar intermission or tidal wave in the increase of water in the blood If the increase of water in the blood is of this intermittent character, so will the pyrexia produced thereby also be

Now in connexion with this point, that the intensity of the environment producing increase of water in the blood is greater by night than by day, may be noted the fact admitted by all, that attacks of intermittent fever most frequently commence at night or in the morning Why the intermittent fever produced in this way is quotidian in some and tertian or quartan, &c , in others would appear to depend on (*a*) the previous condition of the blood of those exposed to the environment, and (*b*) the intensity of the environment With regard to the former it is known that in different individuals the quantity of water in the blood varies within certain limits, the average quantity being 790 parts of water in 1000 of blood. It will, of course, require exposure to the environment for some time, more or less, before the quantity of water in the blood is increased to that degree which causes pyrexia. Let it be assumed that the degree which causes pyrexia is 830 parts in 1000 Then if four men whose blood contains respectively 790, 800 810, and 820 parts of water be exposed to such environment it is evident that the increase of water which causes increased metabolism pyrexia, will be most rapidly produced in the man whose blood originally contained most water—820 parts. It only requires 10 parts added This also accords with experience which teaches that those with the poorest or most watery blood most quickly contract ague when exposed to the environment. It will, of course, take longer in the other men to produce the 830 parts of water the man whose blood was in the first instance normal (790 parts) requiring the longest exposure. Again, with regard to the intensity of the environment, let it be assumed that the degree of intensity to which these four men are exposed is such that it will produce an increase of water in the blood equal to 10 parts by one night s exposure Then it is evident that the blood of the man containing originally most water—i.e 820 parts—will have its water increased to that degree which causes pyrexia, 830 parts, by *one* night s exposure to the environment , and although during the following 12 hours (day) critical elimination (sweat) may reduce it to the original 820 parts, still if exposure to such environment continues 10 parts of water will be added again the following night, reproducing the necessary 830 parts of water increased metabolism, and pyrexia—that is the paroxysms are reproduced once in every 24 hours and the type is consequently quotidian. In this way paroxysm follows paroxysm until medical treatment be adopted or as will be explained hereafter the red blood corpuscles are so much reduced that the hæmoglobin is not sufficient to provide material for the metabolism causing the pyrexia, or until the environment changes At the same rate of increase—viz. 10 parts each night—it will require two nights exposure to produce the increase to 830 parts of water in the blood of the man containing originally only 810 parts and after elimination (sweat) it will take two nights to reproduce, that is, the degree necessary to cause the increased metabolism and consequent pyrexia is only produced every second day There will be one day of apyrexia. That is the type in this case will be tertian Similarly it will require three nights exposure at an increase of 10 parts nightly to increase the water of the blood in the man, containing originally only 800 parts, to the degree, 830 parts, which I assume produces pyrexia. It will only be produced and reproduced on the fourth day—that is, the type of fever in this man will be quartan. In the blood of a man containing originally only 790 parts of water it will take still longer exposure to produce, and after elimination to reproduce, the necessary 830 parts. In those with still less water in their blood and whose eliminatory organs are perfect it is conceivable that it may not be possible by any exposure to increase the water to 830 parts, and in such cases we should expect immunity from the disease.

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[2] Tropical Diseases p 71

[3] Hilton Fagge, p 48

[4] Payne's General Pathology, p 144

It can be seen then if ague is due to excess of water in the blood produced by environment, why the pyrexia should be intermittent in character and also why the type should be quotidian in some and tertian or quartan in others It also becomes apparent why persons with the poorest or most watery condition of blood should most certainly and rapidly contract the disease when exposed to the environment whilst those with normally less water in their blood are less liable to contract it.

Moreover if ague is due to excess of water in the blood produced by environment it becomes evident why quotidian is the most common type in tropical climates while tertian or quartan is the more common type in temperate climates For it is to be remembered that climates as regards their atmospheric temperature and humidity differ only in degree. In tropical climates in the unhealthy season of the year the environment (temperature and humidity) is of a higher degree of intensity and in temperate climates lower Hence in tropical climates the degree of hydræmia that produces pyrexia will be more quickly produced and after elimination (sweat) reproduced that i the type of ague most commonly met with in tropical climates should be that with the shortest period of apyrexia—viz. quotidian, if caused by environment. In temperate climates on the other hand, the environment not being of so intense degree must of course take longer to produce and after elimination (sweat) to reproduce the degree of hydræmia that causes pyrexia that is the type of ague most common in temperate climates if this theory is sound should be that with a longer period of apyrexia—viz. tertian or quartan. In both cases this corresponds with experience. In unusually hot summers of cold climates the environment which causes increase of water in the blood will also sometimes if seldom, be found. Hence the explanation of cases of intermittent fever in cold climates occasionally Moreover as the amount of water in the blood depends to a great extent on the balance being maintained between the amount taken in in food and drink and the amount excreted, and as the amount excreted depends to a certain extent on the functional activity of certain organs—skin, lungs kidneys &c.—it can be seen how deranged function of such organs might of itself produce increase of water in the blood altogether independently of external environment. By such functional derangement the occurrence of those anomalous cases of ague which arise in those climates, seasons or localities where the hot, moist stagnant atmosphere that produces increase of water in the blood is not found may be explained.

VI.—EXCRETION OF WATER FROM THE BLOOD REDUCES THE TEMPERATURE TO NORMAL IN AGUE.

We know that free elimination of water from the blood in ague reduces body temperature to normal Free sweating obviously does so. This fact in itself is strong presumptive evidence that the increase of water in the blood is the cause of the pyrexia. For there are many other diseases in the pyrexia of which sweating does not produce this effect. Moreover although sweating is the usual method of termination of a paroxysm of intermittent fever the same result—i.e. reduction of temperature to normal—also follows free elimination of water by the kidneys or by purging These two latter processes however only reduce the amount of water in the blood and so reduce metabolism or heat production, whilst sweating besides reducing in the same way heat production, also increases heat loss and thus more quickly reduces temperature to normal.

It is very suggestive that in the collapse stage of cholera, when elimination of water from the blood has been enormous and the blood remains thick and tarry the body temperature *is subnormal* and as *absorption is restored and water again* taken into the blood the temperature rises perhaps above normal

VII.—INCREASE OF WATER IN THE BLOOD PRODUCES *OLIGOCYTHÆMIA.*

It has long been known that when water is added to normal blood the red corpuscles lose their discoid form become spherical, swollen, and dropsical the hæmoglobin is washed out of them and ultimately they disintegrate and disappear Hence it can be seen that increase of water in the blood caused by meteorological environment which I have shown produces an intermittent pyrexia will also produce the extensive destruction of red blood corpuscles which is so characteristic of ague.

The tissue chiefly destroyed by the metabolism of pyrexia doubtless differs in different fevers, but in ague the red corpuscles of the blood are chiefly affected leading to their extensive destruction and consequent anæmia and melanæmia. Hæmolysis or destruction of red blood corpuscles is, however a process which is always going on even in health within the portal circulation. There the hæmoglobin *escapes from the old red corpuscles and is in part* converted into new red corpuscles and in part into pigment. Such pigment is taken up by the hepatic cells and forms the colouring matter of the bile urine &c If it is produced in quantity exceeding the amount that the hepatic cells are capable of converting into the colouring matter of the bile &c it is obvious that it must find its way into the general circulation and into the tissues especially of the spleen, liver kidneys &c. thus causing melanæmia. Professor Hunter who closely investigated this hæmolysis, tells us that this process may be increased by two sets of causes—viz. direct and indirect. The direct consists of agents such as water which injected into the blood act directly on the red corpuscle liberating their hæmoglobin and destroying them The indirect consists of agents which act on the red corpuscles through the medium of the splenic cells The increased hæmolysis of disease Professor Hunter adds is similar to that produced by indirect hæmolytics with two exceptions—namely malaria and hæmoglobinuria—which he attributes to the direct action of the parasites on the blood discs This may indeed be so But in those cases of ague in which no parasites can be found why attribute the increased hæmolysis to their influence instead of to the increase of water in the blood which Liebermeister assures us is present in all cases of ague which Professor Hunter asserts to be a most powerful direct hæmolytic, and which I have attempted to show in the preceding remarks is the inevitable result of exposure to the meteorological environment under which malarial fevers become most prevalent? During hæmolysis Professor Hunter describes the appearance of the following forms in the blood (1) colourless spherules albuminous and highly refractile, of various sizes, and (2) coloured spherules A red corpuscle becomes constricted at some portion, dividing into two parts, connected by a colourless portion These are best studied by warming blood to 112° F, a temperature not much above that of the blood in the portal circulation during a paroxysm of ague The corpuscle then breaks up into a number of highly coloured spherules This description of the disintegration of a red corpuscle by a temperature of 45° C forcibly reminds one of the sporulation of parasites, as described by plasmodists during each paroxysm of ague Of course, this resemblance of the disintegration of red blood corpuscles to the sporulation of parasites becomes more suggestive when it is remembered that hæmolysis is always more active within the portal circulation—the very situation where plasmodists tell us the parasites may be found when they cannot be found in peripheral blood 3 Stromata, or decolourised red corpuscles, are also described by Hunter as appearing during hæmolysis He adds that they are best studied by the injection of water into the blood

Now, if these forms—colourless spherules, coloured spherules which break up into a number of highly coloured bodies and stromata—are produced within the portal circulation in health and if, as Hunter tells us, their production is increased by heat (45° C or 112° F) and by injection of water into the blood, it is obvious that their production must be considerably increased during each paroxysm of ague when there is increase of water in the blood and the temperature of the blood within the portal circulation is nearly, if not quite, as high

Manson,[5] a high authority on malaria, tells us that the destruction of red blood corpuscles in malarial disease is greatly in excess of anything which can be accounted for by the number of corpuscles attacked and consumed by the parasites The number of parasites found in the blood might account for a destruction of 1 per cent or even 5 per cent., but not for a 20 per cent. destruction, which is not uncommon even after a single paroxysm of ague If, however, there is a form of ague, as I contend, due to excess of water in the blood this would account not only for a 20 per cent destruction of the corpuscles, but when extreme in degree it would explain the almost total destruction of blood corpuscles For increase of water in the blood will affect every corpuscle in the blood, and the greater the increase of water the greater will be the destruction of blood corpuscles and liberation of hæmoglobin Indeed, so well recognised is this that hæmatologists consider the specific gravity of the blood affords a reliable test of the number of red corpuscles and their hæmoglobin value [6]

When the liberated hæmoglobin exceeds the amount that the hepatic cells are capable of converting into biliary and other pigments then it will presumably appear in the urine This would seem to indicate that hæmoglobinuric fever owns the same origin as the non parasitic intermittent fevers which only I refer to in this paper This view gains support from the facts that hæmoglobinuric fever is found in those climates where is found at times an extreme degree of the meteorological environment that produces excess of water in the blood, that there exists some as yet unexplained connexion between this disease and malaria, and, as Manson says, the opinion that it is of parasitic origin is based more on considerations of probability than on logical deductions from demonstrated facts [7] If, as I am trying to prove there is a form of malarial fever due to excess of water in the blood caused by meteorological environment then the explanation of the connexion between malaria and hæmoglobinuric fever is not far to seek

VIII.—AN INCREASE OF WATER IN THE BLOOD PRODUCES PSEUDO-PARASITES.

It cannot be said that increase of water in the blood will produce parasites, but it will certainly produce those bodies which are called pseudo-parasites They were at one time considered to be the cause of malaria [8] Indeed, there are many still who consider that true parasites can with great difficulty be distinguished from pseudo parasites Mannaberg admitted that in a minority of cases they could not be distinguished and Manson says that it takes a large amount of practice to be able to discriminate between parasites and vacuoles in the red corpuscles in fresh films. Indeed, there are even still a few who maintain that they are indistinguishable for the simple reason that they consider the parasites to be merely products of hæmolysis such as may be found within the portal circulation in health in any climate and in the peripheral circulation of those who suffer from malarial fevers However this may be, it seems certain that increase of water in the blood will produce pseudo-parasites within it. Ehrlich tells us that poikilocytes are the products of a fragmentation of red blood corpuscles which can be produced experimentally by heating They exhibit movement and were regarded by Klebs as amœbæ and similar organisms Now increase of water in the blood and increased metabolism (heat production) caused thereby are the two very agents which we know, from experiment, give rise to the appearance of these bodies in the blood. The changes produced in corpuscles by these agents, as described by physiologists, I give below and in a parallel column for convenient reference some of the more usual appearances of malarial parasites as described by Laveran and others

Physiologists tell us :—	Experts tell us :—
1 If water be added to normal blood the red corpuscles lose their discoid form become spherical swollen and dropsical the hæmoglobin is washed out of them and ultimately they disintegrate and disappear	1. The red corpuscles attacked by the parasites are usually the larger ones They lose their discoid form, become spherical swollen, and dropsical, they lose their colour and hæmoglobin and ultimately are destroyed
2 If blood be heated vacuoles are produced in the red corpuscles which appear as little clear colourless shining spots that assume spherical annular, or other form They change their form they increase in size till they occupy half two-thirds or the whole of a corpuscle. They exhibit apparent amœboid movement from contractions in the surrounding hæmoglobin, and they throw out little beaded prolongations which wave to and fro There may be one or more vacuoles in a corpuscle	2. Malarial parasites appear in the first instance on or in the blood corpuscles as little clear colourless shining spots of various forms, spherical annular, or other They change their form they increase in size until they occupy most or the whole of a corpuscle They exhibit amœboid movement and throw out flagella There may be one or more parasites in each corpuscle
3 If blood be heated the white corpuscles, which may or may not contain pigment exhibit amœboid movement and Brownian movement of the contained pigment Quinine paralyses the movements of the white corpuscles and reduces their number	3 The larger spherical pigmented parasites exhibit active amœboid movements and their contained pigment exhibits active swarming movement. Quinine kills the parasites and removes them from the blood
4 The result of addition of water to blood and exposure to increase of temperature is wholesale destruction of red corpuscles and production of pigment free and inclosed in spherical or various shaped bodies	4 The result of invasion of blood by the parasites is wholesale destruction of red corpuscles and increase of pigment free and inclosed in spheres crescents, &c

From the above it can be seen how increase of water in the blood will produce bodies closely resembling parasites—in fact, pseudo parasites The crescent-shaped bodies have been the subjects of much controversy Ross, if I remember rightly, attributes their transformation and flagellation to abstraction of water from the serum and says that this is the influence to which they are exposed in the stomach of the mosquito This opinion he formed as the result of many beautiful experiments. Marshall, on the contrary, after many similar experiments arrived at the conclusion that the transformation and flagellation of the crescent-shaped bodies are due to the addition of water to the serum and says that this is the influence to which they are exposed within the stomach of the mosquito Although they differ, then, as to whether it is reduction or increase they agree that the transformation is due to some variation in the quantity of water in the blood such as I have shown to be the result of exposure to a certain definite environment.

Increase of water in the blood, then, caused by environment produces bodies in the blood which the best experts admit closely resemble parasites and which none but experts are capable of distinguishing from them.

When critical elimination of water (sweat) reduces the amount of water in the blood to normal the pseudo-parasites will disappear, or perhaps it would be more correct to say that the corpuscles which have not been destroyed will resume their normal appearance gradually This production of pseudo-parasites during each paroxysm of an intermittent fever and disappearance during the apyretic interval would of course render more difficult the differentiation of parasitic from non parasitic ague except by experts The establishment of the theory that there is an intermittent fever due to environment would, however relieve Laveran s supporters from the difficulty of explaining how those cases in which no parasites can be discovered in the blood can possibly be caused by parasites. Moreover the presence of pseudo-parasites in the blood of such cases would enable us to understand the assertion of those who maintained that the bodies they found in malarial blood were not parasites at all but simply altered blood corpuscles. Manson says that the staining process for diagnosing malaria is not to be depended on unless carried out by those with great experience.

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[5] Tropical Diseases p 70

[6] Ehrlich Histology and Pathology of the Blood p 16

[7] Brit Med Jour Sept 1st 1900 p 558

[8] Ehrlich and Lazarus: Histology and Pathology of the Blood pp. 53 54

IX.—INCREASE OF WATER IN THE BLOOD WILL PRODUCE ENLARGEMENT OF THE SPLEEN

As we have seen increase of water in the blood increases hæmolysis or the destruction of red blood corpuscles. But the taking up and disposal of the fragments of disintegrating red blood corpuscles is the normal function of the spleen. Hence when increase of water in the blood produces increased destruction of these corpuscles increased functional activity of the organ and therefore increase of its size or bulk follows Moreover the increase of water by increasing the volume of the blood will of itself also directly tend to enlarge the spleen.

When critical elimination of water (sweat) occurs there is of course diminished volume of the blood, diminished destruction of red blood corpuscles, and consequently diminished functional activity and size of the organ which is normally called on to dispose of the disintegrated corpuscles Hence in the apyretic intervals the spleen resumes normal size. But if this intermittent increase of water in *the blood is frequently repeated the organ will become* permanently enlarged for it is known that transitory but repeated hyperæmia of any organ leads to a permanent enlargement of the organ, such as is found in ague cake, in those suffering from chronic malaria.

Now this view that the enlargement of the spleen is in some cases of intermittent fever at all events due to the intermittent excess of water produced by *meteorological* environment receives some support from a consideration of the periodical change in size of the organ that takes place in health In health it is known that the spleen enlarges to some extent after every meal reaching its maximum after some hours and then returning to its normal size When food is taken into the stomach the first portion of it to be absorbed is its water which enters the blood directly through the gastric vessels. This addition of water of course, increases the volume of blood, and also destruction of blood corpuscles, thus leading as described above, to the enlargement of the organ. This rapid absorption of water of the food by disintegrating and so getting rid of the old and useless blood corpuscles prepares the blood for the pouring into it some hours later of the other constituents of the food *viâ* the longer route of the intestinal lacteals and thoracic duct.

Another point which supports this view of the cause of enlargement *of the spleen is that whatever other medi*cines, &c, we may also employ a free use of hydragogue purgatives is indispensable for the reduction of the organ to its normal size. Is not this an indication that in the first instance its enlargement is due to increase of water in the blood?

The spleen is enlarged in ague then because in this disease there is increased destruction of red blood corpuscles the disposal of which in ague, as in health is the normal function of the organ, and the increased destruction of corpuscles is produced by increase of water in the blood.

X.—THE MEASURES FOUND MOST USEFUL IN THE PREVENTION AND TREATMENT OF AGUE REDUCE CONSIDERABLY THE AMOUNT OF WATER IN THE BLOOD.

Prevention.—Drainage of the soil in paludal districts undoubtedly eradicates or at least considerably reduces the prevalence of ague The most obvious effect of drainage is, however that it dries the soil and therefore the superincumbent atmosphere Drainage removes or at least reduces one factor (atmospheric humidity) of the environment that produces increase of water in the blood In well built, well raised houses the humidity of the air is less than in the *open, and those occupying* such houses are therefore less likely to contract the fevers to which I am referring than those who are liable to exposure at night. The same may also be said of residence in huts tents, or even within mosquito curtains.

Treatment—All effective treatment of ague reduces the amount of water in the blood. Diaphoretics, diuretics, and purgatives certainly *do so. And it is to this that I attribute* the curative and indeed, preventive action of quinine When ague becomes chronic a course of Turkish or *dry* air baths is most beneficial and what so obviously reduces the amount of water in the blood? Removal from the influence of the meteorological environment that produces increase of water in the blood usually cures ague

XI.—SUMMARY

What I have written above may be shortly summarised as follows 1 Cases of fever clinically identical with malaria, occur in the blood of which parasites could *not* be *found* after repeated search before quinine had been given. 2. The meteorological environment found where such cases occur and indeed in all malarial climates increases the amount of water in the blood of those exposed to its influence by impeding elimination through the skin and lungs (evaporation—heat loss) and through the kidneys. 3. There is known to be increase of water in the blood of those suffering from ague (Liebermeister) 4. Increase of water in the blood increases metabolism—i e. heat production—and produces a rise of body temperature (Payne). 5. As environment thus causes diminished heat loss from the body and increased heat production within the body it is plain that it causes pyrexia. 6. This pyrexia must be of intermittent variety as the environment which produces it is of intermittent intensity—i.e undergoes diurnal variation 7 Elimination of water from the blood (sweat) in ague reduces the temperature to normal 8 Increase of water in the blood produces poikilo*cytosis pseudo-parasites liberation of hæmoglobin, extensive* destruction of red blood corpuscles, and melanæmia. 9 An extreme degree of these changes obviously leads to hæmoglobinuria. 10 Increase of water in the blood produces enlargement of the spleen 11. Removal from the environment that produces increase of water in the blood usually cures ague. 12. All treatment of ague which is efficacious reduces the *amount of* water in the blood. 13. From these facts I think it is not unreasonable to conclude that those cases of ague or intermittent fever in which no parasites can be found are demonstrably due to the environment under which they arise.

If my view is correct it is only one more illustration of the truth of the old saying that pathology in many instances seems to be but physiology in distress

RESULTS IN HAVANA DURING THE YEAR 1901 OF DISINFECTION FOR YELLOW FEVER,

UNDER THE HYPOTHESIS THAT THE STEGOMYIA MOSQUITO IS THE ONLY MEANS OF TRANSMITTING THE DISEASE.[1]

BY W C GORGAS
MAJOR MEDICAL CORPS UNITED STATES ARMY; CHIEF SANITARY OFFICER OF HAVANA

IN order clearly to show the results of our work in Havana it may be well to go over the ground and to point out what the conditions were before we commenced work and to look into some general considerations with regard to the habitat of yellow fever When we attribute the results of the work here to our methods of destroying infected mosquitoes it has been objected that yellow fever has disappeared from many other cities under other methods of disinfection and when no particular effort was made to stamp out the disease, and instances are cited of cities of the United States such as Boston Philadelphia New York and New *Orlean* and some of the smaller towns in the West Indies Mexico, and South America.

Havana is unique in being the *only city* in the Western

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[1] A paper read before the International Sanitary Congress held at Havana, Cuba, on Feb. 15th 1902.

Continent where yellow fever has really always been endemic during historic times, and when we come to look into the matter the reasons are obvious In any community where frost occurs yellow fever will always disappear during the winter Even in our Southern ports, such as New Orleans, Mobile, and Pensacola, yellow fever habitually disappears at that period Incidents might be adduced of its persisting through the winter, but such instances are rare. The natural tendency of these cities would be to free themselves of yellow fever if re introduction from the outside is prevented In the smaller towns within the tropics, those having a non immune population of, say, 50, the same tendency is observed from other causes. While yellow fever would not die out from climatic conditions, in the course of a year or two these few non-immunes would disappear as non immunes either from death or by becoming immune from having had yellow fever, and the tendency would be for this disease to disappear and to re-appear when the population had again become non-immune to a considerable extent. This is really the history of the disease as observed Of course, the larger the non immune population in the tropics the longer the epidemic period lasts, sometimes many years Even cities of the size of Vera Cruz and Santiago de Cuba are not truly endemic foci in the same sense that Havana is Looking back over the history of these cities many years at a time can be found in which there was no yellow fever, and if introduction from the outside could have been prevented they would have freed themselves from yellow fever from the above causes In Havana the conditions have been different it is the principal port of entry for Cuba and there has been a considerable influx of non-immune Spaniards—from 4000 to 30,000 annually Theoretically, from the existing conditions we would expect that yellow fever would be endemic in Havana, and as a matter of fact as far back as the records go from which any at all reliable history of the statistics of the city can be obtained a month has never passed until the American occupation without a death from yellow fever And there has probably in all this time never been a day on which there was not a case of this disease in Havana. This is the only city in the world of which that can be said. Probably Rio de Janeiro can in future be placed in the same category Its large population, large immigration, and latitude would seem to make the conditions very similar to those of Havana.

I go over this ground to show that the causes which have made yellow fever disappear from other cities in all latitudes of the Western Hemisphere cannot occur in Havana The statistics of yellow fever for Havana, as far back as we have official record, are given in the appended table and show the deaths from this disease month by month

When we commenced work in Havana the island had been suffering for five years from an exhausting civil war and during the few months preceding the city had undergone a blockade by the American fleet. The hygienic conditions of the city were therefore at that time considerably worse than they were in normal times. But the non immune population was small, immigration had dwindled during the war and had practically stopped for the year preceding We went to work on the usual sanitary lines with our efforts directed more particularly toward yellow fever I will not attempt any description of the general sanitary work but will enumerate the methods adopted towards yellow fever

Up to July of the first year of American occupation there was little yellow fever in the city Then immigrants began to pour in and some 16,000 reached Havana between July and Dec 31st in the year 1899 From July to Dec 31st we had quite an epidemic of yellow fever, and the December of 1899 was the severest December as regards yellow fever that had occurred for years In February, 1900, I was appointed the Chief Sanitary Officer of Havana and I know from personal observation that from that time the regulations with regard to yellow fever were carefully carried out

The reporting of yellow fever was compulsory Upon the report of a case it was promptly isolated and quarantined by guards employed by the Sanitary Department No communication whatever was allowed within the quarantined area except that of the visiting physicians and the sanitary inspector All supplies had to pass through the sanitary guard. The isolation was as complete as military authority and liberal expenditure could make it The case was then referred to a board of experienced physicians who visited the patient and made the diagnosis If the case terminated in death the body was buried with the usual sanitary precaution adopted in highly dangerous diseases In all cases the quarantined area was disinfected. First, by carefully ing down everything with a bichloride solution and then

TABLE SHOWING DEATHS FROM YELLOW FEVER IN THE CITY OF HAVANA.

Years	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878
Months																							
anuary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	20	32	7	16	24	8	26
February	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	13	23	4	16	24	9	13
March	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	4	27	18	32	29	11	5
April	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54	4	37	22	34	33	8	28
May	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91	13	127	85	32	103	16	53
June	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	201	68	378	172	142	292	143	184
July	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	234	68	416	361	187	675	249	504
August	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	138	70	127	416	144	250	285	374
September	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	72	59	35	186	102	97	234	179
October	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	38	28	91	109	42	185	106
November	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51	85	5	42	105	31	150	53
December	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	73	9	21	82	19	76	34
Totals	1309	2058	1396	1193	439	1020	1386	550	555	238	51	591	290	1000	572	991	515	1244	1425	1001	1619	1374	1559

Years	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Months																							
anuary	11	16	7	9	14	26	4	4	5	8	17	10	10	15	15	7	15	10	69	7	1	8	7
February	13	9	3	11	9	16	3	0	6	8	5	4	3	10	6	4	4	7	24	1	0	9	5
March	6	20	3	14	21	8	1	0	8	14	5	4	4	1	4	2	2	3	30	2	1	4	1
April	13	44	6	18	34	32	2	1	22	24	8	13	5	8	8	4	6	14	71	1	2	0	0
May	40	40	6	84	75	55	3	1	84	26	17	23	7	7	23	16	10	27	88	4	0	2	0
June	237	50	37	176	162	66	4	14	128	36	37	38	41	13	69	31	16	46	174	3	1	8	0
July	475	179	90	195	177	131	13	33	102	74	48	67	66	27	118	77	88	116	168	16	2	30	1
August	417	148	127	73	148	97	34	39	73	113	73	60	66	67	100	73	120	262	102	16	13	49	2
September	148	75	94	56	50	41	32	37	36	63	37	33	65	70	68	76	135	166	56	34	18	52	2
October	44	32	39	33	72	24	41	16	33	48	21	32	48	54	46	40	102	240	42	26	25	74	0
November	31	21	38	36	45	8	22	13	20	33	21	15	24	52	28	23	35	244	26	13	18	54	0
December	9	11	35	24	42	7	6	9	15	21	14	9	17	33	11	29	20	147	8	13	22	20	0
Totals	1444	645	485	729	849	511	165	167	532	468	303	308	356	357	496	382	553	1282	858	136	103	310	18

by filling all rooms with formalin gas, using a litre of the 40 per cent. solution to each 1000 feet of space disinfected. Fabrics of all kinds were taken to the steam disinfecting plant and there disinfected. Under this system we hoped to decrease yellow fever greatly and in the course of a few years to eradicate it from the city

The general sanitary measures adopted appeared to be rapidly decreasing the general death-rate. The general death rate in 1898 was 91·03 per 1000 in 1899 it fell to 33·67 and in 1900 continued to decrease to 24 40 But our work apparently had no effect upon yellow fever The winter epidemic of 1899 continued through the spring and summer, reaching in the fall the proportions of a sharp epidemic, even for Havana. We had during the year 1900 1244 cases of yellow fever with 310 deaths. All classes suffered, particularly the higher officials on the military governor s staff. The chief quartermaster of the island, the chief commissary for the island, and one of the aides of the military governor died from yellow fever

The Sanitary Department was much discouraged at the result of the work. It seemed to me that general sanitary measures could not be more extensively carried out than we had done during this year We had all the power of the military authority behind us and ample means During this year on the internal sanitation of houses, exclusive of street-cleaning disposal of garbage &c., we spent about $25,000 per month and employed some 300 men daily The general sanitary conditions were improving in the most satisfactory manner but we evidently had not produced the slightest effect upon yellow fever We commenced 1901 much discouraged, with the most unfavourable outlook as far as yellow fever was concerned. The non immune population was larger probably than it had ever been before. 26 000 immigrants had come into Havana during the year 1900 Yellow fever was in every part of the city The deaths from yellow fever in January and February were large and the probabilities all pointed to our having a more severe epidemic in 1901 than in 1900

The results of the investigations by the Army Board of the theory that the stegomyia mosquito was the only carrier of yellow fever first advanced by Dr Charles Finlay were published about this time. This work was so brilliant in its execution and so positive in its results that, as I look back now I am surprised that I was not at once convinced. But many years of contact with men engaged in the practical work of managing yellow fever and my own personal experience with this disease had so impressed me with the belief that fomites were the principal and practically the only carrier of the disease that I had scant belief in the mosquito theory But General Wood was determined that every possible measure should be taken for the reduction of the disease and he authorised me to go to any reasonable expense in providing for the destruction of mosquitoes, which I then considered only a possible and exceptional means of transmitting yellow fever But having undertaken it the department bent every energy to carrying it out thoroughly and as I look back I have the satisfaction of believing that we could not have carried it out more thoroughly even if we had known that the results would be what they have been.

In looking over the ground beforehand we concluded that for practical operations three fields of work had to be considered In the first place, to destroy all the stegomyia we could, so as to limit the number of insects capable of conveying the disease For it seems obvious that if we had no stegomyia we would have no yellow fever In the second place, to prevent the stegomyia from biting the yellow fever patient, because, if we could prevent the mosquito from becoming diseased we would also prevent yellow fever And in the third place to destroy all mosquitoes that had bitten yellow fever patients and thus become infected because if these are destroyed it is evident that the disease would be stopped.

With the object of reducing the number of mosquitoes an ordinance was issued requiring all people within the city limits to keep receptacles containing water mosquito proof. The city was divided up into districts and an inspector was appointed for each district who kept up a constant inspection, with the view of enforcing these ordinances. He was accompanied by men with oil-cans to pour oil into all puddles, cess pools, &c., about the dwellings and after sufficient notice had been given all receptacles in which larvæ were found were destroyed. All persons having larvæ on their premises were fined under the municipal ordinances. 50 men were employed in this work. 100 men during most of the summer were employed under proper superintendence in the suburbs, draining all pools and low ground and pouring oil into such places as could not be drained—that is during most of the past summer 150 men devoted their attention to killing mosquitoes in the larval stage.

To meet the second proposition—that is to keep the stegomyia from biting the infected man—all hospitals where yellow fever was received were ordered to be thoroughly screened, and this was at first enforced. In cases of yellow fever occurring in private houses the sanitary department screened them at public expense. Ordinarily within two hours after the report of a case of yellow fever the quarantined area was thoroughly screened. We kept a sufficient number of ready made screens on hand for the purpose and 30 men were employed in this work.

To meet the third proposition—that is, killing the infected mosquitoes—the infected building and all adjacent buildings were gone over from top to bottom with pyrethrum powder, 150 pounds on the average, were used in each case. This work was done in addition to the disinfection as carried out the preceding year While pyrethrum powder is not as good a mosquitocide as some other substances it is the least objectionable to the people whose dwellings are being fumigated. It causes no injury to fabrics and within four or five hours the room can be again occupied without discomfort. It, however does not kill all mosquitoes A good many of them are simply intoxicated and will revive if exposed to fresh air For this reason the mosquitoes have to be carefully swept up and destroyed. The houses contiguous to the infected house were gone over in the same way on the possibility of infected mosquitoes having escaped to neighbouring houses. Every room was carefully sealed and pasted just as we had done in using formalin. In this work some 40 men were employed during the summer We used a pound of pyrethrum powder to each 1000 cubic feet of air space.

In January 1901 we had 24 cases of fever with seven deaths—a large number for that month, in February there were eight cases and five deaths.

The mosquito work was inaugurated on Feb. 27th We went through March with only two cases, which occurred on the 2nd and 8th. I was much pleased with this but not particularly impressed, knowing that it might be a coincidence. We then went to April 20th without another case. This was unexpected particularly as the year had commenced so badly and as there was plenty of non immune material around The table will show that this condition of affairs had never been approximated before in Havana. On April 21st and 22nd there were two more cases, but under our system of disinfection the disease did not spread. I began to feel pretty certain by this time that the results were due to our mosquito work. On May 6th and 7th we had four more cases, but this focus was promptly controlled. We then went through the whole month of June up to July 21st before we had another case.

It was exceedingly important to have all cases reported so as not to let a focus get started and spread. A great element in the reporting of cases was to have as little opposition as possible on the part of the people. The fumigation for the mosquito caused very little inconvenience compared with the disinfection of fomites and after much discussion and deliberation with the officers in charge of the disinfecting work I determined, the latter part of June to do away with all sanitary measures against yellow fever except those directed towards the mosquito as the only means of the transmission of the disease.

These measures went into effect on July 1st and after that time nothing was sent to the disinfecting plant in yellow fever cases and at the infected point only measures looking to the destruction of mosquitoes were taken. The guard was still kept at the infected house, but the physician was allowed to specify a reasonable number of immunes who might go to and from the quarantined area. The guard was directed to see that the screen doors were kept closed and that the ordinary sick room hygiene was carried out.

About the middle of June a pronounced focus of yellow fever developed in Santiago de las Vegas a town about 12 miles from Havana. The successful management of this focus was another evidence of the efficacy of the methods adopted in Havana, but the length of this paper does not allow me to go into details of these cases. Santiago de las Vegas is a town of 5000 inhabitants, with a non immune population of 475. It is really a suburb of Havana and considerable numbers of people come and go every day Besides Santiago de las Vegas there were three or four other towns with direct communication that were having yellow fever about this time. We discovered nine cases that came into the city of Havana from Santiago de las Vegas during June, July, and August. As Havana had been entirely free from yellow fever during June I am inclined to think that Santiago de las Vegas was the point from which we became reinfected During July we had four cases in Havana, with one death, during August we had six cases with two deaths Becoming satisfied that we were being reinfected from outside towns I obtained authority from the Military Governor to place inspectors on all railroads coming into Havana from infected points These took the names of all the non immunes coming into the city and kept them under observation for a week. This worked very well in practice. All the cases known to have come into the city were reported by these inspectors

As the infection was severe in Santiago de las Vegas an appropriation of $4000 was made for the purpose. We adopted the same methods there as in Havana and at once controlled the disease The last case occurred in Santiago de las Vegas on August 31st A case from this point was reported on Oct 14th, but I, personally, do not think it was a case of yellow fever It was an exceedingly mild and doubtful case, though diagnosed as yellow fever by the board. On Sept 28th we had our last case in Havana. During October, December, and January we had none

The whole year has been very unusual in its yellow fever conditions and is far below any preceding year of which we have record in the number of cases which have occurred October and November have always been months when yellow fever was rife in Havana, and to have had none at all in these months in 1901 is remarkable During 1900 the general death rate had been greatly lowered by the sanitary work done, but yellow fever had not been much affected and we had a sharp epidemic In 1901 all the conditions were unchanged, except that work for the destruction of mosquitoes was carried out, with the result that yellow fever at once almost disappeared and really did disappear in the last three months of the year

I submit that this is evidence of the practical demonstration of the mosquito theory

Havana.

CASE OF RIGHT AORTIC ARCH WITH ABNORMAL DISPOSITION OF THE LEFT INNOMINATE VEIN AND THORACIC DUCT

BY S CAMERON,
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FEW parts of the human body are subject to such interesting abnormalities as are the pulmonary artery, the aorta, and its branches, and since the researches of Rathke, Allen Thomson, and others it has been possible to account for and to classify the vast majority of these abnormalities on embryological grounds It will be remembered that in the early fœtus the dorsal aorta is formed by the junction of the fourth arches on the right and left sides, and that a great portion of the fourth right arch afterwards disappears, the remnant forming the right subclavian artery, while the fourth left arch becomes the arch of the aorta The fifth right arch also disappears, whilst the fifth left arch is represented in the adult by the pulmonary artery and by the ductus arteriosus connecting that artery with the aorta The causes of variation from the normal are obscure, but it is a natural supposition that when inflammation or obstruction affects those vessels which should normally persist and causes them to atrophy compensation will be brought about by an increase in the size of the corresponding vessel on the opposite side. A certain degree of inherent instability in the development of the fœtal vessels must also be considered as existing apart from pathological causes.

The subject of the present irregularity was an adult male The position of the heart was quite normal and there were no irregularities of its valves, septa, arteries, or veins The ascending aorta, which was somewhat large, arose from the base of the left ventricle and took a course upwards and to the right, passing behind the sternum, crossing the trachea until it reached the level of the second dorsal vertebra on the right side. It here bent acutely backwards on itself, thus coming in contact with the right side of the third dorsal vertebra. The vessel was now directed gradually towards the middle line, but when it reached the level of the upper border of the seventh dorsal vertebra it described a gentle curve with the convexity towards the right side, till it reached the middle line between the twelfth dorsal and first lumbar vertebræ It will thus be observed that the vessel in its course arched over the root of the right lung The main arterial trunks were given off in the following order — (1) left common carotid, (2) right common carotid, (3) right subclavian, and (4) left subclavian It will be observed that the innominate artery was absent. The left common carotid was somewhat larger than usual and measured 14 centimetres from its origin to its bifurcation The right common carotid measured 11 centimetres These vessels pursued a normal course, as did also the right subclavian artery The left subclavian presented some points, however, which are of much interest, as noted above it was the last of these vessels arising from the aorta. Its origin was from a pouch like process projecting from the left side of the descending aorta. This pouch measured one and a half centimetres in length and equalled a normal common iliac in diameter It ran to the left side at right angles to the aorta, having the third dorsal vertebra behind it, while the posterior surface of the œsophagus rested on its anterior wall. This pouch presented several undulations on its posterior and under wall. At the point where the subclavian took its origin from this pouch the ductus arteriosus, which was very well marked and of large size, joined the pouch, thus connecting it with the left pulmonary artery The ductus arteriosus measured four centimetres in length. It was quite impervious and lay to the left of the œsophagus The pulmonary arteries were normal both in their relations and distribution. The subclavian after arising from the pouch ascended to gain the inner margin of the scalenus anticus There were two left bronchial arteries arising from the dorsal aorta, the left (upper) arising by almost a common origin with the fourth left intercostal artery There was one right bronchial artery which also arose from the front part of the descending aorta. The left innominate vein was of large size and began behind the inner part of the clavicle In its descent it passed forwards and inwards and came to lie immediately in front of the origin of the left subclavian artery from the

FIG 1.

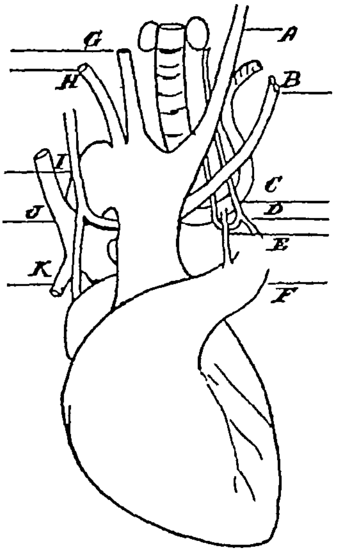

FIG 2

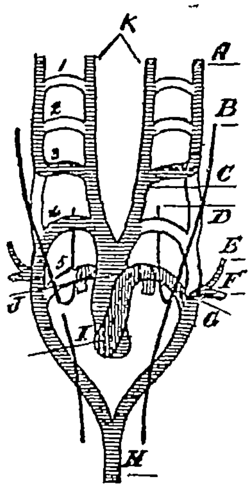

FIG 1 —Diagram of case recorded A, Left common carotid B Left innominate vein C, Left subclavian artery D, Left vagus nerve with recurrent laryngeal E, Ductus arteriosus F, Pulmonary artery G Right common carotid H Right subclavian artery I, Right vagus nerve with recurrent laryngeal J Right innominate vein. K, Vena azygos major

FIG 2 —Diagram from Quain showing the mode of development of the great arteries in the present case 1, 2, 3 4 5, The primitive vascular arches A, Internal carotid B, Vagus nerve. C Common carotid D, Recurrent laryngeal nerve E, Vertebral artery F, Subclavian artery G, Ductus arteriosus H Descending aorta I, Pulmonary trunk. J Ascending aorta K External carotid

pouch. It passed from here under the arch of the aorta and united with the right innominate vein at the right side of the arch of the aorta to form the superior vena cava, which opened as usual into the right auricle. Its tributaries were quite normal. The other venous trunks in the mediastina were normal. The left upper azygos vein was of small size. The left vagus nerve, descending in front of the left subclavian artery passed between it and the left innominate vein, and then took up its position behind the root of the lung It gave off the left recurrent laryngeal nerve immediately below the junction of the ductus arteriosus and the pouch from which the subclavian was derived. This nerve passed upwards and inwards curved round the ductus arteriosus and after passing superficially to the pouch it gained the space between the trachea and œsophagus and pursued a normal course to the larynx. The right vagus nerve crossed in front of the aortic arch supplying a right recurrent laryngeal nerve the course of which was in every way normal. The right vagus as usual passed behind the root of the lung The thoracic vertebræ described a convexity towards the right side which fact has also been noted in cases of right aorta by Otto and Turner and so that it would support the argument of those anatomists who hold that such a curve is not formed by impulses transmitted to it from the aorta. The thoracic duct in its entire extent lay in the left posterior medastinum, at no point passing to the right of the middle line its termination was normal in all respects. *There was no transposition of the viscera*

The case which is here reported is of rare occurrence and represents atrophy of the fourth left arch with persistence of the right arch and right and left aortic roots. In Sir William Turner s able article in the *British and Foreign Medico-Chirurgical Review* vol. xxx 1862, he divides the class of case which is being dealt with into three groups according to the variations in the condition of the fifth left vascular arch. In his own words It will therefore be advisable to consider them under distinct heads which will be distinguished from each other by different states of the ductus arteriosus—(1) cases in which the ductus arteriosus is quite patent (2) cases in which the ductus arteriosus is atrophied to a mere fibrous cord (3) cases in which the ductus arteriosus is altogether absent.' This case comes under the second head, and is similar to cases reported by Fiorati and Sandifort[1] by Mr Ewen[2] and by Sir William Turner[3] A similar case is also figured in Quain s Plates.[4] The present case corresponds as far as the arterial distribution is concerned with that of Sir William Turner The chief point of difference is in connexion with the left innominate vein This vein bears a relation to the aorta, as will be observed above which I do not think has been noted in connexion with any irregularities of the aorta or its branches or even in subjects in which the arterial system is quite normal. The course of the ductus thoracicus, which *was wholly in the left posterior mediastinum, is stated by* Quain to be a very rare occurrence. In the cases of right aortic arch previously recorded no such course of this duct has been ob erved, so far as I am aware. The explanation of the arterial irregularities will be readily understood from the accompanying diagram but the course of the innominate vein cannot be so easily explained It is probably not a point of much embryological importance as in the embryonic condition the left innominate vein is merely a communicative branch and not a primary venous trunk

Some of the points which should be noted in this case are—(1) the arching of the aorta over the right bronchus and its descent for the most part in the right posterior mediastinum (2) the absence of the *innominate artery* (3) the origin of the left subclavian artery from the pouch like trunk on the left side of the descending aorta (4) the fact that a vascular circle is formed round the trachea and œsophagus, and (5) the large but impervious ductus arteriosus uniting the pouch and left pulmonary artery

These points were all noted in Turner s case but in no cases of right aortic arch has the peculiar course of the left innominate vein under the arch of the aorta been noted as in the present case and the rare course of the thoracic duct through the left posterior mediastinum is also worthy of notice.

Glasgow

THREE CASES OF ACTINOMYCOSIS

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THE occurrence of three cases of actinomycosis at one time in a hospital of 150 beds is sufficient reason for reporting them for the disease is still considered rare.

CASE 1.—A London policeman, aged 22 years was seized with acute pain in the right iliac region on April 28th 1900 He was admitted a week later into the Westminster Hospital. After nine days an abscess was opened which was considered to be due to suppurative appendicitis. During the next eight months several incisions were made in the loin and back and in the neighbourhood of the original incision which showed no sign of healing A dental abscess was also opened. As no evidence of the presence of actinomyces was discovered the disease was at length supposed to be of tuberculous origin. On admission to the Royal Sea Bathing Hospital Margate, on Dec. 3rd several indolent sinuses were present in the right iliac fossa and in the right loin, from which there was a slight amount of discharge containing actinomycotic granules. On the 25th dulness was found on percussion at the right base. Exploration proved the absence of effu ion At the left base auscultation revealed small patches where the lung tissue appeared to be breaking down. A week later cough came on and in a few days two or three pints of purulent sputum containing abundant granules were expectorated without any change in the signs at the right base. The fungus was soon afterwards discovered in pus pressed from a small sinus by,the side of a carious bicuspid. During the next few months emaciation steadily increased accelerated by several attacks of diarrhœa. Blood was present in the stools from time to time, but granules were not detected until August, 1901. Incisions were repeatedly made into new subcutaneous collections of pus in the back Hæmorrhage was always free on these occasions and tended to persist, especially from one sinus which passed deeply *into the region of the left kidney The presence of the* fungus was readily demonstrated in each new abscess Pain in the head and across the loins and hips was marked at times and survived all drugs but morphia. Progress was constantly downwards until death occurred on Nov 20th Several three-week courses of iodide of potassium were given (90 grains daily) without any evidence of beneficial effect indeed the patient s general condition was always worse during the use of this drug The sinuses were occasionally opened up and pure carbolic acid was applied. Surgical treatment of a more radical nature was not possible.

At the post-mortem examination it was found that the lower lobe of the left lung was congested and that there were old pleural adhesion. In the left lower lobe the pleura was *adherent in places where there were several small sinuses* connecting abscess cavities in the back with deposits of the fungus close to the surface of the lung Protruding above the surface in the vicinity were several actinomycotic colonies about a quarter of an inch in diameter Infection of the lung had apparently taken place through the thoracic wall The capsule *of the left kidney was adherent below* and behind where there was an abscess cavity leading through the left loin to the surface. There were three deposits of actinomyces in the lower third of the organ, the pelvis of which contained pus. The appendix except for adhesions, was normal No ulceration was found anywhere in the small or large intestine, a few granules were present throughout, free in the lumen of the bowel *The right iliac* abscess was entirely retro-peritoneal and communicated with the sinuses in the back Advanced lardaceous change was found in the liver spleen, and kidneys

CASE 2.—The patient was a London coalheaver aged 27 years. His illness began in the middle of September, 1900 with pains in the right side, right loin and groin whilst walking Constipation was troublesome. He was admitted to the London Temperance Hospital on Nov 2nd with an indefinite swelling in the right side of the abdomen. In mid December there was a definite tumour of the size of a closed fist to be seen and felt in the upper part of the right iliac fossa. On Dec. 27th an inci ion was made over the iliac crest, which appeared to be bare and pus escaped. The patien had gained four and a half pound in weight si e admis sion. There was pyrexia throughout January and steady loss of weight. Early in February another fluctuating swelling appeared in the right groin and from this two ounces of pus were evacuated At the end of February the temperature was always above normal. On the 25th granules were detected and the patient was at once given 60 grains of potassium iodide daily This dose was soon raised to 90 grains Two months later he was sent to Margate Here he continued to lose ground steadily Several incisions were made in the thigh and back, the escaping pus being highly offensive After a second attack of diarrhœa the patient became very much worse and died with symptoms of general sepsis on May 24th.

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[1] Museum Anatomicum vol I p 273.
[2] Guy's Hospital Reports 1840 p. 233.
[3] British and Foreign Medico-Chirurgical Review vol. xxx., p. 1862.
[4] Plate vii., Figs. 1 1 b.

At the post-mortem examination the appendix was found deeply hidden beneath coils of adherent intestine and was surrounded by an abscess extending into the psoas and the muscles of the anterior abdominal wall. This communicated with the sinuses in the groin, right iliac region and back Septic peritonitis had followed the yielding of adhesions between the coils of bowel, probably during the recent attack of diarrhœa. There were no granules found anywhere except in the pus in the sinuses mentioned above The mucous membrane of the intestine was apparently healthy everywhere. The liver and kidneys showed fatty degeneration, the spleen was considerably enlarged At the base of the right lung there were recent adhesions and a few ounces of fluid. The latter were caused by perforation of the chest wall from without by an abscess in the back.

CASE 3—The patient, the daughter of an East-end labourer, was 14½ years of age She was admitted to the London Hospital on April 6th, 1900 Abdominal pain and vomiting ushered in the disease early in January The vomiting soon ceased but the pain continued and became worse on March 25th Dysuria was also present On admission a hard swelling was found rising up out of the pelvis and reaching to within two inches of the umbilicus It was situated more on the left than on the right side There was a small lump in the right hypochondriac region. On examination per vaginam the cervix was found to be drawn up The swelling appeared to be connected with the uterus The operation showed the uterus to be normal and the swelling to be confined to the abdominal wall A hard inflammatory condition was discovered with a little pus Temporary incontinence of urine followed the operation and several slight fits occurred the next day Early in May a hard swelling appeared to the right of the median wound On May 16th cultures were made, no tubercle bacilli were found, nor was there evidence of actinomycosis A nightly rise of temperature began in June, but there was little change in the patient's general condition On June 5th the patient was removed to the Royal Sea Bathing Hospital. One or two small, almost translucent, granules were found which on microscopic examination proved to be actinomyces Iodide of potassium was immediately given, 60 grains daily, without effect In July an abscess under the iliac crest was opened but no granules were detected The patient did not gain weight and remained depressed and ill. In the middle of September she was received back to the London Hospital. A new tumour arose in the right iliac fossa and increased rapidly in size until it reached nearly to the umbilicus It was apparently closely connected with the anterior superior iliac spine On Oct 1st the anterior abdominal wall was involved. Leave for operation was refused and the patient was discharged. No granules were recognised during her short stay In December a visit to her home found her under the care of the Canning Town Medical Mission, by whose kindness I was again able to find the fungus in pus from the large abscess which had spontaneously opened A month or two later an abscess was incised in the right loin. Diarrhœa increased the cachexia and in May the patient died after an illness lasting over two years Unfortunately, no post-mortem examination was made.

The following points seem worthy of note First, the resemblance between the three cases and some in the series reported by Mr Godlee in THE LANCET of Jan 5th, 1901, p 3 Secondly, the tendency of the pus to avoid artificial channels and to track or to gravitate towards the loin, free drainage is insufficient treatment. It is conceivable that light hinders the growth of the "fungus" It would be interesting to know the effect of Roentgen or Finsen rays in cases where the skin is involved. Dental surgeons have sometimes opportunities of early diagnosis upon which the life of the patient depends In Case 1 it is probable that the jaw was first infected The necessity for repeated examination of pus in cases of obscure abdominal abscess has frequently been emphasised, so has the uselessness of iodide of potassium in the later stages of the affection In a disease of such malignancy surgical treatment should be radical if drug treatment prove unavailing after fair trial

I am indebted to Mr A. H Tubby, Sir W J Collins, and Dr G E Herman for leave to use notes kindly supplied by Mr H. Halliday and Mr J H Rhodes Mr W. Knight Treves and Dr A. Rowe were in charge of the patients at the Royal Sea-Bathing Hospital, Margate, and gave me ready permission to publish their cases To my successor, Mr R J Lambart Sladen, my thanks are due for completing the notes.

Evelina Hospital, Southwark, S E

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

CONCERNING THE AURICULAR REFLEX

By WALKER OVEREND, M A., M D OXON,
LATE RADCLIFFE TRAVELLING FELLOW AND SENIOR PHYSICIAN TO THE TOTTENHAM HOSPITAL

IN a short communication from Mr E Donaldson[1] a reflex movement of the auricle of the ear is described which was observed by him in May, 1902. In a case of apparent hyperæsthesia of the external auditory meatus under his care the insufflation of a powder was followed by a movement of the auricle The puffing of air alone was also found to produce the same effect In a paper on the frontal or supra orbital reflex[2] I described, incidentally, this movement which, as a matter of fact, I have observed for several years As therein stated, at times the reflex follows *gentle* stroking of the skin in front of the meatus—that is, in areas supplied by the auriculo temporal nerve The attollens aurem is the muscle usually involved, inasmuch as the movement is generally in an upward direction, and the efferent nerve of the reflex arc is the small occipital. I pointed out that the reflex is more readily obtained in adults by tickling the skin just within the external auditory meatus opposite the tragus The movement is more lively in children and is obtainable in about one third of the subjects examined. I find that although a puff of air from an indiarubber ear syringe, as Mr Donaldson states, is quite effectual, still the quick and sudden contact of a camel-hair brush is much more so To avoid all voluntary movement I direct that the jaws should be kept firmly and tightly closed

A proof of the true reflex nature of the movement is the fact that the *opposite* ear, as a rule, is simultaneously elevated The effect very soon vanishes, it is not possible to obtain it a second time immediately after the first movement. It is necessary to wait for a few minutes before the reflex can be again elicited. Either the will inhibits the movement, or the muscle, as one might indeed expect, since its fibres are seldom active, becomes fatigued After some education and practice the response becomes more lively, more pronounced, and easier to obtain

Clacton-on-Sea.

A NOTE ON THE HISTOLOGY OF X RAYED LUPUS VULGARIS

BY GEORGE PERNET, M R C S ENG, L R C P LOND,
LATE PATHOLOGIST HOSPITAL FOR DISEASES OF THE SKIN BLACKFRIARS, LONDON

I AM indebted to Sir Victor Horsley for the opportunity of examining microscopically x-rayed lupus vulgaris tissue, which was freely excised from the frontal region of a man, aged 26 years, for purposes of Wolff grafting—i.e, with the whole thickness of skin down to the subcutaneous fat. The area had been subjected about six months previously to 14 daily consecutive exposures to the Roentgen rays According to the patient the duration of each exposure was about from 10 to 15 minutes with the tube an inch or two from the head. Briefly the history of the case was that the patch had commenced at the age of eight years, two other patches on the scalp and *inner part of the right thigh respectively* appearing at the same time. (Involvement of the scalp is unusual and deserves to be insisted on here, at some future time I shall examine the diseased scalp tissue.) The patch on the forehead had been scraped then treated with plasters followed by formalin to the fresh nodules As a result of the x raying the parts became inflamed and discharged yellowish-green matter at first, followed by watery oozing It took three months for the area to heal. A few days before the operation by Sir Victor Horsley the patch on the forehead exhibited a certain amount of cicatrisation about the central *parts, but the edges all round presented characteristic* apple-jelly nodules and solid granulomatous infiltration. An examination of portions of the diseased frontal patch cut in paraffin and in celloidin and stained in various ways led to the following conclusions. In the more central parts of the patch the collagen was disjuncted and to some extent disintegrated, especially in the upper layers of the corium, and had undergone a certain amount of collastin change [1] The elastin was sparsely distributed and where present, the fibres were in many instances broken up the greater part of this tissue had, however been destroyed. There was very little of it in the upper part of the corium and none in the papillæ. The sweat glands showed surrounding infiltration and signs of disintegration. The hair follicles and sebaceous glands had also apparently disappeared but in one section a portion of destroyed hair could be seen lying in the sac-like remains of a follicle. The subcutaneous fat cells were in parts irregular and their nuclei were gone in others they were normal A large vessel in this stratum showed thickening of its walls and contained red blood corpuscles and leucocytes, with some emigrated leucocytes outside. In places there was a fibrous change in the upper layers of the corium.

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[1] THE LANCET August 23rd 1902, p 506
[2] THE LANCET, Jan 25th, 1902, p 219

There were numerous plasma cells in groups and rows in various parts of the sections from above downwards, and some of these plasma cells were even present deep down in the muscle tissue, which in a few isolated instances had been apparently disintegrated by foci of granulomatous new growth *This is an interesting point and may perhaps*, explain why recurrence occurs even after what appears to be thorough scraping and cauterisation. In the same way it may explain the recurrences which occur after exposure to x rays or the Finsen light. For be it noted the sections which I am referring to were not from the obviously diseased periphery of the patch.

The plasma cells themselves did not all appear to stain in as characteristic a manner as usual, the nucleus in some instances appearing shrunken. There were also what appeared to be naked nuclei and daughter plasma cells were also present. The epidermis was preserved but thinned in some sections, absent in parts in others, but the latter was perhaps due to the cutting as it was readily separated from the subjacent corium, which presented here and there a frayed appearance where the epidermis was missing

Upper Gloucester-place N W

A CASE OF PARALDEHYDE POISONING

BY ARTHUR H. M. SAWARD M R.C S. ENG. L R.C.P LOND

HAVING had occasion lately to use paraldehyde which caused an erythematous rash I am led to publish some notes of a case that came under my notice where a large dose of the drug was given to a patient by misadventure. The following is the history of the case.

A married woman aged 43 years was suffering from carcinoma of the uterine cervix *and* was *in an extremely* excitable condition from insomnia and delusions, also at night time she was especially noisy and intractable evidently on account of the pain caused by the cancer As she had previously been freely dosed with narcotics and hypnotics it was found necessary to continue the use of such drugs but the administration of morphia or opium was contraindicated owing to the urine being albuminous. The pupils were contracted and the pulse was slow Trional was therefore employed, but as this drug only produced sleep for short periods the following prescription was ordered (the patient at the time being still extremely noisy) one drachm each of paraldehyde and syrup of orange-peel and water to one ounce but by misadventure she was given an ounce of pure paraldehyde at 12 midnight and the error was neither discovered nor even suspected until some seven hours afterwards. Upon being given the incorrect draught the patient struggled violently and was with great difficulty made to swallow it. A quarter of an hour later the breathing became somewhat irregular and the patient's mouth and larynx full of a thick ropy mucus the latter was all swabbed out and the breathing then greatly improved. As the patient was also suffering from bad stomatitis it was now thought that some of the draught (as ordered) had *entered the lungs during the struggling when it was admini*stered. At 1.15 A.M the breathing was still rapid and irregular 32 respirations to the minute, but the pulse was fairly strong (114) the patient, however seemed half choked with mucus, was becoming somewhat cyanosed, and the tongue was very red and swollen The mouth was again swabbed out with relief. The patient was now semi-conscious fairly sensitive to pain but made no voluntary movement. However she was easily roused by shouting pinching &c. The pupils were variable in size but reacted both to light and to accommodation At 2.15 A.M she was given a hypodermic injection of three minims of liquor strychninæ with two minims of tincture of digitalis which greatly improved both the respiration and cyanosis but half an hour later the breathing again became rapid and irregular with long inspiration and short expiration. The lips were pale and the mouth was dry and free from mucus. The pulse was regular *(124)* but the patient was quite unconscious. The pupils were contracted and the corneal reflexes were completely lost. At 3 30 A M the breathing was still shallow more ropy mucus appeared in the mouth the pulse was still 124 but the patient was more conscious and slightly sensitive to pain at this time there was an involuntary slight action of the bowels. After this she became somewhat restless, tossing about and moaning occasionally, the pupils were dilated but not reacting to light. The pulse was good and the respirations were much quieter continuing in this condition until 7 30 A M. when she again became cyanosed, the pulse feeble and rapid and the skin hot and dry with very shallow respirations. At this period of the case the unfortunate mistake in the composition of the draught was discovered but it was then deemed too late to give emetics or to wash out the stomach so amyl nitrite was at once inhaled and five minims of liquor strychninæ were given hypodermically, *followed by a hot coffee enema these* remedies greatly improved both the pulse and respiration but the patient still remained somewhat cyanosed with rapid and shallow breathing She was then given diffusible stimulants in the shape of ammonia and ether with brandy and hot water by the mouth but as these were swallowed with difficulty brandy (20 minims) was subcutaneously administered For some hours she continued in a very drowsy state the temperature reaching 100° F with a pulse rate of 116 and a respiration rate of 28. Still being unable to swallow anything she was given a nasal feed of eggs milk and brandy and a further hypodermic injection of strychnine. Later in the day she was able to swallow liquid but at night the nasal feed and strychnine were repeated. In spite of this she continued to be drowsy throughout the following night, requiring more strychnine early in the morning of the second day but after this she made rapid progress and was *able to take plenty of nourishment by the mouth* The stupor gradually left her and in another 24 hours she had completely recovered from the evil effects of the undiluted paraldehyde.

Dr W Hale White in his book on Materia Medica states that "even large doses do not affect the gastro-intestinal tract heart, or respiration but enormous doses of paraldehyde weaken the action of the heart and kill by paralysis of the respiratory centre He further says that paraldehyde in toxic doses paralyses the anterior cornua of the spinal cord thus it abolishes reflex action and causes paralysis but does not affect nerves of muscles" In the case related above there was never any definite paralysis except for the short time when the corneal reflex was lost neither was there any marked effect on the gastro-intestinal tract No vomiting occurred at any time and the bowels were only opened once slightly in fact, a soap enema had to be given to empty the rectum The most prominent symptoms in the case were those due to the heart and respiration. As the official dose of paraldehyde is given as from half to one and a half fluid drachms I do not think that it is an exaggeration to say that the ounce given by misadventure in the present case may be reckoned as an enormous dose, and I think that it is only due to the inured state of the patient to narcotics and hypnotics that no further or fatal symptoms intervened on this occasion I take the opportunity of reporting this case as poisoning by paraldehyde is rather a rare occurrence and I do not see much mention of it in the present-day text-books

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[1] Krzysztalowicz cited by Ledermann and Blanck Die Mikroskopische Technik im Dienste der Dermatologie (Dermatologische Zeitschrift, Band ix. 1902)

Upper Norwood, S E

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed et Caus Morb*, lib iv Proœmium

SHEFFIELD ROYAL INFIRMARY

A CASE OF PERFORATED DUODENAL ULCER, CŒLIOTOMY WITH SUBSEQUENT GASTRO JEJUNOSTOMY, RECOVERY

(Under the care of Mr ARTHUR CONNELL)

DUODENAL ulcers are probably not so rare as is usually imagined, for the symptoms are not so definite as are those of ulceration of the stomach When perforation occurs a diagnosis between these two forms of ulceration is hardly possible, but early laparotomy is the only treatment in both conditions

A man, aged 24 years, was admitted into the Sheffield Royal Infirmary on Feb 10th with symptoms pointing to perforation of a hollow viscus For the last 14 years the patient had suffered from gastric disturbance, the more prominent symptoms being epigastric pain, coming on from one and a half to two hours after meals and at times accompanied by vomiting which greatly relieved both the pain and the discomfort. There were well marked dilatation of the stomach and epigastric tenderness, but at no time was Dr W S Kerr (to whom Mr Connell is greatly indebted for these notes) able to feel a tumour More recently the pain had come on immediately after food There had never been any sign of hæmatemesis, jaundice, or melæna The patient had been suffering acutely for a few days before Feb 10th and *had been fed by nutrient enemata.* At about 5 A.M that morning he was seized with a very sudden and acute pain in the epigastric and right hypochondriac regions and became exceedingly restless, sweating profusely He was seen soon after by Dr Kerr who on examination diagnosed ruptured ulcer, and with as little delay as possible sent him to the infirmary On admission it was seen that the man was suffering from shock and was evidently in great pain The pulse was 108 and soft, the temperature was 96° F, the face was pinched, and the respirations were thoracic The appearance of the abdomen was "full" but with no apparent movement, and on gentle palpation the recti in the epigastric region were held quite rigidly, this manipulation evidently causing the patient increased discomfort. The liver dulness was not obliterated although there was increased resonance over the whole abdominal surface

An operation was performed at 10 15 A M on Feb 10th Ether being administered an incision was made in the middle line, beginning below the ensiform cartilage and continued down for about three and a half inches. On opening the peritoneal cavity the stomach presented and was found to be distended. There was in addition well-marked gastroptosis The liver was now gently raised so as to expose to view the right third of the stomach and duodenum, with the next inspiration gas was seen to escape, being evinced by the bubbling of the extravasated mucus, &c There were no adhesions The surrounding area was immediately cut off from the general cavity by sterilised gauze. The liver being held up the stomach was gently drawn downwards and to the left when a circular perforation, about a quarter of an inch in diameter, was found in the first part of the duodenum towards its upper and posterior surfaces The pyloric portion of the stomach was considerably thickened and a probe passed through the perforation into the stomach demonstrated an exceedingly narrow pyloric orifice. After carefully cleaning the area by mopping the perforation was closed by a double row of fine silk sutures A light gauze drain was placed in position, beginning near the closed perforation and carried out through the wound superficially It was removed 36 hours afterwards The abdominal wall *was closed in the usual manner except where the gauze* drain issued Before closing the abdominal wound the flanks were carefully inspected but no trace of fluid or recent lymph was found

There was nothing of special interest to note in the progress of the case after this operation The patient was fed by nutrient enemata and was allowed small quantities (two drachms) of water by the mouth, his thirst being quenched by saline injections per rectum Two weeks after the operation he was allowed soft bread crumbs and milk and his diet was gradually increased but never exceeded boiled fish Up to March 22nd the patient *progressed very favourably*, but in spite of a restricted diet there was discomfort never amounting to pain. On examination there was still evident dilatation of the stomach Given, then, the patient's discomfort on such a diet and his desire to eat more solid material, with the conditions found at the operation—viz, pyloric obstruction of an inflammatory character, with gastric dilatation, *plus* gastroptosis—he was advised to submit to a second operation. On the 22nd, under ether, the abdomen was opened below and to the left of the original wound, through the left rectus which was split longitudinally with the handle of the scalpel Anterior gastro jejunostomy was performed, the patient being kept on the table only half an hour this time He rapidly recovered from the immediate effects of this operation, but, as so often happens after gastro-jejunostomy, he continued to vomit every other day for about a fortnight He left the infirmary on April 24th feeling "first-rate' When seen on June 9th he said that he had put on half a stone in weight and could eat "anything," and had not the smallest discomfort. He certainly looked remarkably well and stated that his work was a pleasure to him

Remarks by Mr CONNELL.—It is somewhat rare for the surgeon to be called upon to operate for perforation of the duodenum caused by ulceration similar to that met with in the stomach, but in the above case not only was there perforation in the duodenum but a condition of the pyloric end of the stomach to which one was easily able to attribute the various symptoms complained of and to urge operative interference after the primary operation for closure of the perforation

Nothing adds to the successful issue of grave lesions of the upper part of the alimentary canal more than the early recognition on the part of the medical attendant of symptoms pointing to such a condition as perforation, and this is such a typical case of its kind that one cannot fail to appreciate the predominant characteristics First and foremost amongst the earlier symptoms which should not be lost sight of in this or any other case are the presence of pain of whatever degree—continuous or intermittent—vomiting, and wasting—symptoms which appear to have dogged the existence of this man for 14 years with never an attack of hæmatemesis, *melæna*, or jaundice as far as one can elicit.

These earlier symptoms, coupled with a careful examination of the epigastric region in particular, which will always yield the unmistakeable sign of tenderness, amounting to pain, if the lesion is more intense, must of necessity compel one to diagnose ulceration either in the stomach or just beyond and accordingly influence the future treatment of the case But with the sudden onset of excruciating pain and its attendant shock which profoundly affects the general system there can be only one opinion—perforation Unfortunately, however, there are those who, in spite of such phenomena, fail to make a diagnosis and have recourse to morphia with a view of quieting the patient and so giving them more time to consider the case, which otherwise means a greater chance of general infection of the peritoneal cavity The surgeon is then placed in the hapless position of either refusing to operate on a moribund narcotised patient or attempting an operation which in the great majority of cases must of necessity end in disaster It has been my misfortune quite recently to see the patient in a case of perforation of a small ulcer of the stomach die for want of early surgical interference where the case was seen immediately after the perforation—i.e. if we judge from the history which was absolutely typical a large dose of morphia administered and the friends recommended to wait. The diagnosis was verified post mortem I think the surgeon cannot plead too strongly that morphia should be withheld until he has seen the case, for I hold that the patient will have a far better chance and the surgeon, too is far more likely to make a correct diagnosis, which means that his treatment—operative interference—is more likely to be effectual.

Gastro-jejunostomy was performed here for the following reasons, *especially (1) because of the considerably narrowed* pyloric orifice, (2) the presence of ulceration of the duodenum, and (3) the persistent discomfort felt even after a restricted diet.

HUNTINGDON COUNTY HOSPITAL

A CASE OF ADDISON'S DISEASE, WITH HYPERPYREXIA.

(Under the care of Mr H LUCAS.)

ADDISON'S disease is usually unaccompanied by any elevation of temperature, and therefore the following case is of interest. The very remarkable temperatures recorded would in themselves suggest doubts as to their genuineness especially as the pulse-rate was not increased, but care seems to have been taken to eliminate this source of error For the notes of the case we are indebted to Mr Jehan M Barlet, house surgeon.

A woman aged 39 years was admitted into the Huntingdon County Hospital on April 2nd 1902 complaining of great pain in the region of the kidneys with marked bronzing The patient's brother died two years ago from phthisis, five other brothers being alive and well. She was perfectly well until August, 1898, when she was suddenly seized with acute pain in the back after a hard day's washing This pain radiated round to the epigastric region and was accompanied by diarrhœa and vomiting and a feeling of languidness and later patches of yellow pigmentation appeared which became gradually darker in colour She was in hospital in 1898 but went out fairly well and had been able to get about until August 1901 when the pain increased as also did the pigmentation, and there was a recurrence of the diarrhœa and vomiting

On admission the patient was very bronzed especially about the nipples, axillæ, and face. There was great pain on pressure over the region of the kidneys, especially upon the right side, where there was a tender spot anteriorly corresponding with the right kidney She had slight attacks of headache and dizziness occasionally All the other organs were normal. The urine was normal. There were no cerebral symptoms The bowels were very constipated and there was no vomiting Now comes the extraordinary part of the case. On admission her temperature was 99·6° F but this gradually rose by morning rises and evening remissions to 103·4° on April 8th when she was put on a four hourly chart which showed a temperature of 105·6° at 10 P.M The temperature then kept between 101° and 103° until 2 A.M on the 10th, when she had a rigor with a temperature of 109° followed by profuse sweating and a fall to 100·2 From then till the present time (June 14th) the following temperatures have been recorded 107° 12 times 108° three times 109° seven times 110 six times 111° once and 111·6° once These temperatures were verified by being taken in the rectum so preventing the possibility of faking" Another interesting point is that when these elevations of temperature occurred, which, by the way was usually at 10 P.M or 2 A.M there was no increase in the pulse rate—for instance, in the highest temperature at present recorded in her case the pulse-rate was 68 to the minute and this temperature fell to 100° in half an hour On questioning her as to her feelings she said that she felt as if she were going to die but she felt no pain anywhere.

Remarks by Mr BARLET —The question arises as to the cause of these elevations of temperature. I think without doubt that they are due to some nervous influence, but whether they are caused by irritation of the semilunar ganglion and the sympathetic system, thus acting upon the thermogenetic centre I am not prepared to state and should very much like to hear some opinions on this subject. I have to thank Mr Lucas for permission to publish this case.

Reviews and Notices of Books

Nothnagel's Encyclopedia of Practical Medicine (Diphtheria Measles Scarlatina and German Measles) Edited with additions, by WILLIAM P NORTHUP M.D Authorised translation from the German under the editorial supervision of ALFRED STENGEL, M D London and Philadelphia W B. Saunders and Co. 1902. Pp. 672.

THIS volume is distinguished from others of the series which have so far been published by the substitution of an article on Diphtheria by an American author—namely, Dr W P Northup—in place of a translation of the original article as it stands in the German edition. This departure from the course heretofore pursued has been necessitated by an arrangement entered into by the German author to issue a translation of his article independently of the series. Apart from any sentimental regrets which may attach to a proceeding which severs the traditions of Nothnagel's Encyclopedia on the score of efficiency and completeness there is no reason whatsoever to deplore the change. Dr Northup is an acknowledged authority on the subject of diphtheria, a writer of experience and erudition and his well known association with Dr. Joseph O'Dwyer in the practical development of the method of intubation necessarily imparts a distinctive interest to this article and justifies the honourable inclusion of his name on one of the title pages of a work which among those of other contributors contains the names of von *Jürgensen Immermann,* von *Liebermeister Ehrlich and* Stiker

Confining ourselves for the present to the consideration of Dr Northup's article we may proceed at once to the observation that the method and style which characterise his contribution are thoroughly representative of the best examples of American authorship Free from the hidebound conservatism which detracts so largely from the value of much of our own British medical literature, steadied by the weight of German philosophic thought, and brightened with the leaven of transatlantic originality this article on diphtheria is not only practically and substantially sound, but also delightfully illuminating and suggestive reading After briefly epitomising the history of the disease the author immediately proceeds to the consideration of the various etiological factors which determine its development. The bacteriology of diphtheria, in conformity with the importance and interest which attach to this side of the question occupies the position of honour and the lion's share of the pages devoted to the subject of pathogenesis As the result of the early studies of Klebs Löffler and later of the researches of Roux and Yersin the specificity of the Klebs-Löffler bacillus is considered by Dr Northup to have been established beyond a doubt, for the reason that it has been repeatedly proved to fulfil the conditions required of all organisms if they are to be accepted as specific excitants of infective disease. The respective claims of the monistic and dualistic *schools are considered in some* detail and as representatives of the former school of thought Gorham and Westbrook are freely quoted, and their work on the morphological characteristics of diphtheria bacilli is fully described and illustrated by a plate Westbrook, whose work has been extended and confirmed by Gorham, divides all diphtheria bacilli into three groups—the granular barred, and even staining *Their united observations show* that, as the result of the examination of 2375 cultures taken from persons who were healthy, whether disposed to diphtheria or not, the changes from the solid type develop under the influence of the body fluids of persons immune or becoming so. Interesting as these researches are from the morphological side, they contribute little to our knowledge of the respective virulence of the various types or of the causes which lead to variations in the degree of virulence Although Dr Northup gives guarded judgment in favour of the dualistic theory he is quite fair to the claims of the opposite school, to which, by the bye, he seems shy of applying the term monistic Why this should be it is difficult to understand, the term is a good one and obviates the necessity of a cumbrous paraphrase Moreover, it has been sanctioned by no less an authority than Hueppe himself As a means of distinguishing representatives of the pseudo-diphtheritic and true diphtheritic classes of bacilli the author suggests the following tests A given diphtheria like bacillus which produces little or no acid in bouillon cultures, which shows no, or only atypical polar granules in a 12 to 24-hour old blood serum culture, and is non pathogenetic for guinea-pigs, may be safely classified as belonging to the great class of pseudo diphtheria bacilli. These distinctions, though of the greatest practical value in formulating rules, for instance, in regard to isolation and treatment, would probably not be accepted as absolute by the adherents to the monistic theory The pathology and symptoms need not detain us The method in which these parts of the subjects have been handled conforms to the description which we have applied generally to Dr Northup's contribution On the chapter which is devoted to treatment and which adequately describes the results and applications of antitoxin treatment and the operation of tracheotomy it may be safely assumed that the interest of readers will be mainly centred, for in this chapter 15 pages are devoted to the subject of intubation, and it is written with the authority of a co-deviser of the method and by one whose experiences in the developments of the practical uses of the O'Dwyer tube are probably unrivalled. This section of the article is most profusely illustrated with photographs and skiagrams of the method of inserting the tube and of the tube itself *in situ* The technique of the operation is admittedly difficult, but so far as any written description can teach us to apply the method that which is supplied in this volume may be considered as most satisfactorily fulfilling its object. A special section is devoted to the consideration of the question whether tracheotomy or intubation should be the operation of election However, since the combined use of antitoxin and intubation are now so generally considered adequate means of meeting the emergencies incidental to diphtheria there is no need to follow Dr Northup in his vindication of a practice which he has been so largely instrumental in perfecting It is satisfactory, however, to know that in this volume of Nothnagel's Encyclopedia is to be found a very complete and lucid account of the operation.

More than half the space at our disposal for the purpose of this review has already been devoted to the consideration of the article on diphtheria. Apart, however, from the fact that the excellence of the contribution warrants this preferential notice, it is probable that the remaining articles on scarlet fever, measles, and German measles are more or less familiar to our readers either by reason of reviews or by reference to the original German edition The articles which are devoted to these representatives of the group of acute exanthemata are from the pen of Theodor von Jürgensen and they have been translated by Dr W P Northup, who has availed himself in several noteworthy instances of the general permission conceded by Dr A. Stengel, the editor in chief, and by Professor Nothnagel, the editor of the German edition, to make such additions to the original articles as may seem necessary to bring the articles fully up to date and at the same time to adapt them thoroughly to the requirements of American or English readers In the general introduction the possibility of the simultaneous appearance of two or three of the acute exanthemata in the same individual is discussed Various combinations have been recorded by the most careful observers and these cases are fully quoted and should dissipate all doubts which may be entertained of the possibility of this event occurring Moreover, such combinations strengthen the view which is now generally held that measles, scarlet fever, small pox, and chicken pox are distinct diseases which cannot be traced to a common source and which do not represent merely offshoots from one and the same root In no other work with which we are acquainted is the question of combined fevers so adequately described In this connexion the specificity of German measles, or its separate identity from measles, forms the subject of a very interesting disquisition under the heading of "Etiology of German Measles" Von Jürgensen in summing up the evidence for and against the independent existence of the disease asserts that "if we collect all the facts we cannot, in my opinion, recognise the right to independence of the disease which is called rötheln." The translator very properly interpolates at this juncture an editorial note to the effect that Koplik's spots, which occur regularly—approximately 91 per cent—on the buccal mucous membrane, are absent in rötheln. At the present time in England, as in America, measles and rötheln are almost universally regarded as distinct, so that von Jürgensen's authoritative statement as representing a German view on this subject is of considerable interest As an instance of the completeness with which this volume has been brought up to date we notice that the controversy on the question of the individuality of German measles and its relationship to the supposed "fourth disease" has been revised up to the end of last year and actually contains an abstract of an important paper on this question which was published as late as December last. On the subject of the relationship of scarlet fever to puerperal fever von Jürgensen ventures the statement that the former fever in the strictest sense is only an insignificant factor in the mortality of the puerperium and further that the condition described as puerperal scarlet fever is in the vast majority of instances merely a septic infection determining skin lesions similar to those met with in scarlet fever, and with regard to the influence of the specific poison of scarlet fever and that of the secondary infections by streptococci, staphylococci, and pneumococci in the determination of the various lesions incidental to scarlet fever itself von Jürgensen is most guarded in his statements In fact, it is by no means easy to arrive at a real understanding as to whether the author believes that the clinical picture of genuine scarlet fever can be complete without the secondary infections or whether it cannot Interesting, however, as may be these academic considerations, it cannot be claimed that this volume adds very much to our knowledge of the essential causative agents of measles and scarlet fever and of rötheln It is rather in the descriptive account of the symptomatology and in the accurate record of clinical experiences that this volume will be found of real service to the majority of readers

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Mammals By F E BEDDARD, Vice Secretary and Prosector of the Zoological Society of London Being Vol. X. of "The Cambridge Natural History" Edited by S F HARMER, F R S, and A E SHIPLEY, M.A. With 285 Illustrations in the text London Macmillan 1902 Pp 605 Price 17*s* net.

IT is unquestionably the fact that a volume upon mammals is needed at the present juncture. Since the publication of that still almost, if not quite, indispensable work, "Mammals, Recent and Fossil," by the late Sir William Flower and Mr Lydekker, no general treatise has appeared in English, and it obviously follows that the 11 years which have elapsed since Flower and Lydekker's volume have furnished much additional matter for incorporation into a work dealing with the mammalia. Mr Beddard has not ignored recent work and has indeed perhaps, as is the fashion nowadays, dealt rather more fully with the latest discoveries of science than with the older and more established facts. With extinct creatures this is at times apt to be a little dangerous, a bone here and a tooth there have been occasionally brought into unnatural union and relegated to a creature which subsequent discovery has shown to be non existent the converse however is the more usual course of events, and two fragments put down to beasts of quite different genera or even orders have been found to be the *disjecta membra* of one and the same species, if not individual With such bits and scraps of bones and teeth the author has dealt warily and as we think, rightly so. There is no need to fill up page after page with such dubious remains, at least in a volume which does not profess, and could not pretend to be exhaustive As the author has pointed out, a volume which must fit in with a series in average length must necessarily undergo some compression and be somewhat pruned of detail. The result of this necessary curtailment and compression has been here and there a rather jerky and notebook style. However *stylus virum arguit* (as the author of The Anatomy of Melancholy said long before de Buffon) and Mr Beddard is nothing if not an anatomist to whom the clear presentment of fact is the only essential. And the book must be clearly criticised from this point of view Mr Beddard indeed speaks somewhat contemptuously in his preface of the long stories about lions and tigers which usually *form the main part of works upon natural history* and are believed by publishers, editors, and contributors alike to be the best means of alluring the public This anecdotal portion of the subject is replaced in the volume before us with a few choice fragments from the naturalists of old and especially from those two naive writers of the past, Olaus Magnus Archbishop of Upsala, and the Rev Edward Topsell author of The Historie of Foure footed Beastes describing the True and Lively Figure of every Beast." We cannot forbear from quoting from Mr Beddard the latter naturalist s account of the chase of earthworms by the mole. ' When the wormes says Topsell, are followed by molds (for by digging and heaving they foreknow their own perdition) they fly to the superficies and very toppe of the earth the silly beast knowing that the molde, their adversary dare not followe them into the light, so that their wit in flying the enemy is greater than in turning againe when they are troade upon "

The object of this volume is not, however to amuse the reader with *such matters but to furnish the student with* a handy account of the characteristics of the mammalia. In a large work like the present, dealing with the entire range of the subject, it is hardly to be imagined that there are not some lapses into error The author, for example, has called the polecat by two different names—one in the text and the other in the legend beneath the figure of that animal. Again, the five-horned giraffe of Sir Harry Johnston has been given undue prominence , it has been shown that that animal is not new and that five horns are a character hitherto unobserved of the northern giraffe. But this error is doubtless to be accounted for on the supposition that the paper by Mr Oldfield Thomas of the British Museum was not read, or at least not published at the time that the proof sheets of Mammalia were passing through the author s hands. On the whole it may be fairly said that the volume is free from error as to fact and, indeed the author's opportunities in his laboratory at the Zoological Society s Gardens have enabled him to check or to retail at first hand a large number of facts in anatomy The book is thus not, in one sense at least, a compilation. In another sense, like almost every treati e upon any branch of natural history it is a compilation. In these days of vastly extended knowledge and consequent and necessary specialism it is absolutely impossible for one man to know of his own knowledge all the facts with which he deals in a work even upon so limited a subject comparatively speaking as is that of the volume before us. But where facts other than those which are commonplaces of zoological knowledge are dealt with the author is careful to quote authorities, though the bibliography is not, and could hardly pretend to be anything like exhaustive. The volume contains a large number of illustrations, of which 100 have been drawn specially for the work by Mr Dixon. Most of these are good but the process' system has resulted in a flat appearance which is not altogether attractive. In this they contrast with some excellent woodcuts borrowed from past numbers of *Nature* and offer an instructive example of the failure of any mode of text illustration as compared with the now unfortunately almost decayed art of wood-cutting The figures are perhaps a little too unequally distributed among the groups of the mammalia. The whales, for instance have come off very poorly while the dog tribe has rather more than its share. The anatomical side of the subject is fairly copiously illustrated, a large series of the figures of bones being borrowed from the late Sir William Flower's Osteology of the Mammalia. With such accurate figures available it would have been a waste of money and energy to prepare a new series.

LIBRARY TABLE.

The Diseases of Women a Handbook for Students and Practitioners By J BLAND-SUTTON F R C S Eng and ARTHUR E GILES, M.D Lond F R C S Edin Third edition crown 8vo with 145 Illustrations in the text. London Rebman Limited. 1902. Pp. 527 Price 11s net.—The third edition of this book has been enlarged by 55 pages and the number of illustrations has been increased from 115 to 145 We hope that in the future the authors will attempt to conform to their own statement in the preface to the second edition—viz. that the essential facts of the art can be presented in a very convenient compass, and will avoid as far as possible any further enlargement of what is at present a very handy book. The most important changes are to be found in the chapters upon Uterine Fibroids Extra uterine Pregnancy Ovarian Tumours in connexion with Pregnancy Labour and the Puerperium and Cancer of the Uterus. The term myomata of the uterus has been abandoned in favour of the more generally used but equally inaccurate expression fibroids of the uterus." The chapters upon this subject have been rearranged and considerably added to and amended. In the part of the book devoted to Extra uterine Gestation due mention is made of recent investigations in regard to ovarian pregnancy This section retains the high excellence of former editions We are glad to see that the important subject, cancer of the uterus, has been more fully and adequately dealt with separate chapters containing a number of new illustrations being devoted to cancer of the cervix and of the body of the uterus. Ovarian tumours complicating pregnancy and labour are very fully discussed and the most important part of Mr Bland Sutton s recent admirable lecture upon the subject has been incorporated The book has been well revised and we think, improved and if it still suffers from the marked surgical bias of it authors it is yet a good and trustworthy text book.

A Manual of Otology By GORHAM BACON Second edition, with 114 Illustrations and three Plates. London Henry Kimpton 1901 Pp. 428.—The introduction is by Dr C J Blake and opens for some occult reason at page 17 thereby adding this number of fictitious pages to the volume As an observer Dr Bacon is well gifted but as an analyser he seems to be less so and on reading the book the impression is given that his idea of a manual is the recording of clinical lectures illustrative cases being freely scattered throughout These excellent as they are in clinical teaching, are quite out of place in a book like this, which should lay down precise and definite directions for the diagnosis and treatment of disease Not only is this so but the text is needlessly involved. For example, a portion of the symptoms appear under their proper heading and the remainder are given in other parts At times matter quite foreign to the point under discussion is inserted. An instance of this will be found on page 164 et seq , under acute purulent otitis media is a full description of a case of primary malignant disease with illustrations of microscopical sections and a reproduction of a photograph showing the facial palsy, whereas the mention of the danger of mistaking early malignant disease for acute otitis would have sufficed. Not infrequently the wording and arrangement of the text are such that an impression is conveyed quite different from that which the author intended to give, as in the treatment of acute catarrhal inflammation of the middle ear, where it is recommended in young children to search for adenoids and if present to remove them with the finger nail (p 150), whilst on p 181 we are told that the surgeon should never operate for adenoids if there are symptoms of acute otitis media. The book contains many good practical points which are unfortunately lost owing to the casual way in which it is arranged

# Analytical Records
FROM
THE LANCET LABORATORY.

ACETOZONE
(PARKE DAVIS, AND Co 111 QUEEN VICTORIA STREET LONDON E C)

ACETOZONE possesses remarkable germicidal powers and it is said that a solution of this substance of the same germicidal efficiency as a 1 per 1000 solution of corrosive sublimate may be safely taken internally in large quantities This remarkable statement about acetozone will no doubt arrest attention It is a true chemical compound and in reality benzoyl acetyl peroxide, a crystalline substance soluble in oils, ether, chloroform, and slightly in alcohol. Its antiseptic property is no doubt due in part to the parent group of the molecule and in part to the fact that it yields peroxide of hydrogen by hydrolysis The specimen which we received consisted of acetozone mixed with an equal weight of inert absorbent powder The powder is characterised by a pungent acetous smell Acetozone has been employed in typhoid fever and in other diseases due to bacteria or the organisms of fermentation and in which it is possible to bring the action of the antiseptic to bear upon the infected area. We found that acetozone powder left in contact with water gradually develops free peroxide of hydrogen and a smell resembling ozone may be observed. Messrs Parke, Davis, and Co own that further clinical experience is required to establish the exact value of acetozone and they express themselves willing to furnish qualified medical men, who can conveniently undertake the work, with specimens of this substance for the purposes of investigation It certainly claims a trial.

HOPOGAN POWDER AND TABLETS
(KIRCHHOFF AND NEIRATH, BERLIN, N AM KUPFERGRABEN 6)

In the letter from our New York correspondent, published in THE LANCET of July 26th, 1902, p 252, appeared a note upon a new preparation termed Hopogan or Biogen, which in reality is pure dioxide of magnesium which appears to have been prepared in a pure state quite recently for the first time. We have received specimens of this substance as prepared for medical administration The powder practically contains pure magnesium dioxide and is free from metallic impurities or alkalies It is not soluble in water but on the addition of hydrochloric acid some oxygen is evolved and peroxide of hydrogen and chloride of magnesium are found in the solution Tablets are prepared containing eight grains of the pure dioxide in milk sugar It is proposed to administer magnesium dioxide in cases of deficient oxidation of the blood and already some encouraging results are stated to have been obtained. The preparation, we think, should receive some attention, as affording a method of administering oxygen internally which has not been convenient before, since other peroxides are unsuitable for the purpose

FERROLEUM
(THE FERROLEUM Co , 86 CLERKENWELL ROAD LONDON, E C)

This is a successful combination of the well-known valuable remedies cod liver oil, iron, and phosphorus The formula is no secret and our analysis showed the presence and amount of constituents as described. The following were the results moisture, 47 81 per cent., oil with traces of phosphorus, 40 00 per cent , pure glycerine, 10 76 per cent , phosphate of iron, &c , 1 43 per cent. The iron is present in a suitable form, being readily absorbed whilst not giving rise to the disagreeable effects of ordinary iron salts The emulsion though tasting of cod liver oil is less disagreeable to take than raw non emulsified oil The preparation is a good one and of distinct therapeutic value having regard to its constituents and the particular form in which they are presented. The association of an easily assimilable oil in a fine state of division with a phosphatic salt of iron which does not disturb the digestive functions and which is easily tolerated determines the success of the preparation as a food and tonic in wasting diseases

STERULES
(WILLIAM MARTINDALE AND Co , 10 NEW CAVENDISH STREET, LONDON W)

The convenience of "sterules" is obvious They simply consist of sterile capsules of eye drops "Sterules" are thus prepared containing solutions of definite strength of the salts of atropine, cocaine, euphthalmine, homatropine, physostigmine, and pilocarpine This method of preserving eye drops is excellent.

ODOL
(ODOL CHEMICAL WORKS 26 SOUTHWARK BRIDGE ROAD, LONDON, S E)

We called attention in THE LANCET of July 26th, p 224, to the peculiar antiseptic properties of odol which render it useful for the purposes of a mouth wash It was then pointed out that it contained a definite oily compound of phenol and salicylic acid It is important to note that this compound is not the crystalline derivative salol, but the curious yellow oil present, though not itself antiseptic, splits up into phenol and salicylic acid when in contact with the mucous membrane or the saliva. It is this property which makes odol a very efficient antiseptic for the mouth In discussing analytically the previous sample sent to us we noted a flavour of peppermint. In the sample since received this flavour is not so much in evidence, that of oil of roses, which to many persons is more agreeable, being substituted

(1) BEEF TEA AND (2) CHICKEN BROTH
(FRANCO-AMERICAN FOOD Co , JERSEY CITY HEIGHTS, N J)

Both these preparations are of a very limited nutrient value since the total amount of solid matter in the beef tea was found to be only 2·75 per cent and in the chicken soup 3 22 per cent The amount of proteid in the former was quite small, while the latter contained a slightly greater proportion Taking into regard, however, the total solid constituents of the preparations, both of which are clear fluids, we can admit of no special food value attaching to them.

VARIOUS BORDEAUX WINES
(AGENCY: MACMINN, RICHARDSON AND Co 11 HART STREET MARK LANE, LONDON, E C)

The wines now described with our analyses appended are stated to come from "the celebrated Vergniaud Cellars in

Bordeaux." They are offered at reasonable prices from 18s per dozen upwards. The following are the results of our examination of the various samples submitted to us and our observations based on these results. Claret V D 0 (60s) alcohol, by weight 10 85 per cent by volume 13 43 per cent. equal to proof spirit 23 54 per cent. , extractives 2 44 per cent , mineral matter 0 26 per cent. sugar 0 16 per cent. , volatile acids reckoned as acetic acid, 0 108 per cent. , and fixed acids equal to tartaric acid 0 262 per cent. This wine is described as Chateau Mouton Rothschild and its excellent character is in keeping with the renown of this celebrated 'chateau." It is an elegant wine, delicate, free from excessive acidity containing a minimum of sugar Claret V D 1 (44s) alcohol, by weight 10 85 per cent. by volume 13 43 per cent equal to proof spirit 23 54 per cent. , extractives, 2 28 per cent mineral matter 0 24 per cent. sugar 0 14 per cent volatile acids reckoned as acetic acid, 0 12 per cent. and fixed acids reckoned as tartaric acid 0 22 per cent. This wine is from the Chateau Montrose and its analysis is in some respects similar to the previous wine it is sound and pleasing Claret V D 2 (36s.) alcohol by weight 10 08 per cent. by volume 12 49 per cent. equal to proof spirit 21 89 per cent. extractives, 2 34 per cent. mineral matter 0 24 per cent. sugar 0 16 per cent. volatile acid reckoned as acetic acid 0 102 per cent. and fixed acids reckoned as tartaric acid 0 262 per cent. This wine is described as Chateau Talbot" and as will be seen is slightly less alcoholic than the previous wines. It possesses excellent bouquet and flavour and shows a minimum degree of acidity and a negligible amount of sugar Claret V D 3 (28s) alcohol by weight 10 85 per cent. by volume 13 43 per cent. equal to proof spirit 23 54 per cent. extractives 2 47 per cent. mineral matter 0 24 per cent , sugar 0 16 per cent. volatile acids reckoned as acetic acid, 0·098 per cent. and fixed acid reckoned as tartaric acid 0 225 per cent. This is Larose" claret, an agreeably light and practically non acid wine. Claret V D 4 (23s) alcohol, by weight 12 38 per cent., by volume 15 30 per cent. equal to proof spirit 26 83 per cent extractives, 2 71 per cent., mineral matter 0 27 per cent. sugar 0·17 per cent., volatile acids reckoned as acetic acid, 0 072 per cent., and fixed acids reckoned as tartaric acid 0 285 per cent This is St Julien (Adet) a somewhat heavier wine than those previously described but sound and non acid and practically free from sugar with a *satisfactory flavour* Claret V D 5 (18s) alcohol by weight 10 85 per cent. by volume 13 43 per cent. equal to proof spirit 23 54 per cent extractives 2 67 per cent mineral matter 0 27 per cent. sugar 0 21 per cent. volatile acids reckoned as acetic acid 0 078 per cent. and fixed acid reckoned as tartaric acid, 0 307 per cent. This is a wine from the Margaux district it is somewhat fuller in character than the others but a genuine, pleasing wine. V D Chablis (26s) alcohol by weight 10 85 per cent. by volume 13 43 per cent equal to proof spirit 23 54 per cent extractives 2 62 per cent. mineral matter 0 28 per cent sugar 1 20 per cent. volatile acids reckoned as acetic acid 0 084 per cent. and fixed acids reckoned as tartaric acid 0 42 per cent. This is a clean" wine with the well known characteristics of Burgundy (blanc) containing distinctly more sugar than the clarets while its alcoholic strength is the same. V D Volnay (36s) alcohol by weight 13 15 per cent. by volume 16 42 per cent. equal to proof spirit 28 46 per cent. extractives 2 69 per cent. mineral matter 0 24 per cent. sugar 0 21 per cent. volatile acids reckoned as acetic acid 0 03 per cent. and fixed acids reckoned as tartaric acid 0 20 per cent This is a quite sound Burgundy with practically no acidity a somewhat robust" and palatable wine. V D Pommard (28s.) alcohol, by weight 12 38 per cent. by volume 15 30 per cent. equal to proof spirit 26 82 per cent. extractives 2 74 per cent. , mineral matter 0 20 per cent. sugar 0 23 per cent. volatile acids reckoned as acetic acid 0 102 per cent., and fixed acids calculated as tartaric acid 0 262 per cent. A well known wine with a "vigorous" composition, soft to the palate, and in sound condition V D Beaune (23s) alcohol, by weight 11 62 per cent., by volume 14 37 per cent. equal to proof spirit 25 18 per cent. extractives, 2 90 per cent. mineral matter, 0 25 per cent , sugar, 0 30 per cent., volatile acids 0 102 per cent. and fixed acids, 0 307 per cent. This is a somewhat full bodied wine, but of comparatively low alcoholic strength, possessing the flavour of a sound Burgundy V D 0 Chateau Yquem (60s.) alcohol, by weight 11 62 per cent. by volume 14 37 per cent. equal to proof spirit 25 18 per cent. extractives 4 68 per cent. mineral matter 0 20 per cent. , sugar 2 90 per cent. acetic acid, 0 048 per cent. and tartaric acid, 0 51 per cent. This is an excellent Sauterne evidently with some age. It is practically free from acidity and contains an appreciable amount of sugar the taste being somewhat sweet The flavour is full bodied and excellent V D 2. Haut Sauterne (36s.) alcohol by weight 13 15 per cent. by volume 16 24 per cent. equal to proof spirit 28 46 per cent. extractives 3 59 per cent. mineral matter 0 28 per cent. sugar 1 66 per cent , acetic acid 0 18 per cent. and tartaric acid, 0·337 per cent. This is a very agreeable wine of higher alcoholic strength than the last and with a small amount of sugar The wine was in good condition. We are not aware of the respective vintages of the above wines but they are evidently selected from good years. They were all in fine condition being characterised by a practical absence of acidity and a minimum of sugar and alcohol. We believe them to be pure natural wines and it is satisfactory to note that wines of such a class can be offered at moderate prices. In this interesting series of analyses of typical red and white wines it is interesting to observe that throughout the degree of acidity of the white wines was slightly in excess of the red wines a result which is opposed to the views of some people. Moreover the white wines as a rule, contained more sugar than the red wines though in no case was the amount excessive. These results as regards Bordeaux white and red wines agree with those published by THE LANCET Commission on the Medical Use of Wines in THE LANCET of 1880 [1] and our Commissioners were led to point out the advantages of clarets over white wines in regard to acidity and sugary contents, especially for those *suffering from diabetes or gout.*

V O BRANDY

(LUCIEN FOUCAULD AND CO., COGNAC. LONDON: E. W LAWTON AND CO. HOPETOUN HOUSE, LLOYDS AVENUE, CRUTCHED FRIARS, LONDON E C)

As the following analysis shows this spirit presents characteristics typical of genuine matured brandy produced in the Cognac district alcohol by weight 44 18 per cent. by volume 51 82 per cent. equal to proof spirit 90 81 per cent. extractives 1 47 per cent. mineral matter 0 03 per cent. , total acidity reckoned as acetic acid, 0 06 per cent. alcohol in ethers, 0 21 gramme per litre aldehyde 0·020 gramme per litre and furfural, 0 005 gramme per litre. The taste is agreeably smooth though somewhat sweet, a small proportion of burnt sugar being detected in the extract. We are of opinion that this is a genuine matured Cognac brandy

CORONATIA SOAP

(MESSRS. COOK AND CO., EAST LONDON SOAP WORKS BOW LONDON E)

We found this to be a good bland soap free from irritants and alkaline excess A feature of the soap is that though scented it imparts only a suspicion of perfume to the skin.

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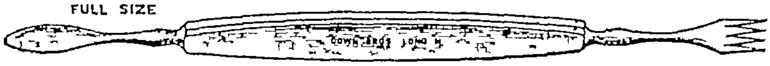
[1] THE LANCET June 26th (p. 1001) July 3rd (p. 17) and 24th (p. 14) and Oct. 23rd (p 680) 1880

New Inventions.

A NEW VACCINATOR

I WISH to bring before the notice of the profession a vaccinator which I have had made As shown in the engraving it has a fork at one end, while at the other end there is a spatula. The scarification can be performed more quickly with this vaccinator than with a single bladed instrument, as four parallel scratches are made at a time It can easily be sterilised by boiling as it consists entirely of steel and is all in one piece It has been made for me by Messrs Down Bros, of 21, St Thomas's street, London, S E

FULL SIZE

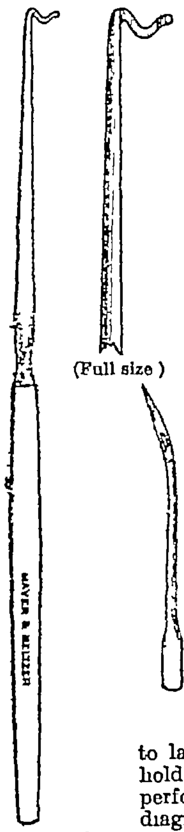


L. O S BROUGHTON, L R.C P & S Edin,
Public Vaccinator, Oldbury No 1 District
West Bromwich Union

PERITONEAL SUTURE-CATCHER AND ADJUSTER, WITH A DESCRIPTION OF THE METHOD OF SUTURE WHICH IT FACILITATES

THE purpose of this instrument (Fig 1) is to facilitate suturing (with needles having eyes at the point, as in Figs 2 and 3) in places otherwise inaccessible, where there is no room to carry an ordinary needle in and out, and where even transverse suturing with a needle having the eye at the point and mounted in a holder in the usual way is difficult to carry out—e g, a perforated gastric ulcer at or near the cardiac end of the lesser curvature and situated consequently high up under cover of the liver and the ribs

FIG 1



(Full size)

FIG 2

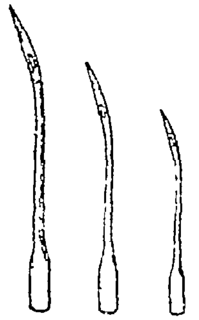
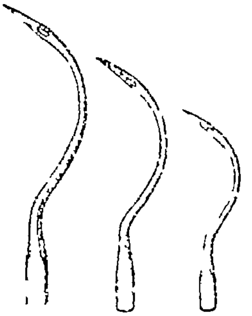


FIG 3



Needles (full size)

Figs 4, 5, and 6 represent such a perforation which occurred in my own practice On attempting to pass a suture transversely the point of the needle was buried in the under surface of the liver almost as soon as it emerged from the surface of the stomach. It was found possible to lay a suture only in the line of the needle holder This was done first on one side of the perforation, then on the other, as shown in the diagram, a device which has no doubt been repeatedly adopted by other surgeons in similar circumstances Considerable difficulty was, however, experienced in disengaging the suture from the needle with fine forceps and other instruments at hand which led subsequently to my designing the little instrument shown in Fig 1 Its use in this method of suturing will be seen at a glance The flattened point (*a*) at right angles to the shaft lifts one loop of the suture off the needle (Fig 4) The hook with the concavity (*b*) upwards enables the loop to be held *in situ* while the needle is withdrawn (Fig 5), while the hook with the concavity towards the handle (*c*) draws the free end of the suture through (Fig 6) It will be noticed that each suture placed as indicated is practically equivalent when tightened up to two ordinary Lembert's sutures Furthermore, it has less tendency to cut out, inasmuch as when tightened the traction strain is equal at both ends of each puncture channel instead of being all thrown upon the outer extremity of the channel, as is the case when the needle is introduced transversely

FIG 4

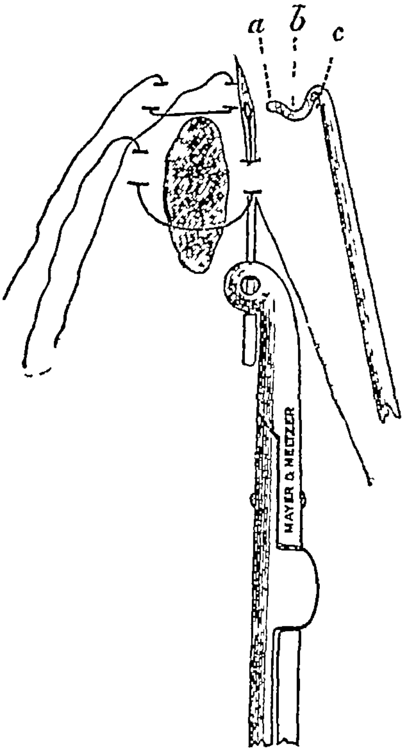
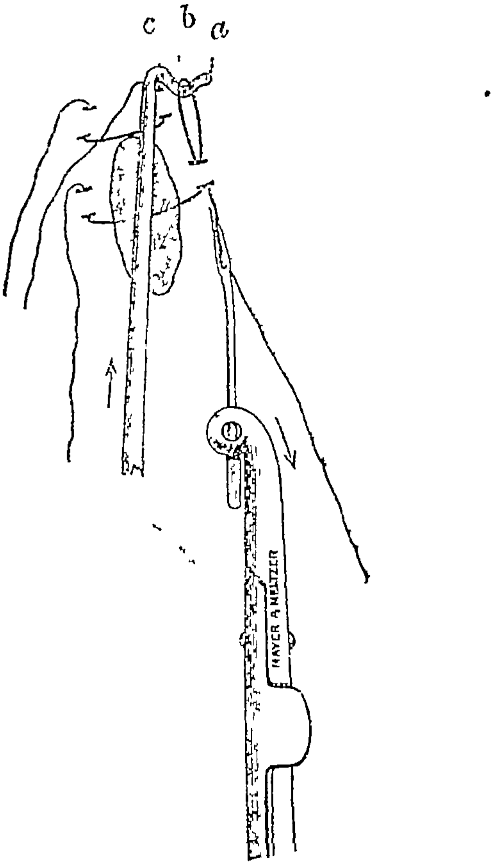
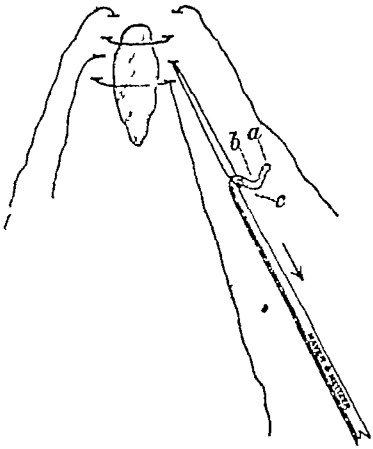


FIG 5



The needles are curved on the flat with the eyes at the points and are made in two curves and three lengths as shown in Figs 2 and 3 The only special point about them is that the butt is flattened either laterally, as shown in the illustration, or antero posteriorly They can thus be readily and firmly adjusted to and set at any angle in, the needle-holder.

Fig 6

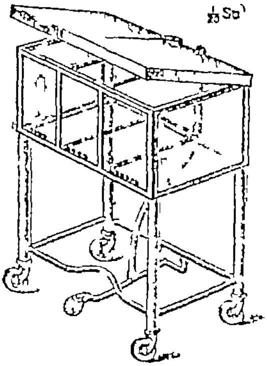


The instrument and needles were made by Messrs Mayer and Meltzer of Great Portland street, London, W

W F Brook F R C S. Eng
Senior Surgeon to the Swansea General Hospital.

A NEW ASEPTIC CABINET

The illustration shows a new form of aseptic cabinet for dressings made for use in the Sussex County Hospital at the suggestion of Mr O N Chadborn. The cabinet is made of glass and metal throughout and is white enamelled. Being fitted on ball bearing castors it runs easily and noiselessly up and down the ward, and possesses the advantage that the nurse can dress a case single-handed as after the hands have been made aseptic the lid is opened by the foot by means of the lever rendering it unnecessary to touch the cabinet with the hands Messrs. Down Bros. of 21 St Thomas's-street, London, S.E., are the makers.



Accident to a Medical Practitioner.—On August 25th Dr Mary Helen Cruikshank of Portland place Reading while driving home in a light cart from the railway station was thrown out with great violence on the roadway where she lay unconscious. Dr William J Maurice and Dr Martha F Armitage who were quickly in attendance found that she had sustained concussion of the brain Consciousness was regained in the course of the day and the subsequent history of the case has fortunately shown a gradual improvement.

Looking Back.

FROM

THE LANCET, *SATURDAY, SEPT 4*, 1824

To the Editor of The Lancet

Sir,—It was with much pleasure that I read two letters in your publication of the 17th and 31st of the last month relative to the inattention shown by the surgeons of St. Thomas's Hospital to the students attending there: inattention so long continued and so frequently the subject of animadversion and dissatisfaction among the students themselves, that I am surprised that public notice has not been taken of it at an earlier period.

The fame which St. Thomas's and Guy's Hospitals have acquired is not unknown to the officers of these establishments, and to this circumstance it may be feared is to be attributed in some degree, the neglect complained of and which has now become so glaringly manifest.

Be this as it may every consideration demands that it be rectified as speedily as possible and that conduct so unworthy of surgeons and teachers be superseded by a behaviour more congenial and better adapted to advance the improvement of the pupil The interest of the parent calls loudly for this who is at an enormous expense in enabling his son to prosecute his studies there, and is blindly led to believe, that every facility is afforded of doing it with advantage the interest of the son, who gives his attendance for the purpose of gaining information, but which he has the mortification of finding when too late, to be extremely superficial and partial, and lastly the interest of the public, on whom, in after time, this flimsy knowledge is to make its dangerous experiments.

What are the opportunities which the student possesses there of becoming acquainted with the character and treatment of disease? why I know of none, and I speak candidly except it be the privilege of running up and down, from ward to ward, after the surgeon, and hearing or rather seeing him whisper to one or two gentlemen at his elbow who are generally his own dressers or acquaintances, and who rudely push their way through the other students to get to that situation. The majority of the pupils may look and stare, as long as they please, but all to no purpose If it be endeavoured to make up for this by having recourse to the Hospital books, in order as one of your correspondents expresses it, to catch what he can," he is still disappointed for there he does not find the slightest clue to direct him in forming an opinion as to the nature of any cases on which he wishes for information, no name of the disease and no report of any kind Prescriptions only meet the eye, and these are in writing so obscure, that not unfrequently all attempts to unravel them prove unavailing One is apt to think, on looking at them, that there was some prize at stake, for which the surgeons were contending and which was to be awarded to that competitor who wrote worst. In short, there is such mystery pervading the whole that it is impossible for a student to reap any benefit from attending that institution

When Sir Astley Cooper goes round the wards of Guy's Hospital he directs the attention of the pupils to any case of interest that presents itself to his notice and in a voice so audible as to be distinctly heard by every one of them. Thus he fulfils the engagement into which he enters the moment the fee of the student is received This honourable conduct on his part is fully appreciated, and hence it is, as well as from his eminent abilities that his visits are so much desired and longed for But, Mr Editor is not the same duty imperative on the other surgeons? Do they not receive the pupils money as well as Sir A. Cooper? they do and therefore are equally bound to make a suitable return, which they cannot be said to have hitherto done If any thing more than another be calculated to act as a reproof to these gentlemen it is the open, fair and honourable behaviour of Sir A. Cooper.

You have done much Mr Editor towards putting down some of the abuses connected with this hospital and I trust you will yet do more. There is a wide field before you and your labours can scarcely be more advantageously or fitly employed than in clearing it of its weeds.—Go on in the work, and you shall earn the gratitude of every impartial and honest man and greatly befriend,

Sir Your obedient Servant,

R.

August 13, 1824

THE LANCET.

LONDON SATURDAY, SEPTEMBER 6, 1902

The Cremation Act

AN Act of Parliament to be known as the Cremation Act, 1902, and to be applied to England, Wales, and Scotland, but not to Ireland, received the royal assent on July 22nd last and will come into force on April 1st, 1903, in order to enable public authorities charged with the duty of providing for the burial of human remains to provide for the disposal of them by burning The text of the Act will be found at p 700 Public opinion has to a great extent become accustomed to this method of dealing with the dead since the outcry which greeted the sporadic and experimental burning of bodies in the early "eighties." Many have almost forgotten that at that time the legality of cremation was questioned even by the legal advisers of the Government, and that the projected construction of a properly equipped crematorium by those interested in the movement was abandoned owing to the attitude of the Home Office This state of things was only put an end to when Mr Justice STEPHEN, in charging the grand jury called on to consider the indictment against a man named PRICE in Wales (R. *v* PRICE, 12, Q B D, 247), made a careful and exhaustive survey of the laws and customs relating to the treatment of human remains so far as these were relevant to the subject before him, and drew the conclusion therefrom that the person who burnt a dead body instead of burying it did not commit a criminal act unless he did it in such a manner as to amount to a public nuisance at common law At the same time he added, with particular reference to the case before him, although to burn a dead body decently and inoffensively is not criminal it is obvious that if it is done in such a manner as to be offensive to others it is a nuisance of an aggravated kind Sir FITZJAMES STEPHEN went into the matter with his usual thoroughness and courage, and no one, so far as we are aware, has ever questioned the authority of his opinion, but the new statute gives formal legal sanction to cremation by providing that "the powers of a burial authority to provide and maintain burial grounds or cemeteries, or anything essential, ancillary, or incidental thereto, shall be deemed to extend to and include the provision and maintenance of crematoria." The plans and sites of these crematoria are to be subject to the approval of the Local Government Board, restrictions are imposed with regard to their propinquity to dwelling houses and to public highways, and the Home Secretary, who will have to be satisfied that they are properly constructed and equipped, will make regulations for their conduct, maintenance, and inspection.

A section in the Act provides not only against breaches of its regulations, but imposes heavy penalties with a view to the mitigation of those dangers which, in the present state of the law as to death certification, must in some degree be increased by the possibility of quickly and completely destroying human remains Under this section every person who shall wilfully make any false declaration or representation, or sign or utter any false certificate with a view to procure cremation of a body, shall be liable to a sentence of two years' hard labour, and every person who shall procure or attempt to procure the same object with intent to conceal the commission, or to impede the prosecution, of any offence shall be liable to penal servitude for five years At the same time nothing in the Act is to interfere with the jurisdiction of coroners or to sanction the creation of a nuisance, and the scruples of those who are opposed to cremation from a religious point of view are protected by the provision that the incumbent of a parish shall not be under any obligation to perform a funeral service before, at, or after the cremation of the remains of his parishioners, but power is given to call in other clergymen on such occasions if it be desired

We have sketched above the outline of a statute which will no doubt in process of time be usefully applied in those districts where lack of space and overcrowding of the living render the safe and economical disposal of the dead a matter of difficulty and where the introduction of cremation by private enterprise would not be likely to command success That such a measure should have been passed shows the gradual development of public feeling in the direction of sanitary improvement, while the delay that has attended it illustrates the necessity for the gradual rather than rapid education of public opinion where matters more or less of sentiment are involved. The medical profession has always taken a keen interest in all questions affecting the safe disposal of human remains, and with the introduction of cremation as a means to this end the names of Sir HENRY THOMPSON and Sir T SPENCER WELLS (to mention no others) will always be indissolubly connected. Those of the pioneers of the movement who survive will, no doubt, view the new enactment with satisfaction and will do all they can to encourage its application where its adoption is likely to be useful and conducive to the public health

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Cancer Research.

THE Cancer Research Fund has now reached a pecuniary position which enables preliminary working arrangements to be taken into consideration by the Executive Committee, and on the decisions of the Executive Committee as to the lines on which the fund is to be administered depends very largely the degree of success which will attend the project—a project which has been honoured by the presidency of the PRINCE OF WALES and supported in liberal measure by money contributions from the general public. It is understood that the provisional scheme for the working of the fund which was considered by the Royal Colleges of Physicians of London and Surgeons of England suggested (1) the starting and equipment of special laboratories to be devoted entirely to research work bearing on the subject of cancer, (2) the encouragement of research work in connexion with cancer within the United Kingdom or in the British dominions beyond the seas,

(3) assistance in the development of cancer research work in various hospitals and institutions, and (4) the provision of means for systematic investigation generally into the causes prevention and treatment of cancer. A meeting of the Executive Committee has now been held and as our readers are aware it has been decided that a General Superintendent of Cancer Investigation shall be appointed to carry out the work much in accordance with this provisional scheme. We may with advantage briefly recapitulate what has been done in this country and abroad in the general direction of systematic research into the cause of cancer before we consider the special task that lies before the Executive Committee of the Cancer Research Fund.

The Cancer Research Laboratories of the Middlesex Hospital were the first special laboratories to be founded in this country for the study of malignant disease. In 1899 the staff of the hospital drew up a scheme which included the foundation of the laboratories, the constitution of a Cancer Investigation Committee, and the appointment of a special staff for carrying out the work. The Cancer Research Laboratories were opened for work in the beginning of 1900 and the first volume of reports is just announced. The next organisation founded to deal specially with cancer research was the German Comité für Krebsforschung which was constituted in 1900 with Professor VON LEYDEN as President and Professor GEORGE MEYER as general secretary. The Comité includes two vice-presidents, seven honorary members nine foreign members, and 62 German members. The foreign members include three representatives from this country two from France, and one each from Egypt, the United States Japan and Russia. The German members include all those who in that country have been specially identified with the investigation of malignant disease. The Comité occupies itself mainly as an administrative body to encourage and to assist financially individual research work in immediate connexion with the causation of cancer to collect and to tabulate information bearing on the subject, and to further generally the advancement of scientific knowledge in connexion with cancer. The maintenance of laboratories of its own does not enter into the working scheme. The Comité is so far recognised by the State that its meetings are held at the offices of the Ministerium des Inneren and it receives an annual grant of 5000 marks from the Government. The first volume of *Verhandlung des Comités für Krebsforschung* (heft I. 1900–1902) has recently been published in Berlin. Other special cancer research laboratories have been founded on similar lines to those of the Middlesex Hospital. In Germany there are two under the direction of Professor VON LEYDEN and Professor EHRLICH respectively. The former laboratory is worked in connexion with Professor VON LEYDEN'S special cancer ward at the Charité Hospital in Berlin which contains 34 beds and is supported by the State at an annual charge of 53,000 marks. Professor EHRLICH'S cancer laboratory is in Frankfort and is supported by private contributions. In the United States the first cancer research laboratories were those at Buffalo which are now under the Department of Health of the State of New York and which have been materially assisted by private benevolence. A legacy from CAROLINE BREWER CROFT enabled the Cancer Committee to the Surgical Department of the Medical School of Harvard University to organise a commission of pathologists to carry on special research work in connexion with cancer in the pathological laboratories of the university. This commission issued a short preliminary report in October 1900 and a fuller one in February of this year. In addition to these purely scientific bodies cancer leagues and societies constituted on semi popular lines have come into existence with the object of educating the public generally as to the importance of cancer research. Of these schemes some are less wise than others, but all have a good object and should therefore be regarded by medical men with broad sympathy.

It will thus be seen that work which is already in progress indicates with some clearness certain of the lines on which the Executive Committee of the Cancer Research Fund may proceed. It may support research work in cancer in pathological laboratories already existing in the London and provincial medical schools, from which laboratories the pathological work on which the scientific reputation of this country depends has hitherto gone out. It may in addition, maintain a central bureau for the collection and tabulation of the results of laboratory research work and of other investigations bearing on the causation of malignant disease, it may establish new laboratories apart from the medical schools and carry them on under its own supervision. The Executive Committee will proceed early in October to appoint a General Superintendent of Cancer Investigation, and it will be seen that the duties of the office, detailed in our advertisement columns on August 9th foreshadow the direction in which a start will be made. These duties include (1) the general direction of laboratory investigation (2) the supervision of workers appointed by or receiving grants from the Committee (3) the collection of statistical, dietetic, topographical, and other information, (4) the organisation of a system of correspondence with colonial Indian and foreign laboratories and workers and (5) attendance at the meetings of the Executive Committee or any committees appointed by them for special purposes relating to the investigation. With regard to the establishment of new laboratories, it is to be hoped in the interests of British pathology that no hasty decision will be arrived at. The General Superintendent may also be appointed Director of the Central Laboratory but unless this laboratory be in connexion with a general hospital the work there should be rather critical and generally supervisory. The results obtained up to the present time by pathological laboratories endowed for research work independently of connexion with sources from which to draw their supplies of necessary material, have not been such as to encourage the endowment of others of a similar kind. And the institution of new laboratories for cancer research work, unless such laboratories were intimately connected with general hospitals from which an adequate supply of material for investigation could be readily obtained would be a mistake. The opinion of those who from practical experience are familiar with the actual necessities of laboratory research work is we believe unanimous on this point. What has been done at the Middlesex Hospital with the help of its Cancer Research Fund could be done at other of the large London hospitals if the necessary financial support from the executive committee of the Cancer Research Fund were given. At the great general hospitals of the metropolis and the large provincial towns there is, alas, a practically unlimited supply of material directly at hand. If the laboratories attached to these institutions were used there would be no necessity for the Cancer Research Fund to spend money on laboratory accommodation or on a large staff, the laboratory accommodation already available would be ample and the leading pathologists in the country could be utilised for the direction of any research work. And it may safely be said that a sum of £1000 or £1500 judiciously distributed among existing hospital laboratories would enable the committee to show better results for the expenditure of the funds entrusted to it than thrice that amount spent in maintaining laboratories where ordinary facilities for obtaining material for investigation might be wanting Nor are economy and the certainty of obtaining plenty of material whereon to work the only, or even the principal, advantages of carrying on such research in laboratories attached to general hospitals Another great advantage is that those engaged in research in connexion with cancer would have the benefit of constant contact with colleagues engaged in research work on other lines, and so there would be no danger of work being nullified by the narrow specialism which would inevitably beset workers dealing with only one form of disease and isolated from their fellows. A further argument in favour of distributing the research work over a rather wide area is that there would be less danger of the work following one groove too closely In every laboratory the trend of research work is mainly controlled by the opinions of the responsible head With regard to the causation of cancer there is at present so wide a divergence of opinion that it would be unfortunate if research work were confined to too narrow a field. By all means let there be a central bureau for the comparison and codification of results, but let the foci for gaining information be reasonably numerous and let the workers at these foci have a free hand. Their results should be brought into line by the central authority, but the directions of their labour should be left largely to themselves

The care which has been displayed in the preliminary stages by the promoters of the scheme, and the Royal support afforded to the two English Colleges in this matter, give every reason to hope that a national scheme of investigation will be drawn up in which the voice of those especially connected with pathological research work will carry due influence. One of the best informed and ablest pathologists in our country, the professor of pathology in Cambridge University, is a member of the Executive Committee This is in itself a guarantee that the real needs of the working pathologist, if his research is to have a fair chance of bearing fruit, will be clearly placed before the Executive Committee We trust that the Executive Committee will see the whole question of cancer research as the working pathologist sees it and will, in the first place, stimulate the labours of our well-established laboratories and assist processes of inquiry already commenced. Nor must it be forgotten that although the inquiry at first will be directed mainly to the pathological aspect of the question, the clinical side must also take the important position it merits The assistance of the large general hospitals will then become a necessity It would be manifestly advantageous to the progress of the investigation for the physicians, surgeons, and pathologists of the same institution to work together In this way results may be obtained which will justify the influential support which has been afforded and which will encourage the further endowment of the work

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The Prevention of Cruelty to Children

THE council of the National Society for the Prevention of Cruelty to Children is to be congratulated on the report of the society's progress during the year 1901-1902 Thirty seven new centres of work have been added to those already in operation, the whole number being now 877, or, with those in Scotland included, 924 The annual income has been increased by £1807 and there is a balance in hand of £231 after payment of the year's expenses There are, however, arrears of debt incurred in less prosperous years amounting to £7151. As mentioned by us in a previous issue, the society has been able, chiefly through the generosity of two of its supporters, to open new central offices The *modus operandi* of the society is explained with much clearness in this report. Its primary object is, of course, the protection of children, but it does not seek to attain this object by a blind and mechanical application of its legal powers. Nor does it even seek this desirable end alone. Recognising in cruelty something morbid and at variance with the normal domestic order it deals with it as such Accordingly, while affording protection, and if needful by extreme measures, it is not forgetful that home conditions have to be improved if the children's happiness is to be more than temporary It is, we think wisely, averse to any system of permanent removal, even from poor homes, if this can be avoided, and it therefore devotes its energies largely to the task of so reforming the manner of life in such homes as to make them at least decently habitable This ought not to be too high an ideal for attainment and it has not proved to be unattainable Even where parents have been imprisoned for their misconduct we are informed that in the vast majority of cases children have been restored to them and further supervision has revealed an alteration in the domestic life of the family and a return to natural, that is to humane, conditions Furthermore, the interest of neighbours is enlisted and a species of local public opinion in favour of fair play to the children is encouraged Thus the operations of the society may be said to be conducted in accordance with the *vis medicatrix naturæ*, and they appear to be rather appreciated than resented even by the delinquent parents themselves It is suggested in the report that if the educative principle were more freely employed in home life in relation to such other evils as the various forms of juvenile depravity the costly machinery of industrial schools and reformatories might be to a great extent dispensed with Whether, and if so how far, this arrangement is a possible one is still an open question. The suggestion that such works of social reclamation should utilise the family tie as far as possible and should, other things being equal, prefer a more natural to a more artificial method of procedure is at all events worthy of consideration.

Among other matters discussed at the annual meeting of the society was that of the protection of nurse children. It is generally understood that the existing law on this subject does not go nearly as far as is required for its full efficiency It does not cover the case of single nurse children or of children for whose maintenance a sum of £20 is paid. We confess that we have never been able to discover any reasonable justification for the exception in either case. These children obviously stand in no less need of supervision than do others of the same age entrusted to the hands of strangers for neither money nor isolation can provide a guarantee for good treatment. It is highly satisfactory to find that an amendment promoted by the society expressly aims at the abolition of this distinction which can only be regarded as a blot upon an otherwise useful Act. An objection has we understand been brought forward by a body known as the Rescue Society of London on the ground that certain women who act as nurses dislike inspection. In view of the obvious necessity for the proposed amendment we trust that no such unreasonable opposition will be suffered either to defeat its intention or to weaken its effect by qualifying concessions.

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The Work of the Government Laboratory

THE Government laboratory fully justifies its creation and maintenance. Time was when it was considered that apart from Customs and Excise a practical chemical laboratory could play but a small rôle in the administrative affairs of the country The report of the principal chemist upon the work of the laboratory for the year ended March 31st, 1902, abundantly shows how important it is that the Government should have its own chemical advisers and laboratories. The total number of analyses and examinations made at the laboratory in Clement's Inn Passage in the year ended last March was no less than 80 421. Of these, 64 152 were due to revenue departments and 16,269 to other departments, such as the Admiralty the Board of Trade, the Board of Agriculture, the Local Government Board the Home Office, the Post Office and the War Office, and the number of samples referred under the Sale of Food and Drugs Act was 119 As to the work of the Customs branch of the Government laboratory it has more than doubled in magnitude during the past year the actual number of samples submitted for test being 64,560 as against 34 434 in the preceding year The increase is thus about 3000 samples and is due chiefly to the imposition by the Budget of April 1901 of duties on sugar and cognate substances and on the numerous articles in the manufacture of which these substances are used. On account of this extra pressure on the resources of the laboratory the accommodation as well as the staff had to be increased. Two new laboratories were fully equipped on the lines of the Government laboratory at Clement's Inn and the staff was increased by the appointment of eight temporary chemical assistants. The work of the department was further relieved by the adoption of fixed rates of duty based on analytical data for certain articles of regular importation and fairly uniform composition as, for example condensed milk and tinned fruits. The number of analyses and examinations made in the Excise branch of the Government laboratory during the year amounted to 80 893, or 8471 more than in the preceding year In addition a considerable amount of experimental work has been done in connexion with the subject of arsenic in beer and beer materials with a view of defining the limitations of chemical analysis as to the amount of arsenic it is possible to determine and as to what may be regarded as a mischievous quantity As to tobacco, there has been a considerable increase in the number of samples examined the increase amounting to no less than 325 729 pounds, the description showing the greatest increase being cake tobacco and cigarettes. Dr THORPE remarks that the great increase in the weight of cigarettes exported shows that the practice of smoking tobacco in this form is still increasingly popular The continued demand for cake tobacco was due to the war in South Africa. Some samples were found to contain liquorice glycerine or sugar One instance of fraud is worth mentioning Certain persons were discovered manufacturing an imitation tobacco which was found to consist of pinewood so shredded and stained as to resemble the tobacco used for making cigarettes. The full penalty of £200 was imposed. In connexion with other Government departments the number of samples examined was 6622, more than a third of them coming from the Board of Agriculture a fifth from the Local Government Board and about a fifth from the War Office.

During the year no imported sample of butter has been reported as adulterated with foreign fat while in the previous year there were 15 adulterated butters Boric acid preservative was present in all the samples of butter from South America, in 96 per cent. of those from Belgium in 90 per cent. from Australia, in 88 per cent of the French samples, in 77 per cent. of those from New Zealand, in 50 per cent. from Holland and in 42 per cent. from the United States. Only 1 per cent. of Danish, 4 per cent. of Norwegian 6 per cent. of Russian 9 per cent. of Canadian and 15 per cent. of the German samples contained this preservative. On the decision being made by the First Commissioner of Works that analyses should be conducted of the air in the House of Commons and that of the inlets Dr THORPE arranged an investigation which was supplemented by a bacteriological examination. Accordingly when the House had adjourned for dinner on March 13th samples of air were taken at the Speaker's table and from the Members' gallery and the mixing chamber which supplies the fresh air As a result it was found that the proportion of carbon dioxide present in the air of the debating chamber was not appreciably greater than is usually found in the air of rooms with several persons present, and though as was to be expected, the number of organisms in the air of the lower part of the House was greater than in the air of the mixing chamber yet in the Members' gallery which is beyond the sphere of dust raised by the movement of persons there was no such increase of organisms, and there was further a general absence of any organisms that could be identified as pathogenic or in any degree prejudicial to health. The work on fritts and leadless glazes has been continued, though not to the extent of previous years owing to the conclusion having been arrived at in the arbitration on the matter that a considerable diminution in the number of cases of plumbism had been brought about owing to the improved working conditions imposed by the Home Office. It is satisfactory to report that the leadless glazed articles supplied to the public departments have proved to be substantially free from lead. With regard to samples referred to the Government laboratory by magistrates under the Sale of Food and Drugs Act, 119 have been examined, which means an increase of 41 samples over last year owing to the greater number of samples of butter and milk. The proportion of cases in which the Government results led to conclusions differing from those of the public analyst was 21 per cent., as against 20 8 per cent. for the previous year The chief disagreements arose out of samples of milk and butter, while as regards four samples of soap liniment said to have been prepared with methylated spirit instead of rectified spirit, as required by the British Pharmacopœia, in only one of these cases could the certificate of the public analyst be upheld. While upon this subject we may note that according to a statement furnished to the Home Office by the Local Government Board, out of a total of 2673 fines imposed by magistrates under the Sale of Food and Drugs Act during one year 764 were of 10*s* or less, 193 of less than 5*s*, and 118 of 1*s* or less For years we have urged that the fines have been utterly inadequate and so absurdly small as practically to defeat the real object of the Act—viz , the protection of the people against fraudulent practices and against injurious additions in regard to food. It is time that this silly state of things should be remedied and by no uncertain method.

Annotations.

"Ne quid nimis"

KING EDWARD'S HOSPITAL FUND FOR LONDON

THE Honorary Secretary of King Edward s Hospital Fund for London has forwarded to us the following statement with a request for its publication His Royal Highness the President and the Executive Committee of King Edward's Hospital Fund for London have great pleasure in announcing that they have received from Lord Mount-Stephen and Lord Strathcona an endowment to King Edward's Hospital Fund for London, producing at present £16,000 per annum, and likely to increase in value. This most munificent gift will go far to complete the scheme inaugurated by His Majesty the King when Prince of Wales in 1897 to free the London hospitals from debt. It is earnestly hoped by all connected with the Fund that the sum still required to secure £100,000 per annum, the amount stated in the original appeal to be necessary to carry out the work of the Fund, may be obtained during this the first year of His Royal Highness s Presidency The munificence of these two Canadian noblemen in this year of Empire is one more token that the London hospitals are in no sense local charities but Imperial houses of healing Their patients are indeed drawn from an even wider sphere than that ruled over by His Majesty King Edward VII That their income is in no way commensurate with the work which they have to do has been for many years only too evident, but the scheme set on foot by the King when Prince of Wales in 1897 bids fair to set these institutions on a sound financial footing Not only have the inhabitants of these islands given of their wealth and of their poverty but the great Indian princes and now the Canadian merchant princes have stretched out a helping hand to the sick and needy That the full sum to be made up will soon be obtained is the wish of all and we congratulate the authorities of the Fund upon being within measurable distance of this end

IS THE PRACTICAL WORKING OF OUR RAILWAYS EFFICIENTLY SUPERVISED?

THAT small defects, by easily escaping ordinary observation, may lead to very grave issues has been very apparent recently in connexion with the working of our great railway systems Apart from a flaw in the rolling stock itself the possibilities of a derangement in the rails are countless Every linear foot along miles and miles of a railway may become a source of danger, perhaps by reason of subsidence, by a crack in the steel, or by the loosening of a chair or pin Experience shows, at any rate, that the derailment of trains does not always find a clear explanation, yet it is, perhaps, in modern times the most fertile source of accident In these circumstances the question naturally arises, Is the permanent way kept under constant and efficient supervision? Recent occurrences would tend strongly to show that it is not and a few instances may be cited supporting this conclusion. Not long ago the South Eastern Railway quite suddenly announced the interruption of their main line traffic owing to a grave defect which had appeared in the Grove Park tunnel near Chislehurst. It was stated that a platelayer walking through this tunnel discovered very distinct evidences of the brick work giving way Is it a platelayer's duty to report upon the masonic condition of a tunnel? If so, is he to be regarded as a competent person for the purpose? According to reports it was by sheer accident that the platelayer remarked the defect We now know that the defect was serious enough to lead the authorities at very great inconvenience to themselves suddenly to close the main line. It may be concluded, therefore that the state of the tunnel was perilously close to the possibility of disaster Was the condition of the tunnel known before the platelayer discovered it? If so, why was not the traffic diverted long before? if not, what system of supervision is adopted which failed to discover it? Again, a few weeks ago the Flushing boat express met with an extraordinary accident on the point of leaving London The train suddenly "jumped" the rails and it could only have been by a miraculous series of events that an appalling disaster was averted There were 200 people in the train who, needless to say, experienced considerable shock. Luckily, the express was travelling on rails in the centre of the track and for some most extraordinary reason several of the carriages took to the rails again by the intervention of diamond points As it was the permanent way was ploughed up and great damage was done Was this due to a defect in the rails? and if so why was it not made out? Yet again on the Great Eastern suburban line not long ago a very serious accident occurred to a very crowded train by which many persons were injured owing to the snapping of an axle Is this cause of accident also to be passed over as unavoidable? Numerous instances of trains leaving the metals and hurtling over embankments could be quoted from records That of a Hastings train on the Brighton line a few years ago was such a one Where is the system of supervision in such examples? In our own personal experience we remember once travelling in a railway carriage the wheels of which were locked by the brake for quite 10 miles It was anything but a pleasant experience crossing points at 30 or 40 miles an hour in a carriage with its wheels fixed. And yet if the station master at the first stopping station had not been informed of the fact the train in all probability would have been allowed to proceed On this information having been given, however, it was found advisable to detach the carriage from the train. What system of supervision was in operation in this case? We have heard, too of some alarming incidents in connexion with the "slipping" of carriages After the carriage has been slipped travelling perhaps, at a considerable speed, the brake has suddenly acted, with an effect upon the passengers little short of that of a collision In other cases the brake of the portion of the train running on may get beyond control and bring the train to an unexpected standstill with the result that the slip carriages may dash into the main portion of the train. Railway officials have been known to express this fear The slipping of carriages provided with automatic brakes is undoubtedly attended with risk and accidents have arisen on this account. Is the working of this system properly supervised? When traffic becomes disorganised or unusually congested many trains escape the tapping test which in the case of suburban trains is commonly applied to the wheels of the carriages at the terminus. Is the tapping test satisfactory? and if so would the omission to do it be likely to be attended with risk? These questions demand an answer and should receive the immediate and serious attention of the Board of Trade, for the examples which we have quoted are not calculated to set the minds of the railway travelling public at rest as to whether the supervision of railway tracks and rolling stock is conducted with that precision and frequency which in the interest of their lives are imperative

NEW CREMATORIUM AT LEICESTER

BY a special Act of Parliament the Leicester corporation has been empowered to establish a municipal crematorium and this has now been completed It has been erected at the rear of one of the chapels at the new cemetery which was opened on August 25th. In this chapel a screen will be placed across the chancel which will shut off the crematorium in the case of ordinary burials. In the centre of the chancel stands the catafalque, or bier upon which the coffin will rest during the service. Outwardly the catafalque will consist of oak panelling and delicate tracery of the same character as the screen. When the funeral ceremony takes place before cremation at the conclusion of the service the coffin will be silently moved by invisible machinery and will pass out of sight through folding doors at the head of the catafalque which will close behind it. When these doors are closed an asbestos shield will be raised and the coffin will be moved by the same machinery into the incinerating chamber The cremating apparatus is a furnace of the regenerative type designed by the late Mr Henry Simon president of the Manchester Cremation Society, and has been erected by Messrs Henry Simon Limited of Manchester It consists of three interior chambers the two lower of which are surrounded by air passages The lowest chamber contains a coke fire and the upper or incinerating one is that in which cremation takes place. The fire is lighted some hours before the apparatus is to be used and is supplied with air in the usual way By the time the apparatus is ready for use the walls of the air passages are thoroughly heated. Most of the direct air supply is then cut off and the partially consumed carbonic oxide from the coke is allowed to mix in the second chamber with the air heated by passing through the side air passages, the result of which is that the incinerating chamber is thus filled with gas of an intensely oxidising character in a state of incandescence. The degree of heat can be regulated in the most exact manner There is no smoke and little flame is visible before the body is introduced and with a coffin made in accordance with the by laws there is no smoke or noise during cremation. The process occupies from an hour to one and a half hours at the end of which time there remain only the inorganic residue of the bones. The by laws concerned with the crematorium are drawn up in most careful manner Two declarations must be filled in b separate medical men and both must be given on oath befor a justice of the peace or notary public while the corporatio may if it chooses order that a necropsy shall be mad at the cost of the party making the application for crema tion. The coffin must be made of dry oak, poplar or pin boards not more than three-quarters of an inch thick, woode pegs only being used in its construction. No pitch must b used for coating the inside but if the state of the body o the illness from which the deceased died make it desirabl a thin zinc lining may be inserted The charge for crema tion if the deceased was resident within the borough will b £2 2s for any other person £5 5s., but this charge may b partially or wholly remitted in cases of extreme poverty a the discretion of the corporation

THE SMOKE NUISANCE

ONCE again has fiction proved the pioneer of fact. Mr Gilbert's Lord Chancellor it will be remembered, applied t himself for leave to marry his own ward and addressed himself in terms which rendered it impossible for him ever to apply to himself again. However on being reminded that he was a just and kindly old gentleman he took heart and eventually obtained his own consent The Batterse borough council is not a court but on Sept. 3rd it summoned itself for committing a nuisance by emitting black smoke. The council's solicitor Mr P Caudwell appeared as a legal quick change artist in the double capacity of prosecutor and defender Before Mr Rose of the South Western police-court he charged himself with the offence and as the offender did not deny that he had committed it. He therefore as it was a first offence asked Mr Rose to grant a prohibition order to prevent its repe tition This outcome is we think, politic, for if Mr Caudwell had not been able to satisfy himself that a simple prohibition order would suffice he would probably have been fined (we trust heavily) this fine, however would have come out of the pockets of the ratepayers. Nevertheless after such an example of municipal purity of conscience we live in hopes of seeing the London School Board Cockerton-ising" its own accounts.

THREADWORMS AND APPENDICITIS

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of July 27th Professor Bégouin has published an important paper on Threadworms and Appendicitis which is of special interest in connexion with the correspondence which has recently taken place in our columns[1] He relates the following case. A woman aged 24 years was admitted to hospital with the diagnosis of recurrent appendicitis. For four or five years she had been subject to attacks of pain in the right iliac fossa which lasted for three or four days and disappeared for weeks or months. Once or twice there was a little swelling in the iliac fossa. Menstruation was normal and the general condition was good. Examination showed a slight tender tumefaction of the size of an almond below McBurney's point. The diagnosis lay between relapsing appendicitis and sclero-cystic ovaritis On opera tion the latter condition was found and the ovary was removed The vermiform appendix was free from adhesions but as it was a little more turgid than normally it also was removed. It contained 15 threadworms fragments of bread, and grains of starch Some of the threadworms were united in a bundle and formed a sort of plug There were four small superficial ulcers

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[1] THE LANCET July 5th (p. 58) and 12th (p. 125) 1902.

(*exulcerations*) of the mucous membrane in the position of follicles which were turgid, and one of these follicles was surrounded by an infiltration of leucocytes Metchnikoff called attention to the relation between intestinal worms and appendicitis in the *Bulletin de l'Académie de Médecine* of March 12th, 1901 (p 301) He thinks that worms are often the cause of appendicitis and that the administration of vermifuges will prevent and cure appendicitis More recently (July 2nd) Kirmisson and Lannelongue have discussed the subject in the same publication But in all these papers the question has been the rôle of the ascaris lumbricalis and of the trichocephalus dispar; the threadworm was never found in the diseased appendix. Professor Bégouin can find only a single reference to the existence of threadworms in an excised appendix—a case recorded by Routier which is cited by Guinard in his article on appendicitis in the "Traité de Chirurgie" of Ledentu and Delbet (tome vii., p 476) Metchnikoff, like most authorities, admits that worms may cause ulceration of the mucous membrane, which may be the starting point of an infection penetrating the whole intestinal wall, and also that worms may mechanically obliterate the lumen of the appendix and favour exaltation of virulence of the microbes The latter condition evidently existed in Professor Bégouin's case.

THE RELATION OF EPILEPSY TO CRIME

AT the recent annual meeting of the American Neurological Association (June, 1902) Dr W P Spratling, medical superintendent of the Craig Colony for Epileptics, New York State, in an interesting contribution on the Relation of Epilepsy to Crime, pointed out that the epileptic "fit" in its classical form only constituted one half the picture of the disease, for the mental states consequent upon the fit were of the most varied and abnormal forms and constituted another aspect of the disease which possessed both clinical and medico legal importance Such manifestations varied from a condition of stupor or stupidity to one in which extraordinary crimes have been committed The insane epileptic of asylums had little facility for crime, partly because he was vigilantly supervised and partly because he was less potent for evil owing to his being more or less demented There were many epileptics who were not, or did not become, insane, and although the exact proportion was not easy to determine it could not be less than 15 or 20 per cent of the total. An epileptic who is sane at other times may, while in the peculiar mental condition following upon a fit, commit the most open and extraordinary crimes In this state, argues Dr Spratling, he stands forth as a curious anomaly under the law of responsibility, for with consciousness subverted or destroyed the brain may give expression and effect to impulses of a dangerous or abnormal nature without possibility of self control. In many cases the danger of epilepsy does not cease with the passing off of the convulsions and post-convulsive stupor, for there frequently follows a subconscious state, lasting from a few minutes to several days, during which the condition of the patient is best described as one of mental automatism with loss of the sense of personal identity He then acts like a mere machine, being able to go about as usual and able to take his meals and to perform sundry other commonplace actions as was his habit before the attack. And yet he is all the while absolutely ignorant of what he is about—his mind is a blank. In such a state he may do a criminal deed without premeditation or criminal intent, "as a railway engine may kill a person while running away without its driver" The same curious and interesting phenomenon of mental automatism may appear in cases of so-called psychical epilepsy, in which motor convulsions do not take place, but a state of acute frenzy and "blind" excitement occurs, lasting for a few hours or days This form of psycho epileptic frenzy is, says Dr Spratling, never momentary, as a study of over 1300 cases has convinced him that it lasts some time The most difficult medico legal problem connected with epilepsy is encountered in the purely psychical forms of epilepsy—those uncomplicated with convulsions or crude motor manifestations Here the patient may commit the most strange acts, such as wandering about without any consciousness of locality or sense of personal identity until he finds himself stranded away from home and friends, when normal consciousness eventually returns, a condition to which reference has already been made in these columns [1] It is not safe to oppose an epileptic while he is in such a state as he is apt to become combative and dangerous Thus a case is cited by Dr Spratling of a man who had a seizure of *petit mal* while in an elevated railway in New York By the time the guard reached him he was all right, but when the time came for him to leave the car some minutes later he made no move to go The guard took him by the arm to move him when the patient struck at him violently and a fight ensued which led to his being arrested and locked up When he came to his senses he was greatly mortified at being in jail, and on showing his card of epileptic seizures was permitted to go He was, says Dr Spratling, unconscious when he struck the guard and had no intent whatever of doing wrong Dr Spratling concludes by citing other cases where dangerous and even murderous attacks on persons have been committed by epileptics during the stage of mental automatism which may follow a fit and he points out the close analogy of this state to insanity

SERUM TREATMENT OF TYPHOID FEVER

IN the August number of the *Maryland Medical Journal* Dr William Royal Stokes and Dr John S Fulton of Baltimore publish a series of experiments which they have made in order to test the effect of a serum of high immunising power on cases of typhoid fever For the purpose of obtaining such a serum they injected hogs with pure virulent cultures of the typhoid bacillus, for these animals will stand the injection of the cultures without any discomfort, whereas in horses sloughs may form Bouillon cultures 48 hours old were injected into the tissues of the abdomen in increasing doses at intervals of about 10 days for a period of about five months—namely, from July 24th to Dec 31st, 1900 The amount of the first injection was 10 cubic centimetres and that of the last was 1130 cubic centimetres For the large injections the glass vessel intended for injecting salt solution was used, a foot-bellows being attached to it for the purpose of forcing the fluid into the tissues The animal was bled three times—namely, on Feb 27th, March 21st, and April 5th, 1901, one litre of blood yielding about 200 cubic centimetres of serum was drawn each time The results of 90 experiments with this serum on guinea pigs might be summarised by stating that the subcutaneous injection of the serum in doses of from $\frac{1}{600}$th to $\frac{1}{800}$th of the body weight will protect guinea pigs against four times the minimum fatal dose of intraperitoneal injection with the typhoid bacillus The injection of $\frac{1}{3000}$th to $\frac{1}{4000}$th of the serum by weight into the abdominal cavity will protect against five times the minimum fatal dose, and a dose of $\frac{1}{500}$th to $\frac{1}{800}$th of the body weight will protect against seven times the minimum fatal dose of the typhoid bacillus This serum has been used in the treatment of five patients suffering from typhoid fever, in two of whom no appreciable effect was produced upon the temperature, pulse, or other ymptoms, but three of them seemed to show some improvement under the serum treatment. The total amount of serum injected in each case was respectively 65 120 200 54 and 60 cubic centimetres. The amount of the individual injections varied from 10 to 40 cubic centimetres.

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[1] A Case of Pure Psychical Epilepsy THE LANCET, July 29th, 1899 p 290

MORTALITY IN ITALY IN THE PROFESSIONS AND TRADES AND AMONG CHILDREN

FROM the official statistics dealing with the last statistical years 1898, 1899 and 1900, we gather that out of 100 males of every profession whatever dead from 20 years of age and upwards only 40 have lived longer than 70 years Taking the *media complessiva* (the average collectively) the priests and monks reach the highest figure, 57 per cent. having exceeded the 'term of the Psalmist, while the next in order are the capitalists and landed proprietors with 53 per cent. the mariners bargees, and fisher folk with 46 per cent. the medical practitioners and veterinary surgeons with 43 per cent , and the agricultural population with 43 per cent. Death is more premature among printers and lithographers of whom only 19 have attained 70 years. ' Guards, which in Italy means the police service, become septuagenarians only in the proportion of 19 per cent. miners and quarrymen in that of 21 per cent. , commission agents and domestic servants 23 per cent. , waiters in hotels and restaurants, 25 per cent. porters, 27 per cent barbers 28 per cent. coachmen and carters, 28 per cent. grooms tavern keepers, and restaurateurs 29 per cent , teachers and professors, 29 per cent butchers, drysalters, and sausage-sellers 30 per cent. and smiths, farriers, and mechanics 30 per cent. Infantile mortality is in marked diminution, thanks to the improved condition of the country sanitary and hygienic In fact, in 1900 (a year of exceptional mortality among children on account of the influenza) out of 1000 infants under one year of age 172 died, compared with 206 in 1897 The same proportion of deaths per 1000 is maintained in the case of children up to five years of age.

THE CAUSES AND TREATMENT OF VERTIGO A SYMPOSIUM

AT a recent meeting of the New York Academy of Medicine, a report of which has appeared in the New York *Medical News* of August 16th last, an important discussion was opened on the Causes and Treatment of Vertigo by Dr Charles S Fisher of New York. After referring to the description of gastric vertigo" as given by Trousseau Dr Fisher said that the term should be limited to cases marked by sudden onset, intense dizziness, and a sense of fear or disaster but not accompanied by loss of consciousness. These cardinal symptoms were nearly always associated with pain or oppression felt in the epigastrium and the attack was usually followed by a feeling of nausea. Actual gastro-intestinal disorder in the form of dyspepsia, gastric catarrh or constipation was generally but not always present. It seemed, however in the light of our present knowledge of gastric disorders that it was only when secretory gastric troubles with excess or deficiency of hydrochloric acid, were present that vertigo became a prominent morbid feature Ocular or aural troubles were sometimes found to exist in such patients if looked for with care. The subjective disturbances causing vertigo were probably aroused by nervous excitations carried from the stomach to the bulbo-spinal centres by the vagus nerve Many observers had noticed that vertigo followed the introduction of a stomach tube The term secretory gastric disturbance, as above used, said Dr Fisher should include those local disorders which permit of the formation and absorption of toxins in the alimentary tract, since the resulting toxæmia was often a determining factor in vertigo. In some of Trousseau's cases attacks of vertigo were precipitated when the patients looked at a revolving object, so that auto-suggestion would seem to play a rôle. Vertigo might be associated, said Dr Fisher with other forms of nervous disturbance in the same patient, such as agoraphobia or fear of open spaces Here however the cause of the vertigo was psychical while the agoraphobia was itself of psychical origin and not associated with the stomach. In the discussion which followed the above communication Dr Brandegee pointed out that congestive and inflammatory conditions of the Eustachian tube and tympanum were productive of vertigo the immediate cause being an increase of pressure within the labyrinth of the ear Dr Pearce Bailey said that tea coffee, and tobacco taken in excess produced vertigo, and that in some patients, both syphilitic and non syphilitic, the administration of large doses of iodide of potassium was followed by pronounced vertigo and a staggering gait. Vertigo was also an early symptom in general paralysis and coincided with commencing loss of memory It occurred also in other forms of cerebral syphilis and was often a warning signal of threatened apoplexy Professor Max Einhorn said that the gastric conditions present in cases of gastric vertigo were catarrh and secretory disturbances. The hyperacidity of nervous indigestion was curable by Vichy water or other alkaline remedy and when it disappeared the associated vertigo was also abolished. He cited cases where there was a deficiency of the stomach secretion with the result that rough particles of food coming in contact with the mucous membrane of the stomach caused a reflex vertigo If sufficient liquid was taken with the meals this trouble disappeared Dr Dench pointed out that syphilis produced labyrinthine vertigo, which, however responded well to dosage with mercury and pilocarpine—a fact which others who took part in the discussion were able to confirm. Most of the speakers also agreed that the local correction of aural and ocular troubles mitigated the attacks of vertigo

THE LOCAL GOVERNMENT BOARD AND MEDICAL WOMEN

THE Burnley board of guardians is in a state of rebellion against the Local Government Board in respect of the recent appointment of a lady as a resident medical officer at the workhouse. At the meeting of the guardians on August 21st a letter was read from the Board in which it is said that they consider that the appointment of a lady as assistant medical officer when a medical staff consists of two officers only is open to objection having regard to the fact that it is to be her duty to act as medical officer-in chief during the absence of that officer. The Board therefore requests that the matter will receive further consideration." The guardians however, were not to be turned from their purpose and one of them moved that the ' further consideration consist in the re-affirmation of the appointment. It was time they at any rate, showed," he said, that they were above the ordinary prejudices which seemed to act against the appointment of women who were, as in this case thoroughly well qualified not only by examination, but by practice." This was seconded and the motion was carried unanimously The question of the appointment of a young unmarried woman as junior medical officer to a workhouse where the senior is also young and unmarried is a difficult one when looked at from either the social or professional standpoint. There can be no difficulty in indicating one of the principal objections to such an appointment. In the absence of the male assistant medical officer his female colleague would be responsible for the medical work of the establishment and although she might be quite proficient in the use of the catheter and in the arresting of hæmorrhage most members of her sex would feel themselves placed in an embarrassing position by the admission of a man suffering from an extreme degree of retention of urine or bleeding profusely from a recent laceration of the external genitals. It is neither necessary nor desirable to elaborate this argument, but it is manifest that if the lady does not deal with such cases as part of her ordinary work it is hardly in the interest of a patient suffering in the way we have suggested that she should have to treat him in an emergency.

SURRA IN THE PHILIPPINE ISLANDS

THE existence of surra in the Philippine Islands is definitely announced and is causing considerable mortality among the transport animals and cavalry horses of the United States army of occupation, some 2000 animals having died from it during the last six months of 1901. The disease has proved almost invariably fatal and has caused some alarm owing to the possibility of its introduction into the United States. Captain Curry, M.D., reports that the carrier of surra in the Philippines is a biting fly, the *Stomoxys calcitrans*.[1] He has examined a large number of flies and mosquitoes but has found the trypanosome only in this species, in which it may remain alive for 24 hours after biting an infected animal. This fly is very abundant in and about Manila, especially in the stables and corrals, and it lays its eggs in the dung, in which the larvæ and pupæ thrive. As a prophylactic measure, all remedial agents having failed, the destruction or disinfection by lime or petroleum of animal excrement in all stables and corrals is recommended.

DURHAM COUNTY CONSUMPTION SANATORIUM

WE have received a copy of the third annual report of the Society for the Prevention and Cure of Consumption in the county of Durham. We cordially agree with the general tone of the report. We have frequently urged that it is the duty of medical men to educate their patients as to the danger of infection which may arise from the improper disposal of tuberculous sputum. The committee of the Durham Society has been adopting this principle. Addresses have been given to meetings of workmen, members of the Sunderland board of guardians, and the Coöperative Society, and letters have been sent to the various local authorities asking them to adopt preventive measures. Several authorities now offer the free disinfection of rooms vacated by consumptives and distribute leaflets showing the great danger of indiscriminate spitting, of breathing close and vitiated air, and the need for the better ventilation and lighting of cow-byres, as well as the more stringent supervision of the milk supply. It is interesting to note that voluntary notification of cases of consumption has been in force in Sunderland for a year and the medical officer of health states that 96 cases have been reported. Sunderland has a population of over 146,000, so that the number notified cannot be stated to be large. Further, the borough of Gateshead has also adopted voluntary notification, so that this measure is now in force amongst over a quarter of a million of the population in the county. We shall await with interest further intelligence of the result of this experiment. The report of the medical officer (Dr. J. Gray) as to the results of the sanatorium treatment is certainly satisfactory and we trust that the necessary funds will be forthcoming to provide more beds. Attached to the report is an article on "Consumption: Its Prevention and Cure." It is intended "for the use of sanitary authorities, boards of guardians, consumptives, and the general public." Information is given in a popular manner of the methods by which tuberculosis is spread and the means which may be adopted to diminish its dissemination.

ON THE "INTENSIVE" MERCURIAL TREATMENT OF GENERAL PARALYSIS AND TABES DORSALIS

PROFESSOR LEMOINE of Lille has contributed to the *Revue Neurologique* of July 30th last an important practical paper on the treatment of general paralysis and tabes dorsalis by the hypodermic injection of an organic salt of mercury in large doses and for prolonged periods. He refers to the view generally entertained by many physicians that general paralysis and tabes dorsalis are but little capable of improvement under the so called "intensive" form of mercurial treatment, and publishes a number of cases where the results of treatment, especially as regards general paralysis, are so strikingly beneficial as to suggest that the question requires reconsideration. 12 cases are recorded by him at some length, six being cases of general paralysis and six of tabes dorsalis submitted to treatment. Two out of the six cases of general paralysis are recorded below as typical and illustrative. Case 1. The patient was a man, aged 29 years, with a history of syphilitic infection. He had been well treated with mercury after he had contracted the disease and had married subsequently and begotten two apparently healthy children. He developed general paralysis later. On then coming under observation he was submitted to the form of mercurial treatment alluded to at the heading of this annotation. He was given daily hypodermic injections of benzoate of mercury to the extent of two centigrammes (three tenths of a grain) per dose, from Oct. 10th to Dec. 25th, 1897. The treatment was carried out uninterruptedly with the following results. Speech and memory, which had hitherto been impaired and defective, were much improved but the general mental weakness remained the same. From time to time since then, up to February, 1902, treatment was continued. The mental and physical conditions improved further and only a slight pupillary inequality remained. He had since 1897 begotten four children, all of whom appeared to be healthy. Case 2. The patient was a man, aged 27 years, of alcoholic habits, neuropathic predisposition, and impulsive temper. He had had syphilis when a youth, and some years afterwards he developed symptoms of general paralysis with grandiose delusions and megalomania. He was then admitted into an asylum and treated with daily injections of benzoate of mercury to the extent of two centigrammes (three tenths of a grain) per dose, as in Case 1. The injections were given for 15 days continuously and then discontinued for a similar period. The dose was then raised to three centigrammes (about half a grain), the intervals of treatment and discontinuance being as before, the whole period of treatment extending from May to the end of September. During October considerable amelioration was seen both mentally and physically. The treatment was now reduced to two centigrammes (three tenths of a grain) per dose, and this was continued for seven months. A slight apoplectiform seizure occurred once during this period. At the end of the time it was noticed that the disease (dementia) was arrested, though the patient's original character and disposition—viz., those of a neuropath—were clinically unmistakeable. Professor Lemoine gives detailed accounts of four other cases of general paralysis treated as mentioned. In all the six cases he observed marked improvement of symptoms both mental and physical, but, as he points out, longer periods of observation are necessary before it can be conclusively established that the disease has been definitely arrested in such cases. The excellent results obtained, however, in these cases of general paralysis he regards as justifying publication. Of six cases of tabes dorsalis submitted to the same form of mercurial treatment five improved moderately and one very markedly as regards the ataxia of gait, but lightning pains still occurred at times in all and the knee jerks were absent Professor Lemoine uses the benzoate of mercury because it can be injected locally without harm to the patient. He advises deep injection into the subcutaneous tissue and muscular fasciæ, and says that the pain produced is slight Summarising his results generally he thinks that the improvement attained in cases of general paralysis is greater and more striking than in cases of tabes dorsalis.

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[1] American Medicine, July 19th, 1902, p. 95.

THE FIRST VACATION SCHOOL IN ENGLAND

ALL ratepayers know that the children of board schools have the month of August in every year as holidays A few of the more fortunate ones get away into the country which is obviously the most ideal way of spending the summer vacation But by far the greater number of the London children have no country air to look forward to and spend August indoors, where they are perpetually in their mothers' way or outdoors on the pavements getting into all kinds of mischief quarrelling and fighting Mrs. Humphry Ward has this year tried an experiment at the Passmore Edwards Settlement in Tavistock place of opening a voluntary school during August for the children of the neighbourhood who habitually attend some 10 board schools and three voluntary schools Children able to pay a country visit or those wanted by their mothers for household work were excluded but more than 600 others volunteered with acclamation to attend, and spent happy hours, tinged only with the one disappointment that they could not stay longer for more classes. No punishments were necessary *excellent discipline was maintained*, and the threat of being sent to the head master who had power to dismiss from the school was always found sufficient by the teachers. The children were divided into two classes which alternately worked for two and a half hours in the morning or the afternoon for five days in the week only In the Duke of Bedford's large garden adjoining the settlement we found on the day of our visit five classes happily grouped under trees clay modelling listening to stories *engaged in kindergarten games needlework for* the girls and nature study which was taking the form of a demonstration on tadpoles. In another corner a joyous shouting class was building a range of mountains in the sand heap, the children working with feverish activity in the short half hour at their disposal. In the house we saw many interesting lessons going on, such as housewifery (which includes the washing and dressing of a baby), drawing from memory from previous lessons and copying flowers, singing to the piano, gymnastics in a fine gymnasium, drilling dancing and carpentering Among the favourite classes for both boys and girls was cooking in the kitchen where the boys proudly showed us the baked savoury mince and the plum pudding which they had just learned to make. A dramatic class was rehearsing a scene from the *Midsummer Night's Dream* which was eventually acted for the benefit of the parents, and another favourite half hour was that spent in the library well stocked with story books The various so-called lessons were all carefully chosen to employ the children's muscles rather than their brains and all lesson books were rigidly eschewed. The children varied in age from six to 13 years, infants not having been accepted. A trained nurse was on duty all through the day ready for the reception of any sick children she was also responsible for the cleanliness of the lavatories and general hygiene. Parents of the children stated that they had never had such a peaceful August before and *the general success of the experiment seemed to be greatly* due to the perfect organisation shown by Mr Holland the head master He was ably aided by 12 teachers and four assistants who were paid out of a small fund raised by Mrs. Ward and her personal friends The cost amounts to about £60 a week, which is much the same as the expenditure in the New York and Chicago vacation schools which have been for some years in progress We cordially *sympathise with this experiment, because it* seems to us that it helps in a small way to militate against embryo hooliganism. The children and their parents are ready for an extension of the scheme next year The school buildings already exist the necessary funds for teachers and materials can surely be furnished by the London School Board provided that it is clearly laid down that the children's brains are not to be worked during their one month's holiday but there is one great difficulty which we cannot help foreseeing and that is the supply of teachers, if the movement is to become general. It is obvious that board school teachers should not be encouraged to give up their necessary holiday but it may be quite justifiable to employ as in the late experiment teachers engaged in secondary or middle-class education aided by students from training colleges who usually get at least two months holidays in the summer Are there enough of these to make general vacation schools practicable in London and other large cities?

SMOKE PREVENTION AND PETROLEUM LAMP ACCIDENTS

NOT the least interesting sections of the annual report of the chief officer of the Public Control Department of the London County Council are those relating to the steps taken to prevent smoke nuisance and to the returns showing the number of petroleum lamp accidents investigated by the Council's inspectors It is satisfactory to note that the action taken under the Public Health Act by the Council and by the borough councils during the year ended March 31st, 1902, has resulted in 819 cases of nuisances being reported of which 541 were regarded as serious. Legal proceedings however were taken by the borough councils in only 119 cases and convictions were obtained in 106 of these the total amount of penalties imposed being *nearly* £551. We rejoice to find that the Public Health Committee are considering how they can increase their powers in this matter and it is suggested that the special section of the Act should be so worded as to cover any serious emission of smoke from a chimney Further it is proposed to impose a direct penalty of not exceeding £10 for the first offence, to be increased for subsequent offences instead of applying to smoke nuisance, as at present, the complicated procedure that may be properly applicable to a sanitary nuisance We certainly agree that if the law could be so amended its active administration would at once lead to a considerable diminution of the smoke nuisance which still afflicts London. With winter approaching we trust that a strong endeavour will be made to bring such excellent proposals into effect. Under the same Act proceedings were taken in regard to 74 cases of smoke nuisance arising from railway locomotives. The worst offenders in this respect were the South Eastern and Chatham Company who contributed just one half of the cases and paid accordingly one-half of the total amount of penalties (£230) imposed. The Brighton line comes next then the Great Eastern, then the Southend line (four cases) and the London and North-Western (three cases) The Midland, Great Northern, Great Western, Great Central, and London and South Western railway companies do not appear in the category The number of lamp accidents investigated by the Council's inspectors during the past year was the same as in the previous year—namely 204—whilst the number of fatal cases diminished to 18, in which 21 lives were lost In most cases the accidents were due to cheap lamps, to the penny glass lamp or white china table lamp, or to lamps with thin glass reservoirs The return of lamp accidents does not altogether justify the chief inspector's statement that a remedy for the great majority of petroleum lamp accidents would be found in raising the flash-point and that to deal with the evil solely by means of improvements in lamps will not be effectual. In not a single instance in the lamp accidents is he able to state that the lamp was well made In one case in which two women lost their lives the flash point of the oil proved to be 103° F —that is to say, 3° above the temperature to which it is proposed to raise the flash point In the face of this example, in which the broken lamp had a thin glass reservoir, he states that it is the experience of the department that it is quite exceptional for a lamp in ordinary use to develop such a heat on burning as to raise the temperature of the oil to a point above 100° F In this accident the flash point of the oil was 103° F , while in the two other accidents it was 94° F and 95° F respectively We quite realise that it would be a simpler matter from an administrative point of view to enforce the use of high flash point oil rather than to insist upon the use of properly constructed lamps, but we still believe that there would be greater security in the use of a properly constructed lamp than in the use of oil of 100° F flash-point. Surely it cannot be maintained that the penny glass lamp is safe in any circumstances

TREATMENT OF GONORRHŒA IN THE FEMALE

IN a long article published in the July number of the *University of Pennsylvania Medical Bulletin* Dr W B Small considers the subject of gonorrhœa in the female under the headings of urethritis, cervical gonorrhœa, specific vaginitis, gonorrhœal vulvitis, gonorrhœa of the rectum, and gonorrhœal bubo In the acute stage of specific urethritis the symptoms complained of are frequent and painful urination. Local treatment is contra indicated but a powder consisting of bicarbonate of potassium, bromide of potassium, and salol, five grains of each, may be given every four hours until the dysuria is somewhat relieved The discharge will then be purulent and the urethra may be irrigated with protargol solution, 1 part in 100 or 200, by means of Skene's reflux catheter or a soft rubber catheter Capsules of copaiba and sandal wood oil should also be administered internally After a time injections of sulphate or acetate of zinc, alum, and tannic acid may be employed and continued for two or three weeks If urethro cystitis occurs a solution of protargol of 1 per cent. strength may be applied directly to the bladder wall. Cervical gonorrhœa can only be diagnosed by the help of the microscope. No symptoms usually manifest themselves at the beginning Dr Small recommends that a solution of protargol of 1 or 2 per cent. strength should be injected with a syringe into the cervical canal, injecting very slowly and only while the syringe is being withdrawn, but he admits that this practice is disapproved of by many gynæcologists on the ground of the danger of fluid being forced into the Fallopian tubes If applications of protargol, nitrate of silver, and ichthargan fail, then pure carbolic acid and curetting must be resorted to Specific vaginitis is a disease the existence of which is doubted by some observers, because infection seldom occurs when Neisser's diplococcus is introduced into the perfectly healthy vagina of an adult. Vaginitis, however, assumes a virulent form in infants infected by dirty towels or in consequence of criminal assaults Vaginitis in the infant is difficult to treat, particularly when the vaginal opening is very minute. Weak solutions of boric acid, protargol, and nitrate of silver may be used, together with small suppositories of ichthyol. Gonorrhœa of the vagina in older persons will permit of frequent douching with potassium permanganate, 1 in 2000, followed by protargol, 1 in 100, until the acute stage has somewhat subsided The careful exposure of the vagina, in the knee chest posture, with a specially constructed wire speculum, followed by swabbing the entire surface with protargol, 1 in 20, and placing a tampon containing a weak ichthyol ointment so that the vaginal walls will be separated, is essential. This should not be retained longer than 12 hours and be followed by a cleansing douche of at least three gallons of hot water, then of another quart of mildly astringent douche. Gonorrhœal vulvitis, like gonorrhœal vaginitis, reaches its most pronounced type in the young In the infant a mixture of equal parts of boric acid solution and diluted liquor plumbi subacetatis should be frequently used to cleanse the parts and a few layers of gauze saturated with the same solution should be kept between the labia. In older patients gauze saturated with protargol solution, 1 in 50, should be placed between the labia. In both infants and older patients, after the acute symptoms have somewhat subsided, the parts should be painted with nitrate of silver solution, 1 in 50, followed by a dusting powder composed of equal parts of boric acid and acetanilide Rectal gonorrhœa, which is more frequently caused by the backward flow of the infectious vaginal discharge than through unnatural practices, manifests itself usually by pain and tenesmus In the early stages a solution of protargol of 1 per cent. strength combined with tincture of opium can be used to advantage, followed after the acute stage has subsided by an astringent injection of alum and sulphate of zinc Gonorrhœal bubo in the female does not seem to be as frequent as in the male At the first sign of swelling of a gland complete rest is necessary and an ointment should be applied consisting of equal parts of ointment of mercury, ointment of belladonna, pure ichthyol, and lanolin, spread on lint at least half an inch in thickness, covered with waxed paper, and over this a well fitting pad of cotton wool, the whole being very firmly bandaged with three successive bandages, each three inches in width and eight yards in length. If this treatment is followed for a week without any distinct improvement in the condition the possibility of stopping suppuration is slight.

CHOLERA IN EGYPT

DURING the week ending August 18th the figures for cholera throughout all Egypt were as follows total number of cases, 1127, deaths, 791, and recoveries, 43 The Director General of the Sanitary Department of Egypt writing on August 19th says "In Cairo 150 cases have been announced, against 97 during the week ending August 11th Many of these cases have been found in the villages around Shubra and Abbassieh, and though they figure in the bulletin as coming from Cairo they have not occurred in the city itself, again, others have come into Cairo from infected villages in the Guizeh Moudiria and have died there There has been a marked increase in the number of towns and villages infected during the past week and in those places which depend entirely for their water-supply on surface wells the number of persons attacked has been considerable. During the last week 72 new localities have become infected. Hospitals with accommodation for 840 persons have been distributed throughout the country up to the present"

POTATO POISON

A POISONOUS principle called solanine has long been known to exist in the berries of the common potato plant. Indeed, for the purpose of preparing the alkaloid in the pure state the berries are conveniently employed It may also be obtained from the nightshade and the bittersweet, the kaloid being found in all parts of these common English ants belonging to the solanum or nightshade order Cases poisoning from potatoes are however extremely rare, though those recorded are well defined. It is undoubtedly e case that there is a time when the potato may ntain an important quantity of poison and this appears be when the tuber has begun to germinate and shrivel. In that case the solanine has been found iefly in the peel and at the root of the eyes or shoots. is fact would seem to account for the death of a child cently at Bristol. Amongst other things which she had ten were some potato peelings, and the medical evidence owed that the child died with symptoms consistent with lanine poisoning which are similar to those of strychnine isoning but less acute. An interesting account of the mptoms produced by eating diseased potatoes appeared in e Lancet as far back as 1846 (Feb 14th, p 190) A culiar affection was invariably traced to the use of seased potatoes, being ushered in by rigors hot skin quick lse and abdominal pain. In the next stage rose-coloured tches appeared and as suddenly vanished and in the ajority of cases diarrhœa supervened, in the third stage ere was a swollen state of the muscles of the neck, oulders and arms with pain so acute that the patient inced on the slightest pressure Inability to raise e arms, pains in all the bones, a red erysipelatous ate of the face and skin with œdematous swelling the eyelids so as nearly to close them, were also served. 10 cases of this affection had occurred in ree or four days in the same locality (in Ireland) and all ere similarly affected. The case recorded recently need ive no grounds for alarm, for an actively poisonous potato is uite a rare specimen The poison however probably occurs ormally in the tuber in very small quantity but this uantity may increase to a poisonous amount in the sprout g, shrivelled or diseased potato and then most of it is ound in the skin and eyes. In any case diseased potatoes ould be naturally avoided and they are generally discoloured. The risk, of course, would be greater when such potato is eaten with, as it is often cooked in its jacket.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE

The following companies have notified their intention of ffering reductions in railway and other tickets to members who propose to attend the forthcoming International Congress f Medicine. The Northern Railway of Spain and the railway from Madrid to Zaragoza and Alicante offer 50 per cent. eduction. The Transatlantic Company of Spain offers 3 per cent. reduction, and the following French railway companies—the East the South the North the West the Paris-Lyon Mediterranée, and the State and Orléans—offer a reduction of 50 per cent. The General Italian Navigation Company as well as the Puglia, the Napolitana, and the Siciliana Steamship Companies also offer 50 per cent. reduction All information about tickets and similar matters may be obtained from the Voyages Pratiques No. 9 rue de Rome, Paris. Preliminary programmes of the Congress may be obtained from the National Committees in the various countries or by writing to the general secretary at Madrid All notices of papers to be read must be sent to the general secretary before Jan. 1st, 1903. The subscriptions—viz. 30 pesetas—that is to say from 23 to 25 francs according to the rate of exchange—may be sent in to the various national committees or to the general secretary at Madrid.

THE DISTRIBUTION OF PLAGUE

The return of Dr B. Burnett Ham Commissioner of Public Health to the State of Queensland shows that up to midnight of July 7th the total number of cases of bubonic plague reported was 81. The total number of deaths was 25 and the total number discharged as recovered was 56 3800 premises have been cleansed and 2150 loads of filth removed in addition to the ordinary removals of trade and house refuse from within the infected area of the municipality of Brisbane since the end of April. Since January 19,000 rats have been destroyed. 1350 rats have been examined bacteriologically and of these 98 have been found to be infected with plague. As regards Egypt, the returns for the week ending August 17th have been as follows number of new cases 3—all Europeans, number of deaths 1 number of recoveries 5 and total cases under treatment 10 With regard to sanitary measures 13,266 rooms were disinfected and 75 were lime-washed 115 sacks of effects were disinfected and 7792 sacks of rubbish were burnt. The number of rats killed and burnt was 942. As regards Hong Kong a telegram from the officer administering the Government, received at the Colonial Office on Sept 2nd, states that for the week ending August 30th there were 8 cases of plague with 8 deaths.

LEONARDO DA VINCI AS AN ANATOMIST

Messrs Roux and Viarengo of Turin have recently published an edition of Leonardo da Vinci's Dell Anatomia." Like Goethe, the consummate painter was profoundly interested in the structure of the human subject, as well as in its relations to lower organisms and the volume before us (of which but 400 copies have been issued) contains matter enough to leave it doubtful whether the artist of the Cenacolo might not equally have distinguished himself in the field so fruitfully cultivated by a Cuvier or a Darwin The Dell Anatomia" is the reproduction, with 79 tables in heliotype of Leonardo's original quaderni (sheets) preserved in the Royal Library at Windsor 193 drawings by the master being also reproduced in facsimile These, as he tells us in so many words, form part of his studies in the bones, the muscles the nerves the veins the arteries and the viscera of the *corpus humanum*. His peculiarly difficult manuscript has been skilfully deciphered the text transcribed, and the reading of it made easy, by Professor G Piumati who has also annotated it in the most helpful manner with the coöperation of M Th. Sabachnikoff. The all accomplished artist of the Renaissance appears to exceptional advantage in the Dell Anatomia," showing himself as a precursor in the path in which modern science has won so many trophies In lofty disdain of theologian and schoolman alike he brushes prevailing superstition aside, proclaims in language worthy of Darwin the unity in variety" of living species and sets forth a description of man while describing concurrently those animals which are almost a similar species *(che son quasi simile specie)* like the baboon the ape and their many congeners" To confirm his induction he draws the arm of an ape and that of a man placed one over the other demonstrating the greater strength of the former He gives us an admirable description of the tongue as the organ of speech arguing how its modifications coincide with the varieties of idiom or rather dialect between one people and another, how the intermingling of men due to invasions and wars of conquest leads to linguistic developments and how languages decay like the mortals who speak them. In the words of Horace—

> mortalia facta peribunt
> Nedum sermonum stet honos et gratia vivax

Touching in its simplicity is his account of his modes of research clinical and other He would go to the bedside of the dying to ascertain how the "vital spark" was extinguished and tells how he sat beside the pillow of an old patriarch in the Hospital of the Santa Maria Nuova in Florence and gently interrogated him from time to time to analyse his sensations While he was thus engaged the old man (such are Leonardo's words) "in the act of seating himself on a bed, without other movement, and without any accident, passed from this life" Leonardo lost no time in making the necropsy to determine the cause of "so sweet a death" (*di si dolce morte*) and found it in "defect of the blood which sustained the heart." We have, we think, quoted enough to prove the interest of the "Dell' Anatomia" to all students of the history of medicine as well as to those others who would promote a better understanding between fine art and science

THE PREVALENCE OF SMALL-POX

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned. On Saturday, August 30th, there were 2 fresh cases, on Sunday, the 31st, there were no fresh cases, on Monday, Sept 1st, there were 2 fresh cases, on Tuesday, the 2nd, there were 3 fresh cases, and on Wednesday, the 3rd, there was 1 fresh case The number of cases of small pox intimated to the Local Government Board for Scotland from August 16th to the 31st inclusive was 7, of which 5 came from the county of Edinburgh and 2 from the county of Lanark

AT a meeting of the United Grand Lodge of English Freemasons on Wednesday last, on the proposition of the R.W Deputy Grand Master, the Earl of Warwick, the sum of 500 guineas was voted to the fund raised by R.W Bro the Lord Mayor of London towards the King's Coronation gift which is to be devoted to the aid of the metropolitan hospitals Grand Lodge has on previous occasions made very handsome contributions to His Majesty's Hospital Fund for London

MR. JOSEPH SMITH, M.R.C S Eng, D P H. Camb, &c, Bedford park, Chiswick, late President of the Incorporated Medical Practitioners' Association and President of the Society of Members of the Royal College of Surgeons of England, is a candidate for the seat on the General Medical Council shortly to be vacant owing to Sir Victor Horsley's term of office coming to an end.

THE dinner and presentation to be given to Mr Alfred Willett by his former house surgeons on the occasion of his retiring from the post of surgeon to St Bartholomew's Hospital will be held at the Imperial Restaurant, Regent-street, London, W, on Tuesday Sept. 30th, at 7 30 P M

Dr Francis William Clark, the medical officer of health of Hong Kong and Dean of the Hong Kong College of Medicine for Chinese, has been appointed a member of the Legislative Council in the room of Mr F J Badely, resigned.

THE annual dinner of the members of the medical profession of Leeds and district under the presidency of Mr Edwin Lee of Dewsbury, with Mr Mayo Robson as the principal guest, will be held on Wednesday, Oct. 1st.

CONVALESCENT HOME AT SWANSEA —The Lord Lieutenant of the county of Glamorgan (Lord Windsor) on August 30th laid the foundation stone, on the hillside above Cwmdonkin Park, Swansea, of a convalescent home to be used in connexion with the Swansea Hospital. The establishment of this new institution for Swansea has been rendered possible chiefly by an anonymous donation of £10,500 This has been supplemented by other subscriptions intended to allow of the original gift being reserved for the maintenance of the institution, while the site has been secured free of cost from the corporation.

THE CASE OF DR W T LAW

A MEETING of sympathisers with Dr W T Law was held at the Gordon Room of the Holborn Restaurant on August 29th, Sir William S Church, Bart, being in the chair

SIR WILLIAM CHURCH said that they had met to take part in the concluding act of what had been a very unpleasant and regrettable incident—regrettable, not only for the trouble and anxiety it had caused Dr Law, but also because it touched the honour of the profession They had come together to show their sympathy and he was glad to say in a substantial and tangible way, with Dr Law in his disagreeable position, in which through no fault of his own he had been placed He (the speaker) could not believe that the poor weak woman to whom not for weeks or months only but for years Dr Law was so attentive and kind was the real plaintiff—she was but the means through which others could attack him The medical profession was always liable to attacks of this kind, however confident they might be of the uprightness of their motives and actions they were liable to be misrepresented and the moral they should draw from this and other similar cases was that whatever might be their position they should protect themselves, as they did their property by insurance, by joining medical defence unions Dr Law had come successfully and triumphantly through the ordeal, but it was not possible in many cases for individuals adequately to defend themselves They congratulated Dr Law most heartily on the outcome of the proceedings so vexatiously brought against him

Dr R PARAMORE said that it gave him great pleasure to see in the chair such a distinguished member of the profession as the President of the Royal College of Physicians of London He was glad to say that the Law Fund was in his opinion a great success There were difficulties in the way which had to be overcome There was the erroneous impression that Dr Law did not need assistance Some, too, considered that he ought not to be helped because he had not availed himself of the advantage of joining one of the excellent medical defence societies Yet they had met that day to celebrate not merely a brilliant pecuniary achievement to the extent of more than £700 but a grand "moral victory"

Mr J S COTMAN, the chartered accountant, having read his report

Dr J G GLOVER proposed the following motion —

> That this meeting rejoices at the success of the Law Fund and congratulates Dr W T Law on the practical sympathy he has obtained from nearly 700 members of the medical profession, besides some members of the public

Dr Glover thought that the movement had proved a great success and one that showed what the profession could do when it recognised its own solidarity and put its shoulder to the wheel The contributions came from all classes in the profession—from consultants like the chairman and from hard working general practitioners It would be easy to under rate the sacrifice implied in such a subscription list on the part of many practitioners whose work was hard and whose income was altogether disproportionate The result reminded him of a similar success some years ago in a case taken up very heartily by Sir William Jenner, then the President of the Royal College of Physicians of London, whose successor as well as the President of the Royal College of Surgeons of England and the Master of the Society of Apothecaries had given their hearty and valuable help Dr Glover strongly endorsed the advice of Sir W Church that all practitioners should protect themselves by being members of one of the efficient defence unions of the profession History showed that even eminent consultants as well as general practitioners were liable to the risk of unprincipled and ungracious prosecutions. Reverting to the success of the fund it was satisfactory to recognise the sympathy of the public This was shown by the action of the jury and the words of the judge at the trial as well as in the subscription list. He had much pleasure in proposing the motion.

Dr W EWART, in seconding the motion, referred to the gratification experienced by those who were present and a large body of sympathisers at the thought that Dr Law had been effectually helped by the fund, and that after the severe strain which he had undergone he was able to attend the meeting in unimpaired health and spirits

Mr CHRISTOPHER HEATH proposed—

> That the best thanks of this meeting be given to the Editors of THE LANCET, the *British Medical Journal*, and other medical papers for the invaluable aid they have given to the movement.

Mr Heath had much pleasure in bearing witness to the powerful influence for good that the medical press possessed and how wisely and generously it used its ability not only for the benefit of the profession but for the public welfare

Mr ONSLOW WICKHAM said that he had much pleasure in seconding the motion. Medical men had read with sympathetic interest what had appeared in the medical press relative to Dr Law

Sir WILLIAM CHURCH then presented a cheque for £500 (signed by himself, Sir H. G Howse, Dr Burton Brown, and Dr. Paramore) to Dr Law who had previously received £110 The balance of the fund will be duly paid after the expenses have been deducted.

Dr LAW in acknowledging the presentation, said that his heart was so full that he felt it difficult adequately to express his sense of gratitude to those members of the profession who had so generously come forward in his behalf in raising so handsome a sum as had been presented to him He also wished to express his grateful acknowledgments to Sir William Church for his great kindness in coming that day to preside over their gathering and also for having associated himself with Sir H G Howse, President of the Royal College of Surgeons of England, and Dr Brown until recently Master of the Apothecaries' Company as official custodians of the fund. To both these latter gentlemen also he desired to offer his most sincere thanks Although not strictly germane to the matter in hand he would like publicly to express the deep obligation that he felt to those members of the profession who so freely came forward at the trial to support him as witnesses, and though very few were called because the jury stopped the case he was none the less in their debt Without the help of his medical brethren at that time the result might have been less satisfactory than it was. With regard to the splendid gift which he had just received there was one man to whom he could not sufficiently express his deep acknowledgments and that was Dr Richard Paramore his old friend and fellow student To his untiring energy enthusiasm and devotion was due the wonderful success attained and he should always feel the deepest gratitude to him. To Dr C Theodore Williams, Dr R. A. Gibbons, and Mr H C Mends Gibson he was also under obligations of a very special kind for most valuable help and sympathy He desired, in conclusion to express through that meeting his sincere and heartfelt thanks to all those members of the profession who had so kindly and generously helped him in his troubles

Dr EWART proposed the following motion which was carried by acclamation —

> That the thanks of this meeting and of the subscribers to the fund be awarded to Dr Paramore for the good work he had done in initiating the fund and in making it so great a success

Many had felt for Dr Law but their sympathy could not have taken a practical shape but for the opportunity which had been given to them by Dr Paramore s energy

Dr BURTON BROWN said that he had the greatest pleasure in seconding the motion for a vote of thanks to Dr Paramore for his very successful and great efforts in advocating Dr Law s cause and obtaining this fund.

Dr PARAMORE, in reply said that it was very gratifying to him to know that his efforts had been so successful. These prosecutions would never occur if medical men would do to each other as they would be done by

The meeting closed with a motion proposed by Dr LAW thanking Sir William Church for his services in the chair The motion was seconded by Dr GLOVER who was pleased to think that it was on his suggestion that the heads of the medical corporations had been asked to accept the duty of trustees of the fund. It would be well for the profession if its official chiefs and the great body of members could always act together

Sir WILLIAM CHURCH in responding said that what he had done was nothing compared to what others had done in the matter and it was a pleasure for him to be present and to assist as far as he could.

Dr PARAMORE proposed a vote of thanks to the proprietors of the Holborn Restaurant for generously lending for the second time the use of one of their magnificent rooms without payment, and this was carried with cheers.

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD FOR THE YEAR 1900-1901 [1]

SECOND NOTICE.[2]

IN the first notice of this report a general account was given of the contents of the volume and reference was made to some of the researches which were carried out by the scientific members of the staff with a view to improve the quality of the lymph which is supplied by the vaccination department for the use of the public. The energy displayed by the department in regard to this subject forms a marked contrast to the apathy of the people. Whilst every effort has been made on the one side to increase the efficiency of the lymph and to minimise the risks of the operation on the other there has been an increased tendency to avoid the benefits freely offered. The moral weakness of a Government with a strong majority fostered and encouraged the prejudices of the foolish and of the ignorant Conscientious objection to vaccination under the Vaccination Act of 1898 was allowed to take the place of the operation itself for it became 'registrable —that is to say an official record of the objection became equivalent in the eyes of the law to vaccination itself. The Act came into force on August 12th 1898 ,and Mr W H Power's report shows that thereafter for four months it was open to parents to apply for certificates exempting from vaccination children born before the passing of the Act The effect of this law was that no less than 203,413 certificates of conscientious objection relating to 230 147 children were received by vaccination officers in England and Wales.

In the present report there is a digest of the vaccination officer s returns with regard to children whose births were registered in the year 1898 (Appendix A, No 1 p. 1) and a similar digest for the year 1899 (No 1 Appendix A, p 21) The latter is introduced by a rather curiously worded preface which tells us that this digest which is subject to correction was able to be inserted just before the volume went to press. The inference seems to be that the digest has been promptly if not hurriedly prepared and that perhaps a tribute should be paid to the despatch with which the work has been done and that due allowance ought to be made should it hereafter prove that it is in any respect inaccurate It is, of course evident that a large mass of figures had to be dealt with but the fact that the digest of the returns for the year 1899 are not published until the second half of the year 1902 appears to savour rather of delay than of promptitude.

The summary of the vaccination officers returns for the years 1898 and 1899 is given below In order at the same time to save space and to show at a glance the corresponding figures for these two years those having reference to the latter year are in each case printed within brackets

Of 923,059 (929 189) births returned to the Board by the vaccination officers in *England and Wales as registered* during the year 1898 (1899) the number which at the time the return was made had been registered as successfully vaccinated was 562,737 being almost 61 0 per cent. of the whole (617 113, being 66 4 of the whole) and the number registered as having died unvaccinated was 110 912, or 12 0 per cent. of the whole (113,616 or 12 2 per cent. of the whole). Of the remaining 249 410 (198 560) children 3232, or 0 35 per cent. of the whole (5379 or 0 6 per cent of the whole) had been registered as insusceptible of vaccination 4 (4) cases as having contracted small pox 16 921 or 1 8 per cent. (16 005 or 1 8 per cent.) as having their vaccination postponed by medical certificate and 47 423, or 5 1 per cent. (33 673 or 3 6 per cent.) in respect of whom certificates of conscientious objection were received leaving 181 830 or 19 7 per cent. (142,939 or 15 6 per cent) as removed not to be traced " or otherwise unaccounted for If from the 923,059 (929 189) births returned by these officers deduction be made of the deaths that took place without vaccination, it appears that, of the surviving 812,147 (815 673) children there were registered at the time of the return 69 3 per cent (75 7 per cent.) as successfully vaccinated, 0 4 per cent. (0 7 per cent) as either insusceptible of vaccination or as having had small pox, 2 1 per cent. (2 per cent) as under medical certificate of postponement, and 5 8 per cent. (4 1 per cent.) in respect of whom certificates of conscientious objection to vaccination had been obtained, leaving 22 4 per cent. (17 5 per cent.) as at that time still unaccounted for as regards vaccination

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[1] Thirtieth Annual Report of the Local Government Board 1900-1 Supplement containing the Report of the Medical Officer for 1900-1 London: Eyre and Spottiswoode 1902 (Cd [illegible] Price [illegible])

[2] The first notice was published in THE LANCET of August 23rd 1902, p. 5[illegible]

The proportion of cases unaccounted for in the metropolitan returns for 1898 is 31 2 per cent (for 1899 it is 27·7 per cent.), in the provincial returns 19·6 for 1898 (and 15 4 per cent for 1899)

It must be admitted that to the vast majority of people large numbers of figures presented in tabular form are puzzling rather than interesting, but even the vaccination tables contain some curious pieces of information which are worthy of note One such fact is that the objection to vaccination affects some places markedly more than others The returns of the year 1898 show that the number of births in Leicestershire was 12,878, and of these children only 1228 were successfully vaccinated and four were stated to be insusceptible to vaccination No less than 3661 certificates of "conscientious objection" to vaccination were received and the number of the children who died unvaccinated (1874) was greater than the total number of children vaccinated. Finally, for the series of years (1893–97) a huge number of children remained unaccounted for when the returns for the years were received, the number amounting to no less than 72 per cent. of the total number In Rutlandshire for the same period the corresponding percentage was 5 3 In London the proportion of children 'unaccounted for" has also been found to vary greatly in different parts of the town, from 5 3 in St. George's, Hanover square, to 68 2 in Bethnal Green

Mr Power calls attention to the fact that the metropolis is at a disadvantage as compared with the country at large in regard to the protection against small pox adopted for its infant population. The popular appreciation of the benefits of vaccination is making no progress, on the contrary, unless an alteration has taken place since the collection of the statistics given in the present volume, it is evident that there has been a regular and steady decrease in the adoption of vaccination This is very clearly shown in a table given by Mr Power which is quoted below

Periods	Percentage	Abstention from infantile vaccination
	Metropolis	Rest of England and Wales
Average of 1873–77	8 1	4 1
, 1878–82	6 8	4 4
1883–87	7 4	5 7
, 1899-92	14 1	11 2
Single year 1897	23 9	19 7
, 1898	34 4	25 4

The report gives a good deal of information in regard to inspection of public vaccination, particulars as to education in vaccination, an account of the work done at the animal vaccine establishment and of the changes which have taken place in the composition of its staff and in its working arrangements

The reports of the medical inspectors of the Department are always full of interest and full of instructive details Mention has already been made of the fact that some of the inspectors whose reports are especially marked by great ability and thoroughness have during the year under review been engaged in other work, but it is pleasing to note that the best traditions of the medical inspectors of the Board are in several cases being carried on without a break. The amount of what may be called routine work which has been done may to some extent be gauged by the fact that 21 sanitary districts were visited by the medical inspectors with special reference to outbreaks of infectious disease and to general sanitary circumstances and administration, local inquiries were held in connexion with the provision of hospital accommodation at 64 places, in five places inquiries were made with reference to sewage disposal, in two districts local inquiries were made in regard to water-supply, in four places inquiries were made in regard to scavenging, in five places investigations were made as to the desirability of adopting the Board's model series of by-laws, special visits in regard to vaccination administration were made in 16 places, 57 port and riparian districts were visited in regard to special precautions against the plague, and 17 conferences of sanitary import have been held with local officials

The abstract of medical inspections made in 1900 with regard to questions concerning the incidence of disease on particular places and to questions concerning local sanitary administration contains information as to the condition of 15 places which for various reasons were specially brought to the notice of the Local Government Board At Bishop's Auckland (in Durham), which has a population of 10,000, enteric fever was prevalent during the years 1898, 1899, and 1900 An inquiry into the cause of the visitation was instigated at the instance of the Durham County Council Dr S W Wheaton found that the water supply was derived from the river Wear, which was much polluted, and that the water was not always filtered before its distribution, that the sewers were made of tile and rubble, that the house drainage was defective, and that the contents of the privies were thrown into yards and into the streets There was no disinfecting apparatus Dr Wheaton attributed the outbreaks of typhoid fever to the contamination of the water supply

An inquiry was held at Failsworth as to the supposed inadequate remuneration of the medical officer of health The amount of the salary is not stated in the report, but Dr W W E Fletcher was of opinion that it was insufficient in amount In the course of this inquiry information was obtained which should prove of interest to the inhabitants of the important borough of Oldham The Failsworth district is supplied by the water mains of the Oldham corporation and Dr Fletcher reports that this water is derived from gathering grounds and supplied unfiltered.

In the Farnworth urban district (Lancashire) an inquiry was instituted in consequence of the prevalence of typhoid fever Dr Fletcher found that the water supply was obtained from the mains of the Bolton corporation and that the gathering ground from which the water comes is not free from the risk of contamination. Dr Fletcher reports that enteric fever has for some years past been endemic in the Farnworth district and that it has not assumed epidemic proportions, he suggests that "probably it has been fostered by the system of excrement disposal in vogue in the district" This is rather a dark saying It would be well if the corporations of Oldham and of Bolton would take all necessary precautions to ensure the absence of pollution from the gathering grounds from which they derive their water It is not only more safe, it is also less expensive to undertake such work before the outbreak of an epidemic In the case of the Bolton water it is distinctly stated in the report that there is risk of contamination, and although little information is given in the case of Oldham it would be well for the corporation to appreciate the fact that filtration of the water would not be disadvantageous

At Hexham in Northumberland there was an outbreak of typhus fever The source of infection was almost certainly traced to a gipsy encampment, and from the first case infected at Hexham a definite chain of infection was established Most of the cases occurred in some insanitary and overcrowded property There were altogether 32 cases and five deaths All the fatal cases occurred in people over 40 years of age At Llangattock in Brecon an inquiry was made into the cause of the prevalence of diphtheria. Many cases had occurred there and it was shown that the sanitary condition of the place was generally defective

At Pennal village (Merionethshire) and Pontypridd (Glamorganshire) inquiries were made in regard to the undue prevalence of diphtheria In both these instances there was deficient provision for isolation. At Prestwich urban district, Lancashire, where diphtheria was also unduly prevalent, the sanitary conditions were found to be defective, but active measures were taken to prevent the spread of the disease by infection The Romney Marsh rural district of Kent came under the notice of the Local Government Board because they refused to appoint a single medical officer of health for their whole district, and concerning the point at issue they made a statement which Dr Darra Mair states he "found to be untrue" The district is a large one including nearly 30,000 acres, and the population, which numbers 2893, is widely dispersed through it the most populous village containing only 560 persons. The general sanitary condition of the district is unsatisfactory, and it is obvious from the report that an energetic medical officer of health and an active inspector of nuisances might find plenty of work in the marsh. The Romney Marsh rural district council has no desire to pay such officers and it is not certain that it would not prefer to do without them

At Nailsworth in Gloucestershire an inquiry was instituted in regard to the general conduct of the urban district council. Dr F St. G Mivart found that the method of excrement disposal varied. Some of it was thrown on to small gardens, some was conducted through short sewers to a stream which flowed through the town, and some passed into a pond which communicated with streams The local authority maintained that the sewers were practically untainted and that there was no reason for entertaining any *drainage scheme.* At Nuneaton and *Chilvers Coton,* an urban district in Warwickshire, having a population of 15 000 typhoid fever was prevalent during the year 1899 and 16 deaths occurred amongst 114 cases. Dr. R. W Johnstone ascribed the outbreak to pollution of soil, personal infection and pollution of well water

The Stroud (Gloucestershire) rural district council made a complaint of the sewage sent down from Nailsworth. This district contains a population of 30,000 and the sanitary arrangements leave much to be desired. Excrement is disposed of either by discharging it into streams or into fissures in the limestone rocks Sewerage is very limited but its extension *has* been planned and is impending *as Dr* Mivart reports. ' Impending ' is rather an ominous word It may be hoped that the sewers, if extended, will be so laid that the sewage will pass in the desired direction. This point, though of importance, is often neglected in country towns and in rural districts

Two of the most interesting and the best written reports are that on the borough of Boston (Lincolnshire) by Dr S Monckton Copeman and that on the Northam rural district (Devonshire) by Dr R J Reece. The inhabitants of Boston have suffered much from typhoid fever and from diarrhœa and the corporation has failed to comply with recommendations which have previously been made to it as the result of the former investigations of the medical inspectors of the Board. Boston is a low lying town, situated on the river Witham, and has an estimated population of 16 000 and a rateable value of £47 240 The ancient waterways have been to some extent used as sewers and in places these have been covered by buildings. The condition of things seen in parts of Boston to-day closely resembles that which existed in London when the Fleet stream was encroached upon by the adjacent land owners There is at Boston a court of commissioners of sewers and the dyke reeve, an official of the court, has charge of dykes and sewers. The sanitary authority of Boston appoints members to the court but has no direct authority over the officers. The bacillus coli has been frequently found in the drinking water which is supplied by a company An ingenious explanation has been offered as to the presence of this bacillus in the water It was observed that hares browsed in the early morning on the sloping sides of the reservoirs of the company It was suggested by the manager of the water works that the evacuations of these animals might supply the bacillus The company it is said then adopted the precaution of putting up wire-netting to keep off the hares. The investigation into the general sanitary conditions of Boston was made with great care and ability and the report is well worth reading It is not possible to devote the space necessary to summarise it here and it can only be said that the present state of Boston is in every respect deplorable. The town council would be well advised to carry out the recommendations which it has received The Council, however do not think that any fresh system of town drainage would lessen the sickness or make the town more healthy " This view is unduly pessimistic A council so wise in its own conceit often requires the immediate presence of a fearful epidemic to make it alter its opinion. Such an epidemic may be expected. Boston is not a residential place " nor is it overcrowded with visitors. The few who go will for the present do well to avoid drinking water whilst there and to sleep elsewhere. The smells of Boston resemble those of Bruges, but the other points of interest are less numerous

An excellent account is given of the sanitary condition of Appledore, a small port in North Devon situated at the junction of the Barnstaple and Bideford rivers. The inquiry arose from the fact that the reports of the medical officer of health of the Northam urban district (which includes Appledore) were deficient in regard to information required by the Local Government Board to enable an estimate to be formed of the sanitary condition. The Northam district comprises Westward ho, a comparatively new and newly named resort well known to all who as play at golf Northam, a hill village Northam Ridge, a rural district and Orchard hill, a residential neighbourhood. Appledore was reported upon in the year 1871 by *the* late Sir Richard Thorne and in 1894 it was visited in the course of the cholera survey At the time of the latest survey the sewerage system of the town was found to be not in accord with modern requirements and there was a scarcity of water The medical officer of health of the district was 72 years of age on his appointment and he receives an honorarium of £10 per annum. He was a native of Appledore and *commenced his professional training in the year* 1843 when he was indentured to his father In later years Dr Reece thinks that his professional work has not been such as to keep him instructed as to the progress of sanitary knowledge and his annual reports have not given information as to the hygienic condition of his district of the work carried out for the improvement of the sanitation or of the measures which ought to be adopted. In regard to infectious diseases the medical officer of health has in Dr Reece's opinion, *acted* under the mistake that it was his duty to visit and examine patients whose names have been ' notified " to him and to *revise* the diagnosis should occasion require. *The sources of the water supply at* Appledore *were open* to contamination and the amount obtained was insufficient, but work was in progress to obtain an adequate supply from a distance.

THE TRANSACTIONS OF THE BRITISH CONGRESS ON TUBERCULOSIS, 1901 [1]

INTRODUCTION

WE published last year a full account of the proceedings at the British Congress on Tuberculosis recognising that the Congress was an opportune and admirable recognition of the determination recently arisen among civilised nations to fight systematically against a devastating disease. The Congress was, in fact, not so much a meeting of scientific men to discuss therapeutic measures—though it was of course this—as an expression of the feeling that Governments and peoples must support their sanitarians and reinforce their measures of State medicine if tuberculosis is to be prevented from exacting year by year a terrible toll of lives which could be saved by preventive measures. The official transactions of the Congress have now been published as we have already announced and a review of the four volumes now before us gives us an opportunity of estimating the value of the work done and making a more or less general summary of the proceedings that took place under the headings of medicine and pathology

For example, the various communications dealing with the uses of tuberculin show how much there yet remains for the practical pathologist and physician to do before a definite decision can be arrived at Again with regard to the influence of climate upon tuberculosis and the part played by the sanatorium treatment, we get by studying these transactions and comparing the different experiences of physicians of various nationalities an all round idea of the value of systematic treatment that no previous work has offered The published proceedings of the Congress confirm the opinion that we expressed last year that the work done by the Congress was of incalculable use to the cause of preventive medicine and we trust that future international deliberations will be held in support of a continued movement of civilisation against its great enemy—tuberculosis.

TUBERCULIN

A discussion upon tuberculin in which the Sections of Medicine and Pathology were supposed to combine appears to have been left entirely in the hands of the physicians and to have been carried on from the clinical point of view Laboratory work is represented by a paper upon Immunity and Sero-therapy in Tuberculosis from Dr Katsuralaro Yabe chief medical officer of the Japanese Navy This work from M. E. Roux's laboratory by analysis of bacilli finds (*a*) a tuberculo mycoprotein which provokes leucocytosis at the point of injection and (*b*) a nuclein like bacterocidin which induces obliteration of blood vessels The former induces some immunity of an antitoxic, and the latter some of a bactericidal, character

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[1] Transactions of the British Congress on Tuberculosis for the Prevention of Consumption London, July 22nd to 26th 1901 Vol I to IV Edited by the Honorary Secretary-General. London: William Clowes and Sons Limited. 1902.

Immunity is not readily perceived , its existence is shown by the phenomenon of Koch in the guinea-pig This investigator obtains a serum by injecting the above constituents of bacilli into goats He then treats guinea pigs with the serum, some before and some after infection with tubercle , some of the former showed effects by their survival, but none of the latter At present he states that he has found nothing for therapeutic use

Many medicinal preparations from cultures of tubercle bacilli have been used by Dr Charles Denison , he tabulates his experience in 200 cases It is difficult to compare these results , perhaps they are equally favourable and promising

In the discussion while the most experienced in the use of tuberculin were also those who saw most benefit in the drug, none provided a clear comparison of similar series of cases treated with or without tuberculin Seeing the advance now in other methods such a comparison will take years longer to be effected. The impression given by this discussion may well be stated under those three headings taken by Professor McCall Anderson

1. Is it safe to use tuberculin? Professor W Osler and Dr Moeller had never seen any injurious effects and Professor McCall Anderson said that its use is quite safe This may be taken to refer to the present dosage Professor Koch tells us to commence with one-tenth of a milligramme, to employ it only in a patient without fever, and upon repeating the drug upon the second day not to increase the first dose, as he and many others note that the same dose frequently gives a more severe reaction upon the second occasion. Dr Moeller quotes a case in which it was weeks before the repeated injection of one twentieth of a milligramme failed to give rise to fever, and Dr G A Heron a case in which an initial dose of one third of a milligramme in an enfeebled and severely affected patient was followed by a rapid deterioration which he considered to be unexplained. In the last instance the dosage exceeded the limit now given by Koch and perhaps the new limit will not give rise to those experiences which led Dr W R. Huggard to discontinue its use.

2 What is its diagnostic value? Dr Eric France has fully shown its trustworthiness by testing 75 patients, tuberculous or non tuberculous, one half of whom have since died and upon whom necropsies have been made. Dr A. K. Stone pointed out that small inconsequential lesions may give very misleading information in important cases Such an experience is no doubt unfortunately possible , at the same time it may be thought that such cases as Professor McCall Anderson gave instances of—doubtful lymphadenoma and doubtful lupus—are very prone to undergo mistaken treatment unless this test be employed, and its occasional careful use may become more general with advantage.

3 What is its therapeutic value? Dr Heron reported in full 31 cases in 1890 and seven years later one half of those patients could be traced and were well , such a London hospital experience of pulmonary tuberculosis is remarkable Nearly three fourths of the patients in a series of 200 cases treated in the last 10 years by Dr Goetsch were quoted to be well , these were treated with doses of only 0 00001 gramme of old tuberculin as a rule , they were treated for a few weeks or months and after an interval again for a term So long a duration must be compared with sanatorium treatment, which in selected cases will claim equally good results It seems evident that the question can only be threshed out in a sanatorium which will for a term simply add this treatment to its other methods

Empiricism in tuberculin administration seems to teach us that the local effects upon the tubercle must not be gross and palpable , perhaps even a dose not sufficient to induce fever is best. If the latter prove to be the case a more extended usefulness may be found and those who must be out-patients might be treated with it. If this agent, which induces in the guinea pig the phenomenon of Koch, in dogs an amelioration of experimental tuberculosis of the peritoneum described by Dr Denys, and in man the inflammatory reaction round a tuberculous focus or nodule of lupus tissue, should continue to have no therapeutic use it would be an *opprobrium medicorum*

Professor Koch has formulated the present rules for treatment. He restricts its use to cases definitely without fever and cases not advanced in disease The lessened dose and lessened reaction or no reaction afford a treatment quite different from that introduced 12 years ago as tuberculin treatment Dr Heron remarked how tuberculin had been both made and unmade in Germany So far as the Congress assisted in the re making it is gratifying to see Great Britain providing apparently as much information as Germany

A change of view is being put forward now which draws attention to other organisms as much as to the bacillus of tubercle Professor Koch spoke of morbid processes caused by even streptococci and staphylococci rendering a case unsuitable for tuberculin treatment, and such mixed infection he considered to be the usual associate of the symptom—fever Professor Nolen uttered a warning against viewing every feverish reaction as evidence of mixed infection. Sir R. Douglas Powell referred to the great importance of mixed infection. What is its importance? Are we to consider that the additional organisms deserve the most attention or are they but unimportant epiphenomena?

In the hope of finding some elucidation of these secondary infections so often referred to in the discussion upon tuberculin we turn to the Transactions of the Section of Pathology, where it has a place upon the programme of discussions The able opening of the subject by Mr A. G R Foulerton met, however, with little seconding or response and elucidation is limited to the contribution of the opener and a valuable paper by Professor Ophüls. The multiplicity of data—clinical, histological, and bacteriological—that demand investigation in each case is so great and the problems then presented by the facts elaborated are so abstruse that few could be found who had elaborated these studies and were ready to respond to the challenges thrown out by the opener of the discussion.

Mr Foulerton finds in secondary infections the main explanation of the symptoms and course of most cases of pulmonary tuberculosis , other competent investigators, on the other hand, deem them to be most subsidiary factors It follows according to Mr Foulerton's point of view that the treatment of pulmonary tuberculosis, especially sanatorium treatment, owes its success to its influence upon secondary infection While we know to some extent the influence of treatment upon the bacilli of tubercle and their disappearance from the sputa, we have not any account of the disappearance of the secondary organisms There are five common predominating organisms of secondary infection and several not so common. If they do so dominate the position wonder may be expressed at their family likeness in symptoms, and still more at the clinical discrimination that had named as phthisis exactly that ailment which held the bacillus of tubercle in evidence after Koch's discoveries

Professor G Sims Woodhead points out that although the most infective of these secondary organisms, the streptococcus pyogenes, is common, pyæmic abscesses do not occur, and Mr Foulerton declared general blood infection not to be a factor of any consequence That by no means a little information is yet wanting on these topics is emphasised by the difference of view as to matter of fact evinced by the opener of the discussion and Professor Ophüls , the one does not find active destruction of tissue by pure infection of bacillus tuberculosis, the other does This difference of opinion may be removed suggests Professor Ophüls if it be admitted that the damage done apparently by pure tubercle is really due to pyogenic organisms that have disappeared. How deeply yet, then, must the pathologist delve before he can give the clinician light on this question

In the contribution of Professor Ophüls the most valuable researches into 39 cases (consecutive cases) have been made It is well for the reader to turn to the synopsis of cases classified according to their infection and whose symptoms are noted Let him see if the clinical history will afford a diagnosis of cases of mixed infection from others , we are conscious of an inability to find it It is evident that this field of pathogenesis must await future congresses for its solution.

CLIMATE AND SANATORIUMS

The Section of Medicine discussed climate—both the effects of climate and the indications for special climates Sanatorium treatment was discussed upon another day

The British physician may be said to have the most widely varied experience of climate, and it was on this account appropriate for the Congress to take up the subject. Dr C Theodore Williams and Dr I Burney Yeo introduced the subject succinctly, but the discussion drifted often into the domain of sanatoriums, and no doubt we shall never in the future be able to discuss these questions with so much dissociation as was possible in 1901

It is satisfactory to find that a general agreement marks the opinions expressed, both as to the effects of and indications for climates Sir Hermann Weber agreed with the openers of the discussion that high mountain resorts have the widest range of applicability to moderately advanced cases. The effects of high altitudes were clearly analysed by Dr Amrein and Dr Huggard The heat-abstracting power—with its attendant increased combustion tissue change and, according to Dr Amrein increased quantity of hæmoglobin—is the dominating effect. This low temperature is a tax upon the powers of the patient, and the indications for climate were most frequently discussed in the form of contra indications to high altitude and the inability of the patient to show the requisite powers of heat production Low barometric pressure and cold affect the circulation Dr Amrein in his paper upon the Physiological Principles of High Altitude Treatment told us that in the Alps at Arosa the highest average temperature is only 54° F accordingly it is readily explained that the Alps are contra indicated in cases with organic heart disease feeble circulation and even in patients sensitive to cold A few years of life the difference in the age of a patient from 40 to 50 years, may commonly be accompanied with such diminution of the power of reaction to cold as in itself would no longer *allow of the recommendation of high altitude The dryness* of the air precludes cases with much bronchial catarrh from benefiting largely and it is the same in a catarrh accompanying tubercle of the larynx. Diseases of the kidney and albuminuria are prejudicially affected by cold, so this complication is a contra indication of sojourn in high altitudes. The same cause it may be, places intestinal tuberculosis or diarrhœa in this category Emphysematous cases, advanced cases those acutely febrile and those with large cavities and hæmorrhage may be added to complete a list which should be governed by physiological principles of selection. Dr Theodore Williams s 385 *patients were by no means* quite early cases, one third had excavation, and these resulted in arrest for 20·6 per cent and improvement for a further 41 per cent.

The influence of sunlight and its enhanced power at high altitudes were insisted upon by Dr Denison. Dr Huggard remarked upon the rapid disappearance of slight anæmia, and Dr Amrein recorded the evidence of several investigators to the effect that a real increase of hæmoglobin and corpuscles occurs but seeing that now winter is as effective as summer in the progress of patients at sanatoriums we desire further evidence of the influence of sunlight and its mode of action

Sir Hermann Weber Professor Christian Gram and Dr Armaingaud all reminded the Congress of the seaside sanatoriums and how they are unequalled for surgical tuberculosis and for catarrhal cases of phthisis. The establishment at Margate a pioneer work of more than a century s standing in this country was pointed out by Sir Hermann Weber as an instance of the Englishman s habit of deprecating his own good work, for it has recently been receiving poor support quite unjustifiable in so useful an institution.

Sea voyages were very generally condemned. They no longer consist of a seven *months sailing trip and such discomforts* as those depicted by the late Sir William Flower are too likely to be ill endured.

Desert climates are allowed to have a wide field. Dr Leo mentioned the rheumatic or gouty cases of the fibroid or pleurogenic type as especially suitable. Dr F M Sandwith pointed out that European residents in Egypt are practically exempt from tuberculosis.

Our French *confrères* contributed several interesting papers especially noteworthy being that in which Dr Lannelongue Dr Achard and Dr Gaillard endeavoured to state the effect of climate on the guinea pig in precise terms and to apply the result to man 50 guinea pigs under similar conditions but at three different climates were inoculated with tubercle. The main result was evidence of variability of lesion. To say on evidence of such a nature that climate has been unduly valued seems a *non sequitur* Climate is sought, as we have seen always for the individual and not for the tuberculosis Stamina, absence of catarrh, and healthy appetite are great features in an individual but not in these animals who also are not buoyed up by cheerfulness and hope. At the same time it may readily be admitted with these writers that internal causes—the resistance of the individual—have a greater determining power on the progress of the disease than has simple climate

Various places have their climates described Dr F Allen s sketch of Natal gives us at the same time quite a glimpse of the whole country Dr Stephani gave his results in 150 cases at Valais, Dr Auffret condemned the climate of Brest, and Dr P S. Hichens inquired if any types of pulmonary tuberculosis are unsuitable for treatment in the British Isles

Care without climate is better than climate without care This good aphorism of an opener of the discussion on climate marks the greater importance of the discussion upon sanatoriums. In the congregations of the sanatorium said Professor T Clifford Allbutt, we have learnt individual treatment. The lesson expounded by Professor Allbutt with lucidity and eloquence has been published in full already in our pages[1] But little was added by subsequent speakers to his admirable exposition. He laid no special stress upon any one of the factors in treatment whether air rest, food, exercise, or mental influence, as worthy of greater attention than another how rightly is evident, for of those speakers who expressed their esteem for one agency as more influential than others one mentioned air another rest, and a third feeding Each factor was said to require skilful use and to be capable of abuse, the warning being given to avoid a sanatorium when detailed attention gives way to simple routine. Rules said *Dr Huggard* are a poor substitute for principles.

What are the results of the treatment? Good very good no doubt, but duration of recovery the only test, has not in this country had opportunity of expression. Dr F W Burton Fanning made a gallant attempt in giving the data of 12 British sanatoriums and in drawing up his report in a *form* that appears to us to be a closer approximation to precision of statistical information than has hitherto been published. He has forsaken the old first second and third stages as the basis of classification and has *taken three classes upon which there can be no difference of* opinion when future investigators make comparison —(1) cases with habitual rise of temperature to 99 6° or higher (2) cases with rapid cardiac action without fever and (3) cases without fever or rapid cardiac action 25 per cent. (1) 4 per cent. (2) and 63 per cent. (3) were the relative recovery rates. Over 700 cases are reported upon from British sanatoriums, about 400 cases of high altitude treatment are reported upon by Dr Theodore Williams and 150 by Dr Stephani. The groups are not perhaps upon a sufficiently similar basis for comparison it is remarkable that the arrest, quiescence amelioration cure and half cure total up to 77 75 and 62 per cent. in these three instances of statistics and results.

Dr J Kingston Fowler drew attention to the most important item in the report on British sanatoriums 'Only 52 patients can be described as cases of slight lung mischief 46, or 88 4 per cent. of these patients with strictly limited disease did well and attained relative recovery with arrest of their disease. Every trustworthy report from sanatoriums said Professor Allbutt, emphasises anew the remarkable success of Brehmer s system on one condition—namely that the patient be caught at the outset of his disease. In diphtheria *this lesson has been learnt, but energy in attacking* early phthisis is yet often unappreciated. Again, Dr W \ Snow reported the result of initiating this treatment at the National Sanatorium of Bournemouth In the early stages 63 per cent. showed apparent arrest of the disease and in 93 per cent. improvement, and this despite many leaving a the end of three months. However cheering such calculations may be they are even less convincing than is the ample evidence observed by many a pathologist that recovery is commoner than fatality in every-day life

How are the results of sanatorium treatment gained? By perfect sanitation skilled alimentation and controlled metabolism these Sir R. Douglas Powell in conclusion said had been in part taken for granted in part largely dwelt upon with additional light. The alimentation factor received more elucidation than any The clinical precaution of Professor Allbutt to examine the size of the stomach before and after a meal, so that its powers of disposing of food may be gauged and the marking the weight that ought to be gained by a limit estimated at the normal healthy weight of the patient as recommended by Dr Burton-Fanning are good methods to practise. That increase of weight *per se* tells little as to the future of the patient seems probable seeing that Dr Rosenthal's patients in the second stage gained as much as, or more than, those in the first stage, that might be owing to a start further away from their normal weight. The increase of weight in different sanatoriums is not proportionate to the fulness of diet provided according to the results in the United Kingdom, nor does it bear a constant relation to the recovery rate

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[1] THE LANCET Nov 9th 1901 p 1253

Such facts as the above call for explanation and proclaim a want of guidance in the control of the daily intake of food. Dr Noel D Bardswell was able to render information with the precision and certainty that belongs to prolonged analytical investigations He gave a *resumé* of the paper written in collaboration with Dr F W Goodbody and Mr J E Chapman which had been read before the Royal Medical and Chirurgical Society a month previously In that paper the metabolism of six persons can be fully followed through different diets, the general statements based upon such thorough data are worthy of full attention though they may not be entirely novel statements Appetite gives too low an estimate of requirement. In any case a very large diet is unsatisfactory Full diets but not too large diets gave the bests results [2] It appears to be advisable to diminish the amount of food as the disease becomes quiescent and the patient approaches normal weight, but even at this period he will require a more substantial diet than when he is in health

The factors of treatment other than diet receive little more than mere mention in the proceedings Professor Allbutt had propounded many questions of a most practical and important kind "Can mixed infections be recognised from fever curves?" "What estimates of improvement and what rules of prognosis can be based upon physical signs alone?" and many others, but discussion drifted away usually into the domain of State medicine We gather some valuable information as to what was being done in different countries by their distinguished representatives—in Austria by Professor von Schrötter, in Bohemia by Dr Dvorak, in New York by Professor Janeway and Dr Knopf, in Massachusetts by Dr Stone, in Copenhagen by Dr Rosenthal, in Germany by Dr Becher and Dr Lennhoff, in Switzerland by Dr Morin, and in France by Dr Verhaeren, Dr Frottier, Dr Lasalle, and Dr Baradat. Many counsels of perfection are advocated by these contributors, enough to show that far more remains to be done possibly until we get so far as classifying our sanatoriums as pointed out by Dr Kuss Meanwhile it would be well if we could supply the still urgent want, the want of knowledge, by establishing a freemasonry of investigation and information among sanatoriums —a plan in which apparently the sanatoriums of France have anticipated the demand of Professor Clifford Allbutt

(*To be continued*)

THE CREMATION ACT, 1902

THE following is the text of the Cremation Act which recently received the Royal Assent —

2 EDW VII CHAPTER 8

An Act for the regulation of the burning of human remains and to enable burial authorities to establish crematoria (22nd July, 1902.)

Be it enacted by the King's most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled, and by the authority of the same as follows:—

1 This Act may be cited as the Cremation Act 1902.

2. In this Act the expression burial authority shall mean any burial board, any council, committee or other local authority having the powers and duties of a burial board, and any local authority maintaining a cemetery under the Public Health (Interments) Act 1879 or under any local Act The expression crematorium shall mean any building fitted with appliances for the purpose of burning human remains, and shall include everything incidental or ancillary thereto

3 In the application of this Act to Scotland the expression burial authority" shall mean the parish council or town council of any parish or burgh as the case may be vested with the powers and duties conferred by the Burial Grounds (Scotland) Act 1855, or any Act amending the same the expression the Local Government Board shall mean the Local Government Board for Scotland the expression Secretary of State" shall mean the Secretary for Scotland

4 The powers of a burial authority to provide and maintain burial grounds or cemeteries or anything essential ancillary or incidental thereto shall be deemed to extend to and include the provision and maintenance of crematoria provided that no human remains shall be burned in any such crematorium until the plans and site thereof have been approved by the Local Government Board and until the crematorium has been certified by the burial authority to the Secretary of State to be complete built in accordance with such plans, and properly equipped for the purpose of the disposal of human remains by burning

5 No crematorium shall be constructed nearer to any dwelling-house than 200 yards, except with the consent in writing of the owner, lessee and occupier of such house, nor within 50 yards of any public highway nor in the consecrated part of the burial ground of any burial authority

6 A burial authority may accept a donation of land for the purpose of a crematorium and a donation of money or other property for enabling them to acquire, construct or maintain a crematorium

7 The Secretary of State shall make regulations as to the maintenance and inspection of crematoria and prescribing in what cases and under what conditions the burning of any human remains may take place, and directing the disposition or interment of the ashes, and prescribing the forms of the notices certificates and declarations to be given or made before any such burning is permitted to take place such declarations to be made under and by virtue of the Statutory Declarations Act, 1835 and also regulations as to the registration of such burnings as have taken place A copy of such regulations shall be laid before both Houses of Parliament, if Parliament be then sitting or if not then within three weeks after the beginning of the next ensuing session of Parliament, and after such regulations have lain for 40 days before Parliament, then, unless within such 40 days an address has been presented by one or other of the said Houses praying His Majesty to withhold his assent from such regulations or any part thereof, such regulations shall have the same effect as if they were enacted in this Act All statutory provisions relating to the destruction and falsification of registers of burials and the admissibility of extracts therefrom as evidence in courts and otherwise shall apply to the register of burnings directed by such regulations to be kept and the Stamp Act, 1891, shall apply to a register under this Act as if it were a register of burials

8 (1) Every person who shall contravene any such regulation as aforesaid, or shall knowingly carry out or procure or take part in the burning of any human remains except in accordance with such regulations and the provisions of this Act, shall (in addition to any liability or penalty which he may otherwise incur) be liable on summary conviction to a penalty not exceeding £50 Provided that any person aggrieved by any conviction may appeal therefrom to quarter sessions (2) Every person who shall wilfully make any false declaration or representation or sign or utter any false certificate, with a view to procuring the burning of any human remains shall (in addition to any penalty or liability which he may otherwise incur) be liable to imprisonment with or without hard labour not exceeding two years (3) Every person who with intent to conceal the commission or impede the prosecution of any offence procures or attempts to procure the cremation of any body or with such intent makes any declaration or gives any certificate under this Act, shall be liable to conviction on indictment to penal servitude for a term not exceeding five years

9 The burial authority may demand payment of any such charges or fees for the burning of human remains in any crematorium provided by them as may be authorised by any table approved by the Local Government Board and such charges or fees and any other expenses properly incurred in or in connexion with the cremation of a deceased person shall be deemed to be part of the funeral expenses of the deceased

10 Nothing in this Act shall interfere with the jurisdiction of any coroner under the Coroners Act 1887, or any Act amending the same and nothing in this Act shall authorise the burial authority or any person to create or permit a nuisance

11 The incumbent of any ecclesiastical parish shall not, with respect to his parishioners or persons dying in his parish be under any obligation to perform a funeral service before at, or after the cremation of their remains, within the ground of a burial authority but, upon his refusal so to do any clerk in Holy Orders of the Established Church not being prohibited under ecclesiastical censure may with the permission of the bishop and at the request of the executor of the deceased person or of the burial authority, or other person having charge of the cremation or interment of the cremated remains, perform such service within such ground

12. In any table of fees respecting burials to be made or approved by the Secretary of State a fee may be fixed in respect of a burial service before at or after cremation and if no fee is fixed the fee if any, fixed in respect of a burial service shall apply

13 Sections 52 and 57 of the Cemeteries Clauses Act, 1847, and any similar provisions in any local and personal Act authorising the making of a cemetery, shall apply to the disposition or interment of the ashes of a cremated body as if it were the burial of a body

14 As from the date at which regulations under this Act come into force any provisions of any local and personal Act for the like purpose as this Act and any by laws or regulations made thereunder, shall, so far as they relate to that purpose cease to be in operation

15 This Act shall come into operation on the first day of April one thousand nine hundred and three

16 This Act shall not apply to Ireland

PROSECUTION UNDER THE PUBLIC HEALTH ACT—At the Moot Hall police court, Newcastle, on August 30th, a young man, resident at Benwell, was charged with being in a public street whilst desquamating after scarlet fever The defendant said that he had to work in order to maintain himself and there was no hospital for him to go to One of the officials said that the Benwell and Fenham council had made no provision for cases of that kind Sir Riley Lord said that the bench would fine defendant 2*s* 6*d* and 1*s* 6*d* costs He added that they hoped that the council would make some adequate provision for cases of that sort. The bench thought that the council was quite as much to blame as was the defendant.

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[2] A ward diet found excellent clinically and experimentally was three meals daily made up of meat seven ounces bacon two ounces egg and milk, three pints butter, three ounces bread seven ounces sugar one ounce pudding five ounces and vegetables, six ounces

THE ANNUAL PATHOLOGICAL MUSEUM OF THE BRITISH MEDICAL ASSOCIATION

WHEN the Annual Museum of the British Medical Association was originated, the idea of the founders was that it would form a valuable means of education and interest to the whole profession, and particularly to those who were engaged in busy country and provincial practices, if all the different museums of the metropolis and the chief towns were to lend the additions which had been made to each museum during the preceding 12 months If this idea were still carried out it would, indeed, form one of the most interesting and instructive features of these annual gatherings. Unfortunately, the trade element crept in, for at first the mercantile exhibits were included in one Annual Museum. These soon became a most valuable source of income and at last the trade exhibits have become totally separated and the income derived from them, instead of being devoted to collecting and providing transit for interesting specimens and complex apparatus for exhibition in connexion with its quondam partner it is presumably expended in other direction. Last year at Cheltenham, the Pathological Museum was crowded into an extremely small room adjacent to the spacious winter garden in which the mercantile exhibits were spread out Both were, it is true, beneath the same roof and the visitors to both were numerous. This year at Manchester they were completely separated. Interesting as were the various exhibits in this year's museum it was only a few of the more enthusiastic workers in the profession who had energy sufficient to climb to the top of the Owens College and who succeeded in finding their way amid the labyrinth of turnings Those who did arrive at their destination were heard to express a hope that now at any rate they would see some of the latest and most scientific apparatus for pathological research, and that since Manchester was one of the greatest industrial centres of the world they would certainly see all that pathology could teach concerning diseases relating to the various industries

Arsenic has been a great deal in evidence lately and to it quite a number of diseases are now being attributed, such as peripheral neuritis, various skin lesions, and cancer even beri beri was mentioned at one of the discussions in the sections. One of the exhibits in the museum consisted of an unpretentious pint bottle labeled Manchester Snow Water about which many interesting things might be said. The snow was collected after a dense fog and the soot contained in the bottle was entirely derived from the snow water contained in the bottle. This water contained arsenic derived from the soot, in the proportion of one grain of arsenious acid in 108 gallons of water During the month of December 1900 Professor S. Delépine finding that coal and coke contained unexpectedly large amounts of arsenic tested for arsenic the soot contained in the flues of chimneys the dust in Manchester houses, and the dust deposited on the leaves of trees and shrubs, and found an appreciable amount of arsenic in each case No arsenic could be found on leaves collected in Switzerland or in the Lake District in England. He was therefore led to infer that large amounts of arsenic were constantly deposited from the air in Manchester and it was to test this point that the snow water was collected. The inhabitants of large towns where much coal is burnt must therefore inhale a very appreciable amount of arsenic, more especially during foggy weather The snow water evidently contained also a very large amount of organic impurities which might be seen as a thick sediment at the bottom of the bottle This gives some idea of the enormous amount of organic impurities which the inhabitants of big towns like Manchester and London must inhale and constitutes a grave cause for anxiety and for efficient action in the way of prevention. The fact that the snow water contained arsenic, which could also be found in the soot of chimneys is a very interesting fact to those who like Mr Jonathan Hutchinson hold that arsenic can produce cancer Chimney sweep's cancer has long been a puzzle to pathologists for it could not altogether be attributed to mechanical irritation Sir James Paget long ago described in his own lucid way the changes which occur in the skin of chimney sweeps and there seems very little doubt that the features which he described correspond with those we now know as keratosis due to the internal administration of arsenic

The effects upon the skin produced by the internal administration of arsenic formed one of the most interesting features of the exhibition. In a series of sketches exhibited by Mr Hutchinson (London) among the drawings selected from those added to the Polyclinic Museum during the past year No 217 showed the hands and elbows of a man in whom arsenical poisoning (discoloured skin pitted palms and psoriasis-like crusts on the elbows and knuckles) was induced by a short course of arsenic in full doses. Another of these exhibits represented the hands of a medical man living in New York who had been taking large doses of arsenic for a prolonged period of time and in whom arsenical keratosis appeared on the palms of the hands, and these subsequently became cancerous as shown in the sketch. Another plate showed the hands of a patient who had undergone amputation of a finger for epithelial cancer and in whom after the administration of arsenic numerous small warty growths (? malignant) had appeared in addition to the keratosis, on the hands and various parts of the body

An interesting portrait in the same series exhibited a girl of about 20 years of age who was the subject of that curious condition Hemiatrophy of the Face, resulting from "herpetiform morphœa. An important feature was the very advanced condition of atrophy of the right side of the tongue. This was probably the first instance in which unilateral atrophy of the tongue had been demonstrated in connexion with morphœa. Beside the preceding there was exhibited for comparison a case of unilateral atrophy of the tongue which had existed for some years after destruction of the lingual nerve by a sloughing abscess of the neck. The atrophy in this patient was much less than in the case of morphœa. Do not a study and comparison of these cases lead to the conclusion that the initial lesion in the morphœa of Erasmus Wilson in reality involves the nerve trunk supplying the part affected (the fifth or lingual, as the case may be) in early life? Cases of identically the same hemiatrophy facialis have been reported where injury to the head attended by evidence of damage to the cranial nerves has been followed by facial hemiatrophy [1]

Among the photographs deserving special note was a series exhibited by Dr D Chalmers Watson (Edinburgh) illustrating various diseases of human beings produced experimentally in the lower animals One series illustrating nervous diseases in animals was communicated to the pathological section of the Association.[2] Another series illustrated experimental gout produced in poultry fed on a diet strictly limited to red meat and water joint lesions being produced and in the opinion of the exhibitor these researches tended to emphasise the "individual factor" of disease.

The anatomy and pathology of the nasal cavities received a notable addition in the well-described series of 10 specimens and 34 plates exhibited by Mr F H. Westmacott (Manchester). But as an illustration of the patient analytical industry which is so marked a quality of German observers, it would be hard to find a better instance than the coloured pastel sketches which occupied the entire side of one large screen. A few of these depicted the development of the auricle in various mammals but the large majority of these pictures and many of the 556 smaller sketches in a book also exhibited, illustrated the appearance of the tympanic membrane in various stages extending over a course of years, of a rare condition which has been described as "blue ear-drum or tympanum ceruleum."[3] These were not described in the catalogue but in the course of conversation with the exhibitor Professor Rohrer (Zürich), we learned that they were all from one case in which the appearance presented was due to the formation of dilated and tortuous venules (varices) on the ear drum, derived from the jugular vein owing to a deficiency in the bony wall of the jugular fossa of congenital and possibly rachitic origin. The patient could hear perfectly well and presented no symptoms and the first question which spontaneously occurred to the mind was What was the practical use of so much labour But is not the practical utility of any subject generally found out late, when generations of patient thinkers and workers have spent their lives on it inspired only by the love of knowledge Many of the greatest discoveries in astronomy biology and pathology have been made by men who had not the remotest idea of their application at the time. Sooner or later, in the most unlikely studies the practical application comes, and comes as an unearned increment to knowledge pursued for its own sake

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[1] Savill Clinical Journal [illegible]

[2] THE LANCET August 2nd 190[illegible] p [illegible]

[3] Ueber die blaue Farbe des Trommelfelles—Tympanum coeruleum—und über das Auftreten von Varicen am Trommelfell, von Dr [illegible] Rohrer Zeitschrift für Ohrenheilkunde Band xxxi[illegible] Heft 1

Curiously enough another notable instance of this principle was to be found in the exhaustive series of specimens also relating to and illustrating the anatomy and pathology of the ear exhibited by Mr Arthur H. Cheatle (London) Dry bones for the most part, they exhibited the arrangement of the mastoid cells in different individuals and various other anatomical and pathological details of which the casual observer would find it hard to discover the bearing, since the catalogue gave no enlightenment, but to which the remarks we have just made again apply They formed a monument of patient industry Dr R. C Elsworth (Swansea), Mr Hugh E Jones (Liverpool), and Mr H Secker Walker (Leeds) also exhibited specimens in the domain of otology

If anyone were asked what was the prevailing feature of this exhibition the answer almost unhesitatingly would have been diseases of the osseous system Mr Noble Smith (London) exhibited an interesting series of 36 radiographs illustrating the pathological conditions appertaining to Congenital Displacement of the Hip-joints The points brought forward were that in a large number of cases the joints were malformed or rudimentary, the acetabula were deficient or practically absent and the heads of the femora were more or less indifferently developed. These defects varied considerably in degree and there were some instances in which the joints themselves, as shown by radiography, were quite normal with the exception of the displacement In a large number of cases the child had been born with a breech presentation and it was suggested that traumatic dislocation had in such instances occurred in consequence. Another point which these plates illustrated was the similarity in symptoms between congenital displacement and coxa vara, and it was considered by the exhibitor that an exact diagnosis could only be determined by a radiograph Dr J W Ballantyne (Edinburgh), Dr W Stoeltzner (Berlin), and Mr C E S Flemming (Bradford on Avon) exhibited an exhaustive series of Fœtal and Infantile Bone Diseases, including rickets, pseudo rachitic osteoporosis, chondrodystrophia fœtalis hypoplastica, phocomely, chondrodystrophia fœtalis hyperplastica, and achondroplasia The exhibit of Mr G A Wright (Manchester) bore also on bone diseases, and his series of 26 wet specimens of the various forms of Tuberculous Disease of the Hip joint repaid careful study A remarkably fine radiograph from a case under the care of Mr Edmund Owen (London) showed ossification of the tendo Achillis

An interesting series of 50 Vermiform Appendices removed from persons suffering from recurrent appendicitis, illustrating the various changes met with in the appendix in this affection, were exhibited by Mr F A Southam (Manchester) It would have given additional interest to this series if the nature of the originating concretions had been more particularly specified. In a few instances only this, was vaguely described as a "hard fæcal concretion," but at the present time observers ask how often this contains the bristle of a toothbrush, a cherry stone, or other substances which might with a little care have been prevented from entering the alimentary canal at all. The nature and origin of these "concretions" need elucidation The same exhibitor presented a series of Vesical Calculi from 100 patients (55 from male children under 10 years, 39 from males over 10 years, and six from females) One of these calculi contained a glass rod which the patient stated he had swallowed accidentally eight years previously, and another from a female who had been operated on three years before for vesico-vaginal fistula contained a wire suture embedded in its periphery

Thus it will be seen that the museum had a distinctly surgical tone. More than passing interest, however, attached to the 30 drawings of Dr Alfred W Campbell (Rainhill Asylum) and Dr A. C Wilson (Doncaster), illustrating the arrangement of the Medullated Fibres in the Cerebral Cortex, and they go far to justify the modern innovation of appointing pathologists to our large county asylums. The plan was instituted by the London County Council at the suggestion of Sir W J Collins, and the good work accomplished both in London and the provinces must be a source of satisfaction to all concerned.

Turning next to rarer specimens, that of Mr Walter Whitehead (Manchester) naturally occupied a prominent place It consisted of the entire right upper extremity which was the seat of lymphangiectatic elephantiasis The arm, which along with the scapula weighed 70½ pounds, was amputated from a man, aged 32 years The enlargement of the arm commenced when the patient was about eight years of age, it progressed slowly for eight years then more rapidly, and especially during the last five years The hypertrophied tissues were confined almost entirely to the extensor surface and they did not pass beyond the wrist, the hand being entirely free Dr F Craven Moore (Manchester) exhibited one of three specimens of Unilateral Absence of the Kidney, Ureter, and Testis which he had met with accidentally in the post-mortem room Dr J Dreschfeld (Manchester) exhibited an interesting specimen from a case of Hæmorrhagic Meningo-encephalitis secondary to influenza. The case, if we remember rightly, attracted considerable attention at the time on account of the symptoms, which consisted mainly of continuous sleep and vomiting A transverse section through the two hemispheres mounted by the gelatin formalin method between glass plates showed irregular capillary hæmorrhages in the cortical and sub-cortical layers and inflammatory exudation in the overlying pia arachnoid Another remarkable exhibit was that of an enormous Cavernous Angioma of the Liver by Dr A Mantle (Halifax) It had been manifest during life for two years as a gradually enlarging abdominal tumour, distinctly fluctuant and dull on percussion After death, which resulted from internal hæmorrhage (estimated at about eight pints) following an exploratory operation, the tumour was found to extend from the right lobe of the liver into the right iliac fossa, its vertical extent being 10½ inches, its width eight inches The liver and tumour weighed six pounds 13 ounces

If we except the exhibits of Dr A S F Grünbaum (Liverpool) of experimental typhoid fever in a chimpanzee and the differentiation of the bacillus typhosus and the bacillus coli communis, and of Dr Delépine of experimental tuberculosis in guinea pigs, bacteriological specimens were conspicuous by their absence It has always been a difficult matter to distinguish the highly virulent typhoid bacillus from the bacillus coli, which until lately has been regarded as non pathogenic, and the Petri dish exhibited by the first-named observer showed very clearly their differentiation by the very simple means of staining with neutral red, this colour had been taken up by colonies of the latter, whereas colonies of the former remained colourless Pathological instruments also were conspicuous by their absence, if we except a few microscopes and incubating ovens placed in a room still more isolated and difficult of access downstairs In a well equipped school like the Manchester Medical School it ought not to have been difficult to have exhibited, for instance, some of the most recent apparatus for testing and recording variations in blood pressure What a valuable educational addition from the practitioner's standpoint this would have constituted, and the objection to moving complicated mechanical contrivances over long train journeys could not have been raised in this instance

The latest methods of preparing museum specimens for educational and other purposes should always form a feature of these annual exhibitions and Professor D J Hamilton (Aberdeen) exhibited some excellent coloured casts of the lesions in typhoid fever, of the spleen in malaria, and of the kidney in tuberculosis. Dr T Shennan (Edinburgh) exhibited three life like casts in Cathcart's material (gelatin and formalin), showing a hand before and after the removal of a nævus The excellent results obtained in certain cases by this method are beyond praise.

The series of semi transparent sections of diseased hearts—which a prefatory note in the museum catalogue mentions as worthy of special attention—were interesting in some respects, but it is a questionable improvement on the older methods of mounting the organ Similar "transparencies" of morbid conditions of the lungs were also exhibited, but (as an instance of the futility of the method) it would have been somewhat difficult if the labels had been removed to have detected the difference between two specimens which were side by side—No 138, showing hyperæmia and hæmorrhage of the lung from a case of chronic alcoholism, and No 139, showing anthracosis of the lung from an old Scotch miner who had worked 40 years in a badly ventilated coal mine. This and the specimens bearing on arsenic previously alluded to were the only instances of exhibits bearing on trade diseases

The exhibits were for the most part well arranged and catalogued, and credit was due in this respect to the energy and skill of Dr Craven Moore, secretary of the museum committee, whose courtesy led us to suppose that had informal demonstrations by him at stated intervals been suggested as part of the programme they would have done much to increase the interest of those few who did find their way into the museum. But we confess to a feeling of disappointment—first, that the original idea of the founders of the museum has been allowed to lapse secondly that such a valuable means of studying nature s facts and modern methods of research and of education to the whole profession should have been relegated to an out-of the-way room on the top floor of a large and spacious building and thirdly that Manchester the very centre of trade diseases, did not place before the medical world more of her wealth of pathological material in this department.

THE HOVIS BREAD FLOUR CO, LIMITED, AND QUOTATION FROM THE LANCET

THE Hovis Bread Flour Co, Limited, of Macclesfield, have issued a small pamphlet entitled Hovis Food," or alternatively The New Foster Mother A copy of this pamphlet has been sent to us by a medical man who draws our attention to the following statement which occurs therein *The Lancet*, speaking of the prepared Hovis Food states It affords a diet lacking no physiological requirement, and by the use of these foods a milk is obtained presenting the same composition as human milk." We thereupon addressed a letter to the Hovis Bread Flour Co Limited of Macclesfield, objecting to the misuse made of our words—a misuse which will be sufficiently clear to all who read in parallel columns our real statements noting the passages put in italics, and those attributed to us

THE LANCET March 8th, 1902.	*The Circular of the Hovis Bread Flour Co Limited.*
The advantages of these foods are that they are almost entirely soluble and that *by the addition of them to diluted cow s milk* a milk is obtained presenting the same composition as human milk	By the use of these Foods a milk is obtained presenting the same composition as human milk.
It is very correctly claimed that *these foods are not complete in themselves but that their addition to milk* affords a diet lacking no physiological requirement.	*The Lancet* speaking of the prepared Hovis Food states: It affords a diet lacking no physiological requirement."

To our surprise we received a reply from the Hovis Bread Flour Co Limited, asking to have the misinterpretation of our words to which we objected pointed out. We accordingly complied with the request and have now received a further reply from the company which we subjoin.

> DEAR SIR,—In further reply to yours of the 21st ult. I have this day placed the correspondence in respect thereto before my Directors, who desire me to write confirming the explanatory letter sent to you from our Macclesfield Office on the 22nd ult. that so far as can be judged it is simply in respect to the omission from our quotation of the fact that milk should be added to the Foods that you take objection to but as you know the Hovis" Infants and Invalids Food are only prepared to be used with milk as explained in our booklets and on the directions sent out with each bottle, we therefore considered it unnecessary when quoting from your article to emphasise a fact which must be known to everybody under whose notice the Foods come.
>
> If of course, after this explanation you still consider that by continuing the quotations as we have done we are misinterpreting your meaning we will make the alterations you ask for but at the same time we think it next to impossible for anyone to be misled by the quotations as printed and we trust the matter is now settled to your satisfaction
>
> Yours faithfully
> A. E. CRESSALL, Secretary
>
> Westminster S W Sept. 1st 1902.

Our readers will see that the company do not appear to realise the gravity of the offence or the impropriety of the misquotation and our solicitors have now instructions to require the company to cease further dissemination of the misleading quotations.

BEER DRINKING IN GERMANY —According to the last issue of the Statistical Year book of the City of Berlin the annual consumption of beer in Berlin increased from 199 litres (350 pints) per head of the population in 1895 to 232 litres (408 pints) in 1900. For the whole of Germany the figures were 115 litres (202 pints) in 1895 and 124 litres (218 pints) in 1900. The average annual consumption of beer in Bavaria is higher even than in Berlin.

THE METROPOLITAN WATER-SUPPLY

THE report on the condition of the metropolitan water supply during the month of June has recently been published. It will repay study in the light of the facts referred to in the leading article which appeared in THE LANCET of August 9th, p 367 The Water Examiner states that the condition of the Thames water was good from the 1st to the 13th of the month From the 14th to the 19th, both those days included it was of bad quality, on the 20th it was of indifferent quality On the 21st, and from that date until the end of the month it was good At West Molesey the total amount of rainfall which occurred during the month was 3 76 inches. The height of the river varied from a point four inches above to one five inches below the average summer level The average daily amount of water delivered from the Thames was 125 585 077 gallons from the Lee 43,155 227 gallons, from springs and wells, 50 008,247 gallons, and from the Hampstead and Highgate ponds, 134 787 gallons. The total average amount delivered daily was 218,883,338 for a population estimated at 4 373,015, which represents a daily consumption per head of 34 35 gallons. The amount of water supplied per head was in the case of each company less than it was during the corresponding month of last year The Kent Company uniformly supplied clear water of high organic purity and of excellent quality All the samples examined of the water supplied by the New River Company were found to be clear but in the case of all the other companies waters on some occasions small amounts of superadded matters consisting chiefly of rust-coloured particles, were observed The proportion of brown tint in samples observed in a two-foot tube ranged from two to 27 degrees of the standard in use, and this it may be remarked, is a very wide range The water of the Lambeth Company exhibited the deepest average tint of brown" Samples of the water of all the companies taken on June 9th were examined by Dr T E Thorpe, F R.S. the analyst to the Local Government Board. At this date the condition of the river water was good. Later in the month there was a heavy rainfall, the height of the river rose, the water became turbid and the supplies given by some of the companies gave indications' (the nature of which are not stated) that the quality of the water was not satisfactory and Dr Thorpe made some further analyses. It may be of use to quote the exact words of his report (p 13) Owing" he says, to indications that the exceptional rainfall and consequent flooded condition of the Thames was adversely affecting some of the supplies extra samples of the Grand Junction and Lambeth companies waters were taken on June 21st, both samples were much inferior to those drawn from the respective companies mains on June 9th and the Lambeth Company s water was of indifferent quality owing to the excessive quantity of vegetable organic matter which it contained." The most important results of Dr Thorpe s examination are given in the appended table which shows the results of the analysis expressed in parts per 100 000

Company	Date on which specimen was taken.	Organic carbon	Organic nitrogen	Nitrogen as nitrates and nitrites	Total combined nitrogen
Chelsea	June 9th	0·129	0·017	0·156	0·173
West Middlesex		0·138	0·014	0·137	0·151
Southwark ...		0·151	0·017	0·133	0·150
Grand Junction		0·129	0·015	0·157	0·172
	21st	0·300	0·025	0·185	0·210
Lambeth	9th.	0·147	0·01	0·170	0·187
...	21st	0·400	0·030	0·169	0·219
New River ...	9th.	0·060	0·006	0·159	0·165
East London ...	"	0·110	0·013	0·095	0·108
" " ..	" 24th.	0·424	0·037	0·272	0·309
Kent	9th	0·032	0·006	0·397	0·403

The relative amount of organic impurity contained in the water examined may perhaps be most readily stated by expressing it numerically in figures. It is correctly represented as follows Kent, 6 New River 11, East London (June 9th) 21, (June 24th) 78, Grand Junction (June 9th), 24, (June 21st) 55, Chelsea, 25, West Middlesex, 26, Southwark, 28, Lambeth (June 9th), 28, (June 21st) 73 The water supplied by the Kent Company was colourless, that by the New River Company nearly colourless, the supplies of the Chelsea, West Middlesex, Southwark, Grand Junction, Lambeth, and East London Companies on June 9th were of "very pale yellow", the supplies of the Lambeth and East London Companies collected respectively on June 21st and 24th were "pale brown in colour" It is very evident from Dr Thorpe s analysis that the impurity of the Thames river water had its natural effect on the supplies given by the companies which have made insufficient arrangements for the storage of water This matter has been frequently insisted upon in THE LANCET and it has been constantly urged that more analyses should be made of the water supplied by the companies, and especially at times during which the river is in flood. *It is satisfactory to note not only that an increased* number of examinations have been made, but also that Dr Thorpe has clearly realised, and in his official capacity (*as analyst to the Local Government Board*) points out, that the badness of the quality of the water supplied is *due to the fact that the companies have made insufficient* provision for the treatment of impure river water In the course of his report Dr Thorpe says "The Lambeth Company's water was most affected. From a consideration of the records of the analytical examinations of the metropolitan waters it appears that it is 23 years since such a high proportion of organic impurity has been observed in the month of June The Grand Junction and Southwark Companies were also considerably affected for the worse, but the Chelsea and West Middlesex Companies by their comparatively large storage succeeded in avoiding the distribution of water of very high colour and excessive organic contamination." In regard to the water supplied by the East London Company Dr Thorpe states that on June 23rd it was of inferior quality and on the 24th it "contained a larger amount of organic matter than was found in any of the Thames waters" Some of the East London Company's water, we may again point out, is derived from the Thames Dr Thorpe continues "As this company possesses nearly *30 days' storage it ought to have been possible* to avoid the distribution of such unsatisfactory water on the dates mentioned" The East London Company has *no provision* whatever for the storage of its Thames supply, which in this connexion is a matter not without interest. The Water Examiner states that "all the samples of water collected at the works of the companies were efficiently filtered." It does not appear that any such samples were submitted to Dr Thorpe and it would require the ingenuity of an expert to reconcile this statement with the analyst's report, concerning the accuracy of which we have no doubt whatever

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN 76 of the largest English towns 8773 births and 4116 deaths were registered during the week ending August 23rd The annual rate of mortality in these towns, which had been 13 6 and 15 5 per 1000 in the two preceding weeks, declined again in that week to 14 4 per 1000 In London the death rate was 14 5 per 1000, while it averaged 14 4 per 1000 in the 75 other large towns. The lowest death rates in these towns were 3 5 in Hornsey, 6 4 in Willesden, 6 9 in King's Norton, 7 4 in Wallasey, 7 6 in Wolverhampton, 9 1 in Leyton, and 9 3 in Walthamstow and in Rochdale, the highest rates were 18 7 in Bristol and in Huddersfield, 18 8 in Bury, 19 2 in Merthyr Tydfil, 20 1 in Sunderland, and 20 2 in Stockton-on Tees and in Newcastle The 4116 deaths in these towns last week included 638 which were referred to the principal infectious diseases, against 579, 584, and 642 in the three preceding weeks, of these 638 deaths 263 resulted from diarrhœa, 125 from measles, 94 from whooping cough, 54 from scarlet fever, 48 from diphtheria, 47 from "fever" (principally enteric), and seven from small-pox. No death from any of these diseases was registered last week in Hornsey, Great Yarmouth, Blackburn, or York, while they caused the lowest death-rates in Walthamstow, Walsall, Rochdale, and Sheffield, and the highest in Portsmouth, Bristol, Grimsby, Liverpool, Bootle, Stockton-on Tees, and Rhondda The greatest proportional mortality from measles occurred in Portsmouth, Devonport, Bristol, Smethwick, Stockton on Tees, and Cardiff, from scarlet fever in Stockport and Burnley, from diphtheria in Tottenham, from whooping-cough in Portsmouth, Norwich, Grimsby, Wigan, and Tynemouth, from "fever" in Grimsby, and from diarrhœa in King's Norton, Liverpool, Bootle, and Rhondda Small-pox caused three deaths in London, two in Liverpool, and one each in Leicester, and in Swansea, but not one in any other of the 76 towns The number of small-pox patients in the Metropolitan Asylums hospitals, which had decreased from 1515 to 170 at the end of the 17 preceding weeks, had further declined to 128 on August 23rd, 18 new cases were admitted during the week, against 44, 21, and 24 in the three preceding weeks The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, August 23rd, was 2623, against 2562, 2591, and 2595 on the three preceding Saturdays, 297 new cases were admitted during the week, against 382, 295, and 303 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 135, 131, and 159 in the three preceding weeks, declined again to 136 and were 15 above the corrected average The causes of 58, or 1 4 per cent, of the deaths in the 76 large towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Bristol, Nottingham, Salford, *Bradford*, Hull, and in 41 *other smaller towns, the largest proportions* of uncertified deaths were registered in Birmingham, Aston Manor, Liverpool, Rochdale, and Middlesbrough.

In 76 of the largest English towns 8824 births and 4319 deaths were registered during the week ending August 30th. The annual rate of mortality in these towns, which had been 15 5 and 14 4 per 1000 in the two preceding weeks, rose again last week to 15 2 per 1000 In London the death rate was 15 8 per 1000, while it averaged 14 9 in the 75 other large towns The lowest death-rates in these towns were 3 6 in Bury, 5 5 in Smethwick, 7 0 in East Ham, 7·7 in Willesden, and in King's Norton, 8 7 in Devonport and in Preston, and 8 3 in West Hartlepool, the highest rates were 20 0 in Tynemouth, 20 1 in Portsmouth, 20 4 in Sunderland, 21·2 in Bristol, 21 3 in Plymouth, 21 8 in *Bootle*, 23 7 *in Wigan*, and 24 2 in Hanley The 4319 deaths in these towns last week included 743 which resulted from the principal infectious diseases, against 584, 642, and 638 in the three preceding weeks, of these 743 deaths 371 were referred to diarrhœa, 121 to measles, 98 to whooping cough, 56 to diphtheria, 51 to "fever" (principally enteric), 44 to scarlet fever, and two to small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Bournemouth, Handsworth, King's Norton, Wallasey, Warrington, Bury, Blackburn, Rotherham, Newport (Mon.), or Swansea, among the other towns the highest death-rates from these infectious diseases were recorded in West Ham, Portsmouth, Plymouth, *Bristol, Hanley*, West Bromwich, Grimsby, and Wigan. The highest proportional mortality *from measles* was registered in Portsmouth, *Bristol, Hanley*, West Bromwich, Aston Manor, Barrow-in Furness, Stockton on Tees, Gateshead, and Cardiff, from scarlet fever in West Bromwich, Wigan, and Burnley, from diphtheria in Middlesbrough, from whooping-cough in Burton on *Trent* and in Wigan, from "fever" in Hanley, Grimsby, and Birkenhead, and from diarrhœa in Croydon, West Ham, Portsmouth, Reading, Plymouth, Liverpool, Bootle, Wigan, and Burnley Two fatal cases of small pox belonging to London were *registered last week*, *but not one* belonging to any of the 75 other large towns The Metropolitan Asylums hospitals contained 109 small pox patients at the end of last week, against numbers decreasing from 1515 to 128 at the end of the 18 preceding weeks, 11 *new* cases were admitted during the week, against 21, 24, and 18 in the three preceding weeks The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2591, 2595 and 2623 on the three preceding Saturdays, had further risen to 2651 on Saturday, August 30th, 295 new cases were admitted *during* the week, against 295, 303, and 296 in the three preceding weeks The deaths referred to diseases of the respiratory *organs* in London, which had been 131, 159, and 136 in the three preceding weeks, rose again last week to 139, *and* were *nine* above the corrected average number The causes of 52, or 1 2 per cent, of the deaths in the 76 large towns were *not certified either* by a registered medical practitioner or by a coroner All the causes of death were duly certified in West Ham, Bristol, Nottingham, Bradford, Newcastle, and in 44 other smaller towns The highest proportions of uncertified deaths were registered in Liverpool Warrington Blackburn, Halifax, Leeds, Sheffield and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had been 13 9 and 15 7 per 1000 in the two preceding weeks, declined again to 14 4 per 1000 during the week ending August 23rd and corresponded with the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 4 6 in Leith and 10 9 in Perth to 15 5 in Aberdeen and 17 3 in Paisley The 464 deaths in these towns included 22 which were referred to diarrhœa, 14 to whooping-cough, seven to scarlet fever, five to measles, two to diphtheria, and two to fever but not one to small pox. In all, 52 deaths resulted from these principal infectious diseases, against 46 and 64 in the two preceding weeks. These 52 deaths were equal to an annual rate of 1 6 per 1000 being 0 6 per 1000 below the mean rate from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 16 and 23 in the two preceding weeks, declined again to 22, of which 14 occurred in Glasgow six in Edinburgh, and two in Aberdeen. The deaths from whooping-cough which had been 7, 16, and 25 in the three preceding weeks, decreased again to 14 and included nine in Glasgow and four in Edinburgh The fatal cases of scarlet fever which had declined from six to one in the four preceding weeks, rose again to seven of which three were registered in Glasgow and two in Paisley The deaths from measles, which had been five and nine in the two preceding weeks, declined again to five, and included four in Glasgow The deaths referred to diseases of the respiratory organs in these towns, which had been 63 and 73 in the two preceding weeks, declined again to 68 but exceeded by 17 the number recorded in the corresponding period of last year The causes of 17 or nearly 4 per cent. *of the deaths registered in these eight towns were not* certified.

The annual rate of mortality in the eight Scotch towns, which had been 15 7 and 14 4 per 1000 in the two preceding weeks, further declined to 14 0 per 1000 during the week ending August 30th, and was 1 2 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in these eight Scotch towns ranged from 7 9 in Leith and 11 5 in Paisley to 15 9 in Greenock and 26 6 in Perth. The 451 deaths in these towns included 17 which were referred to whooping-cough 14 to diarrhœa, five to scarlet fever four to measles, four to ' fever and one to diphtheria. In all 45 deaths resulted from these principal infectious diseases last week, against 64 and 52 in the two preceding weeks. These 45 deaths were equal to an annual rate of 1 4 per 1000 being 1 2 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping cough, which had been 25 and 14 per 1000 in the two preceding weeks, rose again last week to 17 of which 10 occurred in Glasgow and three in Edinburgh. The deaths from diarrhœa, which had been 23 and 22 in the two preceding weeks, further declined to 14 last week and included nine in Glasgow and two in Aberdeen. The fatal cases of scarlet fever which had been one and seven in the two preceding weeks, decreased again last week to five, of which two were registered in Glasgow and two in Edinburgh The mortality from measles showed a slight decline from that recorded in the preceding week while that from 'fever was slightly in excess The deaths referred to diseases of the respiratory organs in these towns, which had been 73 and 68 in the two preceding weeks further declined last week to 54 and were slightly below the number in the corresponding period of last year The causes of 11, or more than 2 per cent. of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN

The death rate in Dublin which had been 21 2, 20 2, and 19 5 per 1000 in the three preceding weeks was again 19 5 per 1000 during the week ending August 23rd. During the past four weeks the death rate has averaged 20 1 per 1000 the rates during the same period being 14 3 in London and 15 4 in Edinburgh The 142 deaths of persons belonging to Dublin registered during the week under notice corresponded with the number in the preceding week and included 23 which were referred to the principal infectious diseases against 29, 30, and 24 in the three preceding weeks, of these 16 resulted from measles, three from diarrhœa, two from whooping cough, and two from 'fever' but not one from either small pox, scarlet fever, or diphtheria. These 23 deaths were equal to an annual rate of 3 2 per 1000 the annual death rates from the same diseases being 2 5 in London and 1 8 in Edinburgh. The fatal cases of measles, which had been 20 in each of the two preceding weeks, declined again to 16 the deaths from fever' corresponded with the number in the preceding week, while those from diarrhœa showed an increase. The 142 deaths in Dublin included 29 of children under one year of age and 20 of persons aged upwards of 60 years the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a marked decline. Four inquest cases and four deaths from violence were registered and 61 *or nearly one-half of the deaths* occurred in public institutions. The causes of 13 or nearly 9 per cent of the deaths registered in Dublin were not certified.

The death rate in Dublin which had been 19 5 per 1000 in each of the two preceding weeks, increased to 20 6 per 1000 during the week ending August 30th During the past four weeks the death rate has averaged 20 0 per 1000 the rates during the same period being 14 9 in London and 14 7 in Edinburgh The 150 deaths of persons belonging to Dublin registered during the week under notice were eight in excess of the number in the preceding week and included 24 which were referred to the principal infectious diseases, against 24 and 23 in the two preceding weeks, of these, 11 resulted from measles seven from diarrhœa two from scarlet fever two from diphtheria, and two from "fever but not one from either small pox or whooping-cough. These 24 deaths were equal to an annual rate of 3 3 per 1000 the death rates last week from the same diseases being 3 0 in London and 1 1 in Edinburgh. The fatal cases of measles, which had been 20 and 16 in the two preceding weeks further declined last week to 11 while the deaths from diarrhœa, which had been one and three in the two preceding weeks further increased to seven last week. The 150 deaths registered in Dublin last week included 22 of children under one year of age and 28 of persons aged upwards of 60 years the deaths of infants showed a decline, while those of elderly persons exceeded the number in the preceding week. Nine inquest cases and four deaths from violence were registered and 72, or nearly one-half of the deaths occurred in public institutions. The causes of five, or more than 3 per cent. of the deaths registered in Dublin last week were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

INSPECTOR GENERAL of Hospitals and Fleets Robert Grant, C B. has been placed on the retired list at his own request. Dated August 12th, 1902.

Fleet Surgeon Richard Dormer White has been placed on the retired list, with permission to assume the rank of Deputy Inspector General of Hospitals and Fleets

Fleet Surgeon George Frederick Wales and Fleet Surgeon Alfred Thomas Corrie have been placed on the retired list at their own request.

The undermentioned Staff Surgeons have been advanced to the rank of Fleet Surgeon —William Henry Norman, James McCardie Martin, D S.O and William Maxwell Craig

The following appointments are notified —Staff Surgeons G E. Kennedy and W G Axford to the *President* for course of hospital study M J O Regan to the *Calypso* and A. S Nance to the *Britannia* for the *Isis* Surgeons S Conner to the *Britannia* for the *Isis* H. Clift to the *President* for course of hospital study and L. F Fraser to the *Wildfire*

ROYAL ARMY MEDICAL CORPS.

Lieutenant Charles F Trimble resigns his commission. Dated August 23rd, 1902. Lieutenant-Colonel A Asbury retires on retired pay Dated August 27th 1902.

The undermentioned officers of the 2nd Canadian Mounted

Rifles are granted temporary rank in the Army, whilst serving in South Africa, as follows (dated Jan 14th, 1902) —To be Majors Surgeon-Major J A. Devine, Medical Officer, and Surgeon Major H. R. Duff, Medical Officer

The undermentioned officer of the 3rd Canadian Mounted Rifles is granted temporary rank in the Army, whilst serving in South Africa, as follows (dated May 8th, 1902) — To be Captain Surgeon Captain L R. Murray, Medical Officer The undermentioned officers of the 4th Canadian Mounted Rifles are granted temporary rank in tha Army, whilst serving in South Africa, as follows (dated May 8th, 1902) —To be Major Surgeon Major C E Elliot, Medical Officer To be Captain Surgeon Captain J M Jory, Medical Officer The undermentioned officer of the 6th Canadian Mounted Rifles is granted temporary rank in the Army, whilst serving in South Africa, as follows (dated May 17th, 1902) —To be Captain Surgeon Captain D M. Anderson, Medical Officer

Lieutenant-Colonel A. L Browne will proceed to Taunton for duty on Oct. 1st Major J R. Stuart has been transferred from the Bombay District to the Nagpur District and appointed to the medical charge of the Station Hospital, Kamptee, and Major R. J D Hall has been transferred from the Nagpur District. Major F A. Shaw is to proceed to Bulford for duty The Secretary for War has approved the appointment at the Herbert Hospital, Woolwich, and Netley Hospital, Southampton, of experts in clinical pathology The necessary laboratory accommodation is to be provided. Major A. Dodd is to embark for Gibraltar early in October Major R. J Power, Major C W Johnston, Lieutenant A C Adderley, and Lieutenant T B Unwin have left South Africa for India.

The undermentioned Captains to be Majors (dated July 29th, 1902) —

Arthur E Smithson, Philip H. Watson, George L McLoughlin, D S O, Henry G Parry, D S O, Wilfred W O Beveridge, Robert W H. Jackson, Robert G W Mawhinny, George A. T Bray, Bernard Forde, and John D Ferguson, D S O

Surgeon Captain Thomas Joseph Crean, V C, from the Imperial Light Horse, to be Captain (dated Sept 3rd, 1902) —

The undermentioned Lieutenants to be Captains (dated July 28th, 1902) —Francis J Palmer, Robert A. Cunningham, Vincent J Crawford, George G Delap, D S O, William A. Woodside, Harold Simson, Harold H. Norman, William R. Blackwell, Henry M ,Nicholls, Arthur Chopping, Herbert F Hart, Arthur L A. Webb, Sidney G Butler, Lyttleton F F Winslow, John J W Prescott, D S O, Percy H. Falkner, Henry E M Douglas, V C, D S O, Ernest E Ellery, Otto W A Elsner, James William Langstaff, John L W Morris, Arthur A. Seeds, Henry S Anderson, Howard Ensor, D S O, Langford N Lloyd, D S O, Leonard Wood, Thomas C MacKenzie, Edward P Connolly, and James Henry R Bond

The undermentioned gentlemen to be Lieutenants on probation (dated Sept. 1st, 1902) ,—

Arthur Briton Smallman, Percival Davidson, D S O (from Honorary Captain), Wentworth Francis Tyndale, William Francis Ellis, John McKenzie, Arthur Herbert Hayes, Henry Joseph Crossley, Norman Dunbar Walker, William Batchelor Taylor, Reginald Storrs, George Thomas Collins, Frederick Adderley Howard Clarke, George Augustus Keppell Hart Reed, Raymond Leslie Vachell Foster, Ralph Bignell Ainsworth, Charles Augustus John Albert Balck, Gayton Warwick Smith, John Marcus Hobson Conway, Sydney Manvers Woolner Meadows, John William Smyth Seccombe, Herbert Vale Bagshawe, Charles Vivian Beresford Stanley, Dudley Sheridan Skelton, Hugh George Stiles Webb, William Walker Browne, Frederick Louis Henderson, Norman Ernest Jasper Harding, William Davenport Crawley Kelly, Richard Rutherford, and Walter Courtenay Rivers

The undermentioned Lieutenants on probation to be seconded under the provisions of Article 349, Royal Warrant Oct. 26th, 1900 (dated Sept. 1st, 1902) —William Francis Ellis and Frederick Louis Henderson.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon Major E Williams to be Surgeon Lieutenant-Colonel

ROYAL ARMY MEDICAL CORPS (MILITIA)

Sir Frederick Treves Bart, K.C V O, C B, Serjeant-Surgeon in Ordinary to His Majesty the King, to be Honorary Colonel. Mr Herbert Vaughan Craster to be Lieutenant. Lieutenant J W Hopkins has arrived in the Eastern District for duty

IMPERIAL YEOMANRY

North Somerset Dr John Empson to be Surgeon-Lieutenant Westmorland and Cumberland Dr John Livingstone to be Surgeon Lieutenant. The resignation of Surgeon-Captain J E Bowser, which was announced in the *London Gazette* of Feb 25th, 1902, is cancelled Warwickshire Surgeon Captain R. Bullock to be Surgeon-Major

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers) 1st Berwick on Tweed —Surgeon Captain C L Fraser to be Surgeon Major 1st Caithness, Surgeon Lieutenant S Davidson resigns his commission

Rifle 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry Dr Thomas Douglas Brown to be Surgeon Lieutenant.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

The Aberdeen Company The undermentioned Captains to be Majors J MacK. Booth and J S Riddell. Leeds Company Captain de B Birch to be Major London Companies The undermentioned Captains to be Majors —T H Openshaw, C M G, and G S Woodhead

VOLUNTEER INFANTRY BRIGADE

Gloucester and Somerset, Surgeon Major A W Prichard, 1st Volunteer Battalion the Gloucestershire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel Geoffrey Craythorne Hall has been promoted to be Colonel Lieutenant-Colonel James Alexander Nelis has retired from the service Captain Walter Hulbert Cox has been made a Companion of the Distinguished Service Order in recognition of his services during the Mahsud-Waziri operations

The following is the list of the candidates for His Majesty's Indian Medical Service who were successful at the competitive examination held in London on August 20th, 1902, and following days —

	Marks		Marks
A T Pridham	3162	J L Lunham	2522
F P Mackie	3097	W J Collinson	2502
F P Connor	3032	T C M. Young	2500
J O Leary	2995	H M H Melhuish	2463
S R Christophers	2913	G A Jolly	2449
H R Dutton	2873	H H. Kiddle	2442
W W Jendwine	2820	R F C Talbot	2383
H M Brown	2817	F C Rogers	2377
V B Nesfield	2774	R D Saigal	2366
{ H Emslie Smith	2738	G F Humphreys	2356
{ A. F Pilkington	2738	M Ba ket	2332
H C Brown	2645	C A F Hingston	2289
C E Bulteel	2611	C L Dunn	2251
G H L Whale	2584	A K Lauddie	2228
{ F P Vieyra	2542		
{ P G Easton	2542		

MR. CHAMBERLAIN AND THE WAR.

Mr Chamberlain in his recent address to the members of the Birmingham Corps of the St. John Ambulance Brigade who had been on active service with the Royal Army Medical Corps in South Africa made an interesting speech, handsomely vindicating, as he has never failed to do, the good name and humane conduct of the troops engaged in the late war This the Colonial Minister had, of course, no difficulty in doing with entire honesty As regards the allegations that were made against the concentration camp system we may incidentally cite what Mr Reitz is reported to have recently said The Boers did not, Mr Reitz stated, lay down their arms on account of the women in the camps, but on account of those who remained in the devastated country and were literally dying from hunger In the course of his speech Mr Chamberlain remarked that in cases of exceptional emergency and magnitude the Government must fall back upon the voluntary patriotism of the nation in time of war to supplement the necessary deficiencies in the regular service Notwithstanding that he had subsequently to correct a misapprehension that had arisen, Mr Chamberlain's meaning seemed to be apparent enough and correct. It would be impracticable for financial reasons to maintain permanently an army complete in all respects and of such magnitude as to meet all possible requirements But there should be no doubt about the quality and fitness for work of the regular force that is maintained and of the system by which it could be readily brought up in case of need to almost any required strength. With a well-organised Imperial system the means for meeting the military and medical needs of the Empire should be forthcoming and it is for statesmen to devise a scheme by which this can be accomplished.

THE MEDICAL SERVICES.

If we may judge from the number of candidates that appeared at the late competitive examination for the Royal Army Medical Corps, we should say that Mr Brodrick s new warrant is likely to prove attractive and to be a success. It is some time since these examinations have been really competitive, but on the present occasion we learn that such was the case, some 70 candidates having competed for 30 vacancies We trust that the War Office authorities will spare no pains to administer their medical service in such a way as to hold out continued attractions to young medical men and to secure a thoroughly efficient medical service for the army As regards the Royal Navy Medical Service we are not able to speak so hopefully Perhaps the number of young medical men with a liking for the sea and life on shipboard is smaller In any case so far as we can learn the new Admiralty regulations have failed to attract the number of candidates desired for the Royal Navy Medical Service.

DEATHS IN THE SERVICES.

Deputy Surgeon General William Stewart, A.M.D (retired) at Boldre, Lymington Hants, on August 23rd, aged 75 years. He joined the army as assistant surgeon July 29th, 1853 became surgeon July 8th, 1862 surgeon major March 1st, 1873 deputy surgeon-general Nov 27th 1879 and retired July 16th 1884 He was the author of ' Clinical Researches on the Therapeutic Action of Chloride of Ammonium in the Treatment of Hepatic Disease, and he contributed articles on its use in suppurative hepatitis to THE LANCET in 1870

Brigade Surgeon Lieutenant Colonel Robert Temple Wright, I.M S (retired), at Bedford on August 27th aged 59 years He was the author of Medical Students of the Period, and contributed articles to the Army Medical Reports and to the Indian medical periodicals

Correspondence.

Audi alteram partem."

GOLD MINERS' PHTHISIS

To the Editors of THE LANCET

SIRS —Some weeks back a communication from Dr T Oliver of Newcastle *re* Gold Miners Phthisis was published in THE LANCET [1] The Public Health Department of the Transvaal is desirous of obtaining the most complete information on the subject, and if medical men when reporting a case of death from this disease (the patient having worked in this colony) would very kindly notify this department, adding if possible, the name of the mine which employed the deceased, they would considerably assist the administration when dealing with the matter I should be much obliged if you would insert this letter in your journal.

I am Sirs, yours faithfully

G A TURNER, Acting A.M.O H.

for Medical Officer of Health of the Transvaal.

Pretoria, July 29th 1902.

THE CASE OF DR W T LAW

To the Editors of THE LANCET

SIRS,—The fund which has been so generously raised among the medical profession in aid of the heavy expenses (nearly £700) forced upon me in defending the action of Forsythe *v* Law has now been closed at a meeting most kindly presided over by Sir W S Church, Bart and though I hope to thank the kind donors individually I would ask to be allowed through your columns to offer in a more public manner my very grateful acknowledgments to all who have contributed to make it so great a success Without the help of the medical press such a result would have been unattainable and I desire to express my deep sense of indebtedness to THE LANCET for its willing cooperation, as well as for the kindly tone of the articles upon the case that have appeared from time to time in its valuable pages which judging from the many hundreds of letters received from contributors in all parts of the kingdom, have correctly voiced the general opinion of the profession in this matter as well as endorsed the comments of judge and jury when the latter stopped the case Actions of this kind are so easily brought that medical men need protection more than any other class Successful resistance tends to discourage other litigants and therefore benefits our brethren at large, and indeed the public also, for it is not to the interest of the latter that we should be fettered in using our discretion in the employment of drugs and doses in severe and intractable maladies by fear of actions for negligence. These principles have not, I think, been lost sight of by those who have so generously given in many cases of their poverty to swell the handsome total of the fund. The kindness and sympathy I have experienced from members of our calling of all ranks are such that I cannot sufficiently acknowledge them but I am desirous of publicly expressing my deep obligations to those members of the profession including men of the highest eminence, who came freely at the trial dislocating their engagements and undergoing great inconvenience in order to attend in court for four days to testify to their knowledge of the case in my behalf. It is true that very few were able to give evidence because the jury stopped the case immediately my cross-examination was ended but I am none the less grateful to the rest for their attendance and support It is unfortunately the case that I was not a member of one of the medical protection societies and as it was impossible to recover the costs awarded me I was threatened by ruinous loss. Through the generosity of the profession however this has been happily for me, averted, and I shall ever feel grateful for this help in time of need. In concluding I wish *to tender my special acknowledgments to the Presidents of* the Royal Colleges of Physicians and Surgeons and the Master of the Society of Apothecaries for the honour done me by their kindly consenting to act as trustees of the fund, and last, but not least, to my old and kind friend Dr Richard Paramore, who has freely given his time, energy and enthusiasm in my interests and whose generous efforts have been crowned with such striking success.

I am, Sirs yours faithfully

Weymouth-street W., Sept. 2nd 1902. W T LAW

HAS ACUTE ANTERIOR POLIOMYELITIS BEEN UNUSUALLY PREVALENT DURING THIS SUMMER?

To the Editors of THE LANCET

SIRS —It is generally recognised that the prevalence of acute anterior poliomyelitis increases during the summer and reaches its maximum in the month of August. During the past six weeks I have seen no less than nine acute cases of anterior poliomyelitis and I do not remember in the past seven years during which I have had charge of the out patient department having seen such a number in the same length of time. My cases have largely come from the north of London but the position of the Children s Hospital, Great Ormond street no doubt in part accounts for that distribution. My object *in writing to you is to obtain if possible,* information with regard to the observation of others on the point, and I trust that should any of your readers have observed an undue prevalence of the disease they will communicate their observations to you.

I am Sirs yours faithfully

Harley-street W., Sept. 1st 1902. FREDERICK E. BATTEN

THE CONTAGIOUSNESS OF PHTHISIS

To the Editors of THE LANCET

SIRS,—In THE LANCET of June 23rd, 1900 p. 1845, it was definitely established by Mr W Townsend Harker that to the eminent Richard Morton, M D belongs the merit of having pointed out and realised afterwards by clinical observation since the year 1689 the infectious and diffusible character of tuberculous consumption Nevertheless in some medical papers published in this country appears the error of ascribing to the French physician Villemin (Cause et Nature de la Tuberculose " 1865 and 1866 and Etudes sur la Tuberculose " 1868) so important a discovery

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[1] THE LANCET June 14th 1902, p. 1677

For the honour of English medicine, and seeing that in our days the communicability of phthisis has become a scientific question of the first order, I beg to call attention through your columns to the subject, adding for my part that the main valuable conclusions reached by the great pathologist Morton not only were not overlooked in his time but were confirmed and corroborated by the experience of his successors whose opinions and works appeared far before Villemin, or even Kranke ("Untersuchungen und Erfahrungen im Gebiete der Anatomie," &c., 1843), who evidently preceded the former, had attempted experimental inoculations Thus v g, D L G Klein in his book, "Interpres Clinicus, sive de morborum indole," &c. (Francofurti et Lipsiæ, 1759), art. Phthisis, p 232, says clearly "Contagiosa est atque circa æquinoctia exacerbatur" Van Swieten (1764), Sennert, Valsalva, Maret, Bordeu, Baumes, and others, were also partisans of the doctrine of contagion It is known that Morgagni very rarely made post-mortem examinations of tuberculous bodies for fear of contracting the disease. Laennec and Andral, though they did not adopt entirely the views of the already mentioned authors, recommended to the healthy persons living in contact with phthisical patients several preventive measures and prohibited them from sleeping in the same room.

I am, Sirs, yours faithfully,

Zacatecas Mexico, August 4th 1902. JUAN BREÑA, M D

A QUERY IN PUBLIC HEALTH

To the Editors of THE LANCET

SIRS,—In this district the whole of a dwelling house, with the exception of a part which is used as a dairy and a room above this (dairy) which can be used as a bedroom, has been pulled down to below the ground floor and is now being rebuilt. Before it can be occupied after rebuilding is it necessary that a certificate under Section 6 of the Public Health Water Act, 1878, should be obtained? The staircase leading to the room above the dairy has been pulled down also I am, Sirs, yours faithfully,

Fressingfield August 25th, 1902 SAML. J J KIRBY

*** We should say that the facts disclosed in the letter of our correspondent amount to a pulling down and rebuilding within the meaning of the section referred to, but whether the house has been "pulled down and rebuilt" is a question of fact for the magistrates should any dispute arise and we cannot positively predict the view they would take upon the evidence which would be before them —ED L

THE DIAZO REACTION

To the Editors of THE LANCET

SIRS,—The following easy method, which I have employed for some time, might be of service to the busy practitioner A small pinch of sulphanilic acid is shaken up with a little pure hydrochloric acid in the bottom of a test tube, the urine is then added and boiled On dropping a piece of potass chlorate into the liquid the characteristic colour is found, more especially near the chlorate There may be a strong brick like precipitate to the $KClO_3$ according to the amount of reaction If very little HCl is used (one or two drops) the colour, &c, may be produced on adding pure HCl to the mixed urine, &c. If pure HCl, sulphanilic acid, and $KClO_3$ are mixed and to the milky chlorine-evolving fluid ordinary urine is added, no reaction occurs even on boiling, but if to the boiled fluid a few drops of diazo urine are added a colouration appears, more marked according to quantity If the ordinary urine + reagent fluid is neutralised by NH_3 a crystalline precipitate falls in a dark fluid, while a little of the diazo reacting urine added will at once show the characteristic colour In a narrow test-tube boiling the diazo urine with the $KClO_3$ added as in the first case produces purple adherent flakes on the surface, as well as a dark precipitate (two substances, giving by admixture the brick colour?) If to sulphanilic acid + HCl diazo urine be added and then $KClO_3$ without heat the *brick* deposit will destroy the white colour of the $KClO_3$ The urine will be coloured in a few hours In ordinary urine the $KClO_3$ remains white and the urine colour unaltered The above is probably simpler than by employing the nitrite and ammonia.

I am, Sirs, yours faithfully,

J REID, M A M D, C M Aberd.

Tunbridge Wells August 23rd 1902.

THE DANGERS OF A COMMON COLD

To the Editors of THE LANCET

SIRS,—In THE LANCET of August 16th p 419, you print a very interesting address by Dr A. Latham on "Modern Treatment of Pulmonary Consumption" in which two mentions of "catching cold" are made In one he says "By this means the body is hardened and colds are avoided", and in the other, "The windows of his (the patient's) room are then closed that he may not catch cold whilst dressing" In a discussion on the cause of a common cold that appeared in your columns last year Dr H. Willoughby Gardner[1] quoted the immunity of the inmates of open air sanatoriums as a proof that colds were due only to infection, but from these mentions of "catching cold" Dr Latham seems to imply that the immunity in these sanatoriums is due to an avoidance of contrasts of temperature rather than to the absence of an infective germ, and this is the old popular view It would be very interesting to know if patients before the "body is hardened" catch cold, and whether the closing of the windows during dressing is the result of experience, and whether any disobey the rule and suffer the penalty

I am, Sirs, yours faithfully

C CLAYTON JONES, M B Oxon

Ilfracombe, August 22nd, 1902.

LYMPH FOR REVACCINATION

To the Editors of THE LANCET

SIRS,—During the recent epidemic of small pox many persons applied to me for revaccination Being unable to obtain vaccine lymph from the Local Government Board I was obliged to get it elsewhere—viz, the Renner Establishment In this way I incurred a bill of £3 19*s* This bill in due course was presented to the guardians for payment, which they refused to entertain until the opinion of the Local Government Board had been taken This was done by me, and the Local Government Board recommended to the guardians that the amount should be paid At the last meeting of the guardians on Saturday, August 23rd, it was put to the vote, with the result that my bill was negatived by one vote, 13 for, 14 against, and six neutral. By some misunderstanding the clerk represented the bill to be £1 19*s*, instead of £3 19*s* Will you give me your opinion if it has been customary during the recent epidemic for boards of guardians to pay for lymph for revaccination, and also I should feel obliged for the names of such boards, so as to be able to put this before my board. One guardian stated that if I were paid it would establish a precedent, as if my application had been the first made for lymph.

I am, Sirs, yours faithfully,

August 1902. AN OLD SUBSCRIBER.

*** We do not remember the matter having been previously brought to our notice but in the recent epidemic of small pox at Glasgow the municipality expended £4570 for calf lymph in connexion with revaccination and it would seem only reasonable that the guardians should pay in accordance with the opinion of the Local Government Board.—ED L.

VACCINATION GRANT—Mr William Millar, public vaccinator of the Fourth (Welton) District of the Sculcoates Union, has been awarded a grant for successful vaccination for the second time in succession.

LITERARY INTELLIGENCE—"Rich and Poor in the New Testament a Study of the Primitive Christian Doctrine of Earthly Possessions,' is the title of a book by Dr Orello Gone published by Messrs A. and C Black on Sept 2nd In it the writer endeavours to interpret the New Testament teachers historically and grammatically, and to find what there may be in the spirit of their teachings that is applicable to modern social conditions He deems it no great loss if in this process the letter of their words is not in all cases found to be available. It is believed that the chapter on ' Conditions and Teachings before Christ," setting forth the humanity of the Old Testament, will be found to furnish an instructive introduction to the central theme of the book.—A new edition of Mr Sydney Stephenson's "Ophthalmic Nursing" will shortly be issued by the Scientific Press

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[1] THE LANCET Dec. 14th 1901 p 1697

COÖPERATORS AND THE HOUSING QUESTION

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

DURING the week preceding the meeting of the British dical Association at Manchester the Fifth International ngress of Coöperators also assembled in that town. ough it does not come within the province of this journal deal with the coöperative movement in its general sense, re are in the details of application many points that have ractical bearing on the preservation of public health If perators in so far as they are producers importers, d distributers of food can take measures to prevent lteration they will render good service in main ning the health of those with whom they deal That s, is no unimportant consideration is best set forth by following figures. During the last year the British and ottish Wholesale Coöperative Union supplied to 1,793,770 mbers through the agencies of 1462 distributive retail ieties, goods amounting in value to £52,761,175. As the ater part of these goods consisted of groceries eggs meat, on, and other eatables it will at once be recognised that s has a distinct bearing on the health of the purchasers. rther *as the members have no interest in cheating them* ves by adulterating the goods which they supply to them ves, there is in this organisation a good guarantee against injurious effects that result from unscrupulous trading t however important such considerations may be this phase the question was not brought forward at the congress ich has just been held Indeed on the present occasion delegates dealt at length with two questions that are of greatest interest to others than coöperators

Papers were read and discussions were held on the housing estion and on the increasing necessity of preventing conges n in the large towns by getting the people back to the land. ese are matters that concern the entire community from social, moral economical, and health points of view The estion was whether and how far the existing cooperative ieties could help to solve these intricate problems. Outside ranks of the coöperators themselves it is not generally own that these organisations have already done a great l in this direction Unfortunately there is so much im ovement needed that the figures submitted, though large in mselves, only meet a very small part of what is required circular was sent out to the various coöperative societies ing if they had carried out any operations in regard to se building Answers were received from 333 societies but s thought that many other societies had successful house- lding departments though they had failed to supply the ails From such information as was available—and it tes back to the year 1900—it appeared that 224 out of 333 societies had employed some of their capital to build purchase houses for their members In all, 4247 dwelling ses had been built and were owned by these coöperative ieties 3709 other houses were built and sold by the ieties and 16 082 houses had been built by members of coöperative societies on *advances made by the societies* all no less than 24,038 houses had been built by or with help of the coöperative societies This represented in h £917,397 expended by societies on the houses which y owned £827 823 on the houses which they had sold to ir members, and £3 402 308 advanced to members so as to able them to build their own houses Altogether 224 öperative societies have spent £5 147 526 in helping to use their members and by counting an average of five abitants for each house it may be said that they have ovided habitations for a population of 120 340 person

Though the above is only an incomplete record it neverthe s amply suffices to show that the coöperative movement n be, and actually is of help in dealing with the housing oblem. At the same time it may as well be at once mitted that so far it is only the easiest phase of the diffi lty that has been dealt with. It is true that the greater rt of the owners or occupiers of these houses belong to the rking classes but within that class they certainly consti te an *élite*—an aristocracy of labour As the retail co- erative societies have now in many instances accumulated ore capital than is needed to carry out their ordinary siness the investing or lending of money for building rposes has afforded a safe and yet beneficent mean disposing of such surplus These operations have been carried out in all parts of the country and members of the industrial class have thus obtained on easy terms improved and more sanitary dwellings. But in London the difficulties are greater than elsewhere, for the working men have to remove more frequently so as to follow their work To meet this two societies—the Tenant Coöperators of London and the Coöperative Builders of London—had been formed In these societies the members do not become proprietors of their houses but owners of the value of a house. For instance a man elects to live in a house The society purchases the house and this outlay is generally refunded by the occupier in the course of 14 years. He then receives a document which represents the value of the house at 5 per cent. interest. If the occupier has to leave he receives 5 per cent. interest on the capital value of the house if he remains he lives in the house rent free. But all this unfortunately applies only to men who live steady lives meet their liabilities regularly and who even if unaided by coöperative societies would still contrive to live in a fairly decent and healthy manner It is satisfactory to know that their thrift and industry are rewarded and that their position has been improved but slum land still remains a menace to our civilisation and to the public health. The question, however was raised whether the coöperative societies could not employ some of their surplus funds to provide dwellings for the extreme poor *The suggestion was greeted* with favour but nothing practical was proposed

It was in the discussion on the necessity of bringing men back to the land that there seemed to be, as matters now stand a better prospect of doing something for the poor With the aid of coöperation agricultural operations may be made to pay and this would at once draw off some of the poorer inhabitants from the large towns In many small tenancies even if the worker kept all the produce of the soil and paid neither rent nor taxes, still he would not have enough to live on in a decent manner But if a number of such small tenancies were joined together worked collectively with machinery and improved scientific methods, there would be enough for all The coöperative societies are not only capable of organising such collective enterprises, but they can dispose of the produce through their stores and supply all the needs of the agriculturists from these same stores. The enormous quantity of butter bacon and eggs exported from Denmark to England is to a large extent the product of coöperative firms, and what the Danes have done to keep their people attached to the soil could be imitated in England No large body of organised men better understand these questions than the coöperators. This is more especially the case with regard to the cooperators of the continent, for in Holland Denmark, Belgium France Italy and other countries there is a good deal of agricultural coöperation and at the Manchester congress these and many other countries were represented. From so much and such widespread experience some practical suggestions should be forthcoming What is needed is that someone with constructive ideas should gather together and assimilate the great amount of scattered information that was given in the papers read and printed. Then from what has already been successfully done in different countries he should select such portions as might be applicable to the conditions prevailing in Great Britain. This has already been attempted in Ireland where coöperative dairy farming is a growing success. In the Fens of Lincolnshire and in Norfolk there are coöperative agricultural enterprises of some promise

All this, however constitutes but a few drops in the ocean and does not suffice to prevent the fatal increase of population in the large towns with the resulting physical degeneration of the race The medical press cannot be expected to advise the coöperators as to how they should conduct their business but it is quite within its functions to applaud and to encourage every effort that may tend to procure healthy employment for a large section of the population Consequently the general tendency of the debates held at the recent international congress of coöperators may be welcomed as a sign that these influential and wealthy organisation are taking some part in the attempt to provide better homes and more outdoor healthy work for the people These efforts deserve to be watched with sympathetic interest. It is also legitimate to inquire whether the authorities have lent all the aid which can be expected where the public welfare is concerned In this respect the President of the congress Mr H. W Wolff made a regular indictment of the British Government in regard to the administration of the savings bank. A paper had been read by M Omer Lepreux, director general of the National Savings Bank of Belgium, and Mr Wolff accentuated the facts that had been brought forward by pointing out that the Belgian Savings Bank had done more, in proportion to its capital, for the housing question than any other similar public institution The British Government had appointed a committee to inquire into the working of the English Savings Bank, but had refused to receive such evidence as M. Lepreux might have given On the other hand, the Italian Government had not hesitated to follow the example given in Belgium, and the Italian as well as the Belgian workmen would now be able to obtain money from the savings banks to build more healthy homes In England, though the question had been raised in the House of Commons, the Government refused to take the matter into consideration. Yet it cannot be said that what has been done successfully abroad cannot be achieved in England, particularly as no official inquiry has been made into the matter With the help of the Belgian Savings Bank some 20,000 houses had been built, and this was a safe investment. Though the interest paid for deposits in the British Savings Bank is only 2½ per cent there are rumours current that it is proposed to reduce this low rate of interest. Surely before this is done some inquiry should be made in view of avoiding such a reduction by employing some of the money in the savings bank to build and to purchase houses for the poorer section of the community From this quarter some help in solving the housing problem may be expected, particularly as there is the example of foreign countries to show how it can be done It is difficult to explain the supineness of the British Government in this respect. The Manchester Coöperative Congress has rendered a public service by drawing attention to this subject

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT)

Projected Campaign of Inoculation in the Punjab —The Health of the Madras and Bengal Provinces in 1901.—Open air Treatment for Consumptives in India —The Famine —The Sanitary Progress of Calcutta —Abandonment of Lustig's Curative Plague Serum —The Plague Returns

THE Punjab Government has submitted a great project to the Government of India and the Secretary of State for sanction in order to grapple with the expected outbreak of plague during the coming winter The disease has rapidly grown in intensity in this province Commencing in 1899–1900 with two districts and one native State affected and 530 deaths, followed by the next year with seven districts and two native States affected and 6399 deaths, it had last year no less than 23 districts and nine native States attacked and over 200,000 deaths The prospect of an alarming outbreak next season has given rise to great apprehension and there is the still further danger that the disease may spread to Rajputana, the United Provinces, and other districts not hitherto involved. Experience has taught this Government, like the others, that segregation of the sick is out of the question, that evacuation of dwellings even in villages can only be partial, and that disinfection is practically useless It is curious to note that Major Dyson, sanitary commissioner of Bengal, also expresses himself with regard to the impotence of disinfection. He says in his recent report that "no marked effect on the progress of the disease followed it," that "disinfection cannot prevent fresh infection," of which there are always many chances, and that unlike inoculation it "does not confer personal immunity nor can it mitigate the severity of an attack." Finally, he says that he thinks inoculation "will ultimately be found to be the only satisfactory way of dealing with plague in the future" I have interpolated these remarks in this connexion to show the trend of medical treatment for this disease. In certain districts of the Punjab inoculation has already been accepted by the people and over 50,000 persons were inoculated last April. It has come to be looked upon as the only means possible against the disease and the Punjab Government now proposes to offer universal voluntary inoculation Arrangements are to be made to perform 6 500,000 inoculations To do this Indian Medical Service officers will be deputed from other places and special medical men will be engaged It is interesting to note that the Government will not require the services of female operators They have not been a success and the women of the Punjab will permit themselves to be inoculated by men As few natives as possible will be engaged and none below the rank of assistant surgeon Probably 37 special medical plague officers outside the Indian Medical Service will be necessary and these will be obtained if possible from England The cost of this scheme will be considerable. The special officers will get Rs 750 per mensem and expenses and the prophylactic and its carriage will cost about Rs. 2 lakhs Clerks, compounders, camp equipage, and other things will bring the cost of the whole campaign to over Rs. 8 lakhs Altogether, it is a great undertaking, but it is justified not only on the merits of the prophylactic but on the necessity of leaving nothing undone to prevent the spread of the disease to further parts and possibly overland to Europe

Two sanitary reports—viz , for Bengal and Madras—have recently been issued and it is interesting to compare the two provinces Bengal has a recorded birth rate of 38 5 and Madras only 25 1, but the latter is manifestly from faulty registration. The death rate of Bengal was 31 04, while that of Madras was only 21 3 Here again is shown the inaccuracy of registration generally in Madras The infantile death rate was very high in both Calcutta and Madras cities and in the Nilgiris the female infant mortality exceeded the male I had occasion some months back to refer to the sanitary condition of Madras city and now the Commissioner finds it necessary to ascribe the increased mortality from cholera in part to the neglect of the local authorities and to point to the imperfections of the water supply and the defective state and the inadequacy of the drainage In Bengal cholera was of moderate degree Orissa is famous for cholera, small pox, dysentery, and diarrhœa, but is curiously free from fever Behar, on the other hand, although a dry climate, reports a high death rate from fever I suspect a good deal of this was unrecorded plague. The useless practice of sprinkling wells with permanganate of potash for cholera still continues In both Madras and Bengal plague claimed many more victims In Madras the deaths rose from 895 to 3960, and in Bengal from 30,134 to 70,746 The mortality of plague cases is returned as 77 per cent. for Madras, 86 per cent for Bengal, and 91 5 for Calcutta.

The example of England and Europe in the outdoor or open air treatment of consumptives is not being neglected in India In Calcutta and many other large towns consumption is very common A home has recently been established at Hazaribagh in connexion with the Women's Friendly Society of Calcutta. At present it is only open for women and children Hazaribagh, on the Chota Nagpur plateau, stands 2000 feet up—the highest ground near Calcutta The climate is dry, the heat is never exhausting as in Calcutta, and in the winter the air is distinctly bracing The district around is said to resemble the Transvaal and Orange River colonies

The monsoon has brought some relief to the famine districts but there are still over 400,000 persons in receipt of Government assistance Bombay districts, Rajputana, Central India, and Baroda are at present the chief sufferers

The annual report of the Calcutta municipality has been recently issued and shows a record of considerable progress. The constant supply of filtered water is being extended, the water itself being good and comparing favourably with that of the largest towns in Europe The consumption is 24 22 gallons per head per day The unfiltered water supply for roads, privies, &c , is also being extended The suburban drainage is at last to be dealt with in earnest and will include a surface drainage scheme. This has been greatly wanted for many years A new vaccine depôt for the city, making Calcutta independent of Government supply for vaccine, is also arranged for Decentralisation of the work of the Health Department has been effected to a great extent by the establishment of districts Extensive changes in the *bustees* of the city have also been effected nearly 100 being taken up for improvement. A large area of ground has been purchased for a Christian cemetery outside the town, a new *dhobikhana* is in course of construction, special food inspectors have been appointed, and several plots of ground have been acquired as open spaces

After a long controversy the further manufacture of Lustig's curative plague serum is abandoned. It has never been shown even by its strongest advocates to be of much value and the Commissioner now refers to 'the very uncertain advantages of the serum as a means of treatment' He further says There has been and is available in the market at a reasonable price a serum known as Roux's serum which for the treatment of plague cases is not less efficacious than the one recently produced at Parel

The plague returns show that the epidemic is still slumbering For the week ending July 26th the total deaths throughout India were 1459 This is an increase of 359 over the previous week, but is less than the corresponding week last year Bombay accounts for 1049 deaths Madras 82, Bengal 16, United Provinces 6, Punjab 88, and Hyderabad 215. The importance of these figures lies in the fact that with the usual minimum attained at this season of the year the disease still lingers in these affected areas—it does not disappear—and as has been experienced before, it breaks out with increased virulence the next season.

August 1st

BIRMINGHAM

(FROM OUR OWN CORRESPONDENT)

The Queen's Hospital.

SOME important changes in the staff of this hospital are about to take place There are three surgeons and three assistant surgeons. Mr F Marsh has resigned his position as surgeon for which post there are already several candidates The claims of Mr J T J Morrison who has been on the assistant staff for 16 years, are considered as very strong while for the junior post there are at least four candidates of great merit in the field.

Little Bromwich Hospital.

This is one of the infectious hospitals under the control of the health committee of the City Council and serves an exceedingly valuable and useful purpose. At the last meeting of the City Council the recommendation of the health committee to enlarge the hospital at a cost of £16,000 was adopted The chairman remarked that the original plan contemplated 10 pavilions. Four have already been erected and opposite these there were three temporary blocks for the reception of scarlet fever patients. It is now proposed to complete the scheme by erecting three other blocks an isolation ward and a nurses pavilion. In case of an epidemic of small pox it is possible that all the pavilions might be occupied all but one are now occupied by scarlet fever cases The committee has previously used them for the treatment of typhoid fever cases, the result being an ample justification, since the mortality of that disease has been 13 per cent. as against 24 per cent. outside the institution. The authorities of the General Hospital having placed many typhoid fever cases at the disposal of the health committee the good understanding existing between the two committees has greatly facilitated the duties of each Some arrangement is desirable also for the treatment of diphtheria cases, and it is to be hoped that suitable provision will be made to meet this requirement. The subject of the treatment of infectious diseases in large centres of population at the present day is an important and at times an urgent one.

Hospital Difficulties

The annual meeting of those interested in the West Bromwich District Hospital was held on August 13th. The chairman, Mr G F Chance, reviewing the report, considered that on the whole they had reason to think that the year had been a successful one, but their income had diminished and there had been a decrease in the annual subscriptions Regret was expressed that there had been so little response to the appeal for financial help. Criticism was also levelled at the Hospital Sunday collections which exhibited a steady diminution—for instance, from £822 in 1893 to £507 for the present year The religious bodies of the community will do well to keep this plain statement of facts in mind. Another difficulty has arisen from a technical point of view Some months ago a generous inhabitant offered to defray the cost of a dental department. The board of management decided that one should be opened the cost being about £100 a year, they also appointed a dentist to fill the post. Now dissatisfaction has been expressed that this new department has been arranged without the governors first being consulted the action is declared to be illegal as no money it is said can be spent without first consulting the governors and obtaining their consent. The matter was decided at a meeting preceding the annual meeting of the governors and not reported to them, this is therefore the ground upon which some objectors base their belief that further action should be taken to test the validity of the transaction. It is well that voluntary managers however laudable their intentions may be, should keep themselves within the actual bounds of strict business knowledge.

Sept. 1st.

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Food for Babes

WHAT can be done to bring some slight knowledge of what is suitable food for infants home to large numbers of our poorer women? At St. Helens it was stated at an inquest held on August 20th that a child 11 weeks old had been fed on boiled bread while a piece of meat and a piece of cinder were found in the stomach. The father had given the child a small piece of ham and the mother had given cinder tea. The verdict was Death from convulsion." probably caused by irritation set up in the stomach by undigested and unsuitable food An inquest was held recently on a child 14 months old whose parents lived at West Gorton. The mother began to give the child bread-and milk when she was three weeks old. At six months potatoes were added to the diet. In this case the mother was a hopeless drunkard and the father not much better, so that the child was dirty and neglected, squalor pervaded the whole place, and there was no clothing it all being in pawn The father had come into some money recently so that it was not a case of poverty The child died from pneumonia accelerated by diarrhœa, and was the fifth they had lost. These parent samples of many more, have most likely gone through their standards and have shared in the educational advantages which the nation has enjoyed since 1870 And with what benefit so far as the national health is concerned? For years the feeding of infants has engaged the attention of the medical officer of health of Manchester and a pamphlet of instructions has been widely distributed while the Manchester and Salford Sanitary Association has tried to spread some knowledge as to the care and feeding of infants for the last 50 years Yet such cases as those cited above are of constant occurrence. The question as to the proper feeding of children was brought up at the meeting of the Heaton Norris district council on August 21st and the distribution of pamphlets on the subject was proposed but the building sanitary and carriage committee reported against such a course It can be imagined that this conclusion would come from the building and the carriage sections of this curious combination. The gentleman who had proposed the issue of pamphlets or leaflets was not satisfied with this decision He compared the Heaton Moor East ward where the annual death rate among children under 12 months old was about 75 per 1000 with that of Heaton Mersey where it was 190 per 1000 and he thought that the committee ought to consider the matter as there must be some reason for this serious difference. One member said that there was no need of bills there They would not be read and it would be a waste of money " The chairman said that it would cost very little, and he would like a return of the num [illegible] each little house. He had had [illegible] which no doubt increased the [illegible] ceedings as these are taking place all over the country The death rate among children is discussed return are asked for and that is generally the end of the matter for the time being the death rate among the infants going on as usual.

Manchester Infirmary

At a meeting of the Royal Infirmary Board held on August 25th the chairman Sir Forbes Adam stated that one member of the board had sent in his resignation and another member would like to resign but left the matter in his hands pending any action which the board, as a board might take " As many of the 25 members were away the question was postponed and he announced that no meeting of the trustees would be called by the board before some date in October It is advisable that no hasty action should be taken for as Sir Forbes Adam said, another board should be ready to take their place if they resigned a the business of the Infirmary the convalescent home and the Royal Lunatic Asylum needed constant attention and the sub-committees appointed by the board must be ready to step into the places of those of the present board.

Blind Aid Society

The Manchester and Salford Blind Aid Society recently gave two parties of the destitute blind in the district two entertainments, one on a Wednesday and the other on a Saturday The first party numbered about 270 and included many of the poorest blind people in the two boroughs, including some from the Salford Workhouse, Hope Hospital, and Henshaw's Blind Asylum. On the Saturday the blind and their guides together were about 230, among whom were the blind inmates from the Manchester Workhouse Both picnics were held at Claremont, the residence of the Misses Heywood, whose name is one honoured in Manchester There is something pathetic in the enjoyment of these poor folks in scenes and amid surroundings unseen and, as we should think, but dimly realised. Yet there is no doubt of the pleasure they derive from such a change from the monotony of their lives. They feel the pure air and the fresh breeze and are gladdened, even in such a summer as we have been having, by the warmth of the sun. On the Wednesday they listened to the Salford Workhouse Boys' Band in the grounds of Claremont and then, headed by the band, they marched to a commodious public hall where they had tea. After tea the Bishop of Guildford gave a short address, and they returned to Claremont, listened to some more music and at about 7 P M the feeblest were sent home in carriages and the others in charge of their guides A similar programme was fulfilled for the second party on the Saturday and in better weather The band from Sir William Mather's works kindly played for their entertainment and tea this time was served under the trees Many of the blind themselves gave songs and recitations and the Bishop of Guildford again addressed them It need not be said that they had a substantial tea which they enjoyed heartily, for many of them were accustomed too often to somewhat short rations. Many of the subscribers to the society were present and waited on the blind people at their tea on the two days This society "is helping in the most practical manner a class which, though always so much in need of help, has not hitherto been adequately provided for by our local charities "

Sept 2nd.

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Liverpool School of Tropical Medicine Departure of the Eighth Expedition for West Africa

THE eighth expedition of the School of Tropical Medicine, consisting of Dr J E Dutton and Dr J Todd, sailed from Liverpool on board the mail steamer *Bonny* on August 12th They are proceeding to Bathurst, the Gambia territory, and French Senegal They will be engaged on important medical research work, especially in connexion with the disease known as trypanosomiasis They will be absent from this country for about six months The researches made by previous expeditions will be of great assistance to the present one, which will continue investigations from the points reached by them. At the same time Dr Dutton and Dr Todd will make inquiries and investigations as to the general health and sanitation of the districts which they will visit. They will go further into the interior than did previous expeditions and also further into the bush. The French authorities have kindly placed quarters at the disposal of the expedition in French Senegal and have promised to give all the assistance in their power Lord Lansdowne has instructed the expedition to call on the British consul general at Dakar who will introduce the members to the French authorities The French Government was invited to attach a scientific member to the expedition, but as it had arranged to send to French West African possessions a special staff of its own for the purpose of studying the different tropical diseases there it was unable to do so M. Doumergue, Minister for the Colonies, however, added that his staff will be delighted, if occasion offers, to associate itself with the members of the Liverpool School of Tropical Medicine

Small-pox and Scarlet Fever in Liverpool Increasing Number of Cases

During the week ending August 23rd there were 42 cases of small pox in the corporation hospitals, 14 cases having been reported during the week, as against three cases in the previous week Scarlet fever cases had also increased from 541 to 567 There were six cases of typhus fever, 56 of typhoid fever, and 50 of diphtheria in the hospitals The deaths from zymotic diseases during the week numbered 49

The University for Liverpool

An intimation has been received that the Lords of the Privy Council will be prepared, early in November, to hold an inquiry and to hear counsel for or against the grant of a charter incorporating a University for Liverpool, as prayed for in the petitions of University College Liverpool, and of the committee appointed at a meeting of Liverpool citizens

Bequests to Liverpool Hospitals

By the terms of the will of the late Mr John Frederick Egner of Oakhill Park, Liverpool, who died on May 20th last, the Royal Infirmary and the Infirmary for Children participate in legacies of £500 each

Death of Mr Thomas Frederic Grimsdale, M R. C S Eng , L R. C P Edin

Mr Thomas F Grimsdale died at Hoylake on August 29th, in his eightieth year Mr Grimsdale retired from active practice in Liverpool about 10 years ago owing to failing health He was born at Uxbridge in Middlesex and moved to Liverpool in 1845 He was formerly house surgeon at the Liverpool Workhouse hospital He subsequently commenced practice in Liverpool which was principally confined to midwifery and diseases of women. He held the office of lecturer in midwifery and diseases of women at the old Royal Infirmary School of Medicine He soon developed a large and lucrative practice He was one of the pioneers in the department of gynæcology and was held in high esteem by the late Sir T Spencer Wells He was consulting surgeon to the Hospital for Women in Shaw street and also of the Ladies' Charity and Lying in Hospital. He was appointed to the commission of the peace for the city of Liverpool in 1885 He leaves a widow and a large family His eldest son, Dr T B Grimsdale, is the honorary gynæcologist to the Liverpool Royal Infirmary

The Proposed New Asylum for Lancashire Discussion at the Lancashire Asylums Board

The ever-present question of the want of accommodation for pauper lunatics in the Lancashire asylums again engaged the attention of the Lancashire Asylums Board at its meeting held at Preston on August 28th Alderman Jenkins, the chairman of the additional accommodation committee, claimed the indulgence of the board for another month to allow the committee to report He expected it would in the course of a few days come to some arrangement with regard to a site, but it would be detrimental to the board's interests to disclose matters prematurely Mr Roberts (Liverpool) said the question of having a separate asylum for Liverpool and district was being seriously considered, and if this was decided upon he did not think that an extra asylum would be required at the present time Mr Turner (Liverpool) endorsed Mr Roberts's remarks The chairman disagreed with the representatives of Liverpool and pointed out that anybody who had seen the statement as to the enormous increase in lunacy could not deny that additional accommodation was required If Liverpool built an asylum it would take five or six years to accomplish and in the meantime the need for additional accommodation would be as great as ever In the matter of the want of accommodation for dangerous lunatics it was the general opinion of the board that the evil arose from the fact that during past years they had been obliged to take in a number of chronic cases for which the asylums were not built. These cases had filled the asylums to the exclusion of acute ones Another cause of the crush in the asylums was the number of persons admitted through drunkenness who in a few months were discharged cured. Dr J M Rhodes said that another point was the necessity of amending the lunacy laws respecting grants for pauper lunatics. The condition of affairs was serious, and it was highly desirable that a petition should be sent to Parliament supported by the Lancashire Members to bring pressure on the Government to secure financial relief to the county To go on building asylum after asylum at a cost of half a million of pounds was a fearful strain upon a county If the Government would make an increased grant to enable boards of guardians to retain suitable chronic cases in the workhouses it would place the asylums in a position to deal with cases of emergency as they arose

Proposed Sanatorium for Lancashire Coronation Commemoration Scheme for the Treatment of Phthisis

The question of providing a sanatorium for the treatment of cases of phthisis arising in the administrative county of Lancaster came before the meeting of the Lancashire County Council held at Preston on August 8th. Sir John Hibbert moved the adoption of the report of the Special Coronation Committee appointed to consider the best method of appropriating the sum of £10 000 out of the county fund for the permanent celebration of the King's Coronation. Out of six suggestions the committee had unanimously decided to recommend that the whole of the £10 000 should be devoted to the establishment of an institution for the treatment of phthisis arising in the county. Sir John Hibbert alluded to the recent report of the medical officer of health (Mr. E. Sergeant) referring to the 2032 deaths caused by tuberculosis during the year 1901. The sanatorium would be to some extent self supporting. A committee was formed to consider how the scheme could be best carried out.

Infectious Hospital Accommodation at St. Helens

The St. Helens health committee have considered plans for increasing the infectious hospital accommodation at Peasley Cross by building a new pavilion and an addition to the administrative block. The plans were approved but the committee decided to inspect the sanatorium before accepting the proposal of the sub-committee, which included also the erection of a discharging block.

Sept. 2nd

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Notification of Pulmonary Tuberculosis in Cardiff

A SCHEME of voluntary notification of cases of pulmonary tuberculosis has now been adopted in Cardiff and a payment of 2*s.* 6*d.* or 1*s.* will be made to medical practitioners for each certificate received. In his last quarterly report the medical officer of health (Dr. Edward Walford) details some of the steps which are taken by the health department upon the receipt of these certificates. The dwelling of the patient is visited either by the medical officer of health or by one of the district sanitary inspectors and verbal instructions are given, together with a printed circular dealing with the precautions which should be taken against the further spread of the disease. Insanitary conditions such as overcrowding, want of cleanliness, defective drains, &c., are dealt with in the ordinary way as nuisances. When a death from pulmonary tuberculosis occurs or when a patient removes to another dwelling a post card is sent to the landlord or occupier offering disinfection at the cost of the corporation. In those cases where the diagnosis is doubtful or where it is otherwise desirable a bacteriological examination of the patient's sputum is made free of charge at the Cardiff and County Public Health Laboratory. During the second quarter of this year 90 such examinations were made.

The Medical Officer of Health of the Rhondda Urban District

The Rhondda urban district council has decided to appoint its medical officer of health (Dr. J. D. Jenkins) permanently instead of re-electing him annually as hitherto. The terms of his appointment will thus correspond with those of a Poor-law medical officer and he can only be dismissed from office with the consent of the Local Government Board. Although there may be some differences of opinion as to the desirability of giving to all medical officers of health fixity of tenure there can be no doubt as to the wisdom of appointing permanently those who devote their whole time to their official duties and the Rhondda council has in this respect shown itself to be very much in advance of other large towns in Glamorganshire and Monmouthshire.

Milk Supply of Newport

There appear to be still some milk dealers who are under the impression that however poor their milk may be so long as it is not diluted with water they may sell it with impunity. A Newport farmer holding this belief received a rude shock on August 29th, when the borough magistrates fined him for selling milk which contained only 2·52 per cent. of milk fat, or a deficiency of 16 per cent. on the standard. The milk was admittedly from an old cow but the magistrates contended that milk must not only be undiluted but must be of good quality. During 1901 11 milk dealers were convicted in Newport for selling adulterated milk. Six were fined £2 each, two £1 1*s.* each, two £1 each, and one 7*s.* 6*d.* In one instance no less than 14 per cent. of water had been added to the milk examined, so that if the milkman had been selling water to his customers at the price of milk for any considerable time he could well afford to pay the small fine imposed. The medical officer of health of Newport (Dr. J. Howard-Jones) in his last annual report very properly points out that in the interests of the community, particularly of the sick and of infants who are to a great extent dependent upon milk for their nourishment, it is desirable to exercise a strict supervision over the quality of the milk sold in a town.

Women Inspectors of the Local Government Board

The Bristol board of guardians is not disposed to agree with the guardians of the Chorlton union as to the necessity for appointing women inspectors of the Local Government Board. The Chorlton board has addressed a communication to the Local Government Board urging the appointment of these inspectors for the purpose of visiting girls and young children placed out by the guardians and has asked the Bristol board to give the recommendation its support with the result indicated above. The members of the Chorlton board are apparently not aware that there are already two such inspectors, one of whom was appointed 18 years ago and whose duties are very closely allied to those suggested. The reports of these two ladies, Miss Mason and Miss Chapman, are usually printed in full in the annual report of the Local Government Board and are always of the greatest interest to those connected with the Poor-law service.

Chippenham Cottage Hospital

Although the Chippenham Cottage Hospital was established as recently as the year 1899 it has already been found that the eight beds available are insufficient for the needs of the district, and at a meeting held on August 21st it was decided to enlarge the hospital building at a cost of £600.

Frome Victoria Hospital.

The trustees of the late Rev. Michael Seymour Edgell of Swanley, Kent, have allocated about £1000 to the committee of the Frome Victoria Hospital. Mr. Edgell left his residuary estate to be divided between 11 persons and institutions, one of the latter to be a hospital in England to be selected by his trustees. The present hospital was opened last year and was erected to commemorate the Diamond Jubilee of Queen Victoria.

Clevedon and Walton Dispensary

The thirty-eighth annual report of this institution which has just been issued shows that during the past 12 months 673 patients had been attended. The financial statement was satisfactory. The committee records with much regret the death of Dr. S. Skinner after 30 years' service on the honorary medical staff.

Sept. 1st.

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Richmond District Lunatic Asylum

AT the monthly meeting of the joint committee of management of the Richmond District Lunatic Asylum held recently a report was received from a special committee appointed to consider the question of the medical staff. The committee recommended that it could not at present advise any increase in the number of the permanent medical staff. In connexion with the resignation of Dr. D. F. Rambaut it made the following recommendations:—

> That Mr. O'Conor Donelan remain as at present at Portrane as deputy resident medical superintendent; that Mr. Collinan remain in his present position as second medical officer; that Dr. Fleury be advanced to the position of third medical assistant officer; and that Mr. Redington be advanced to the position of fourth assistant medical officer and, moreover, be appointed to the position hitherto held by Dr. Rambaut.

The Diseases Notification Act

The authorities in Dublin have at last determined to put in force the Act for the Compulsory Notification of Infectious Diseases. On August 22nd at the Southern police-court a fine of three guineas with two guineas costs was imposed in the case of a dairyman who neglected to notify that his children were suffering from scarlet fever in July.

Lurgan Urban Sanitary District

The report of the medical superintendent officer of health of the Lurgan Urban Sanitary District (Dr Samuel Agnew) for the year 1901 has just been issued The town of Lurgan (the fourth town in Ulster) has been, as regards health, in a satisfactory condition during the year 334 births and 217 deaths were registered, which constitute a birth-rate of 28 20 and a death rate of 18 6 per 1000 The death-rate is 3 5 below the average of the previous 10 years and the birth-rate 5 0 lower The zymotic death rate was 1 4 per 1000 The notification of infectious disease has been a great success, and when the suitable disinfecting chamber is ready it will be an enormous help to the authorities in the union. During the months of August and September there was an outbreak of dysentery—due, Dr Agnew thinks, to the insanitary state of the property upon which it originated. Of the total number of deaths (217) registered 30 were due to pulmonary tuberculosis, or double the number of those who died from all the recognised infectious diseases combined Dr Agnew, in addition to all the other well known measures to prevent pulmonary tuberculosis urges the improving of the conditions under which the people, especially the working people, live Healthy houses, properly ventilated, with modern sanitary arrangements, are most necessary to render the people better able to withstand the attacks of the tubercle bacilli. This report, which is an interesting one, shows that the public health of Lurgan is well looked after by Dr Agnew

The British Association.

Preparations for the visit of the British Association to Belfast are proceeding rapidly The first meeting will be on Sept 10th, when Professor Dewar, the President, will give his opening address

Queen's College, Belfast The President's Report for 1901–1902

The report of the President of Queen's College, Belfast, for 1901–1902, has just been issued Reference is made to the very regretted resignation of Professor Purser, who, in addition to his duties as lecturer on mathematics, was for many years registrar of the college Mr A C Dixon, senior wrangler of 1886, has been appointed his successor Two other blanks have been left in the professorships through the resignation by Professor W H Thompson and Dr R. O Cunningham of the chairs of physiology and natural history respectively So far their successors have not been appointed. Through the munificence of Sir James Musgrave, Bart., a chair of pathology has been provided (to which Dr J L Smith has been appointed), and it is expected that the new physical laboratories (the gift of the Right Hon W J Pirrie) will soon be erected, and a new organ has been promised by Mrs W O Mitchell. Reference is also made to the honours conferred on members of the teaching staff and to the distinctions gained by students at the Royal University examinations A short reference is made to the meetings in Belfast of the University Education (Ireland) Commission, the report of the evidence of which the public in Belfast are every day expecting to see.

Health of Belfast

At a meeting of the city corporation of Belfast, held on Sept. 1st, it was reported that the death-rate of the city kept low (16·9 per 1000 from all causes), much lower than in the corresponding period of the previous year During the period between July 20th and August 16th, 195 cases of zymotic disease have been notified (105 of typhoid fever, 35 of simple continued fever, 22 of erysipelas, 13 of diphtheria, nine of scarlet fever, seven of puerperal fever, three of small pox, and one of membranous croup) A very extraordinary discussion took place as to the notification of infectious diseases It would appear that the medical superintendent officer of health (Dr Henry Whitaker) was instructed by the public health committee to look into the question of the notification of a number of typhoid fever cases in No 2 hospital district during the week ended August 2nd, his instructions being to see the patients and to ascertain from them the nature of the diseases they were labouring under As a result he reported (after his personal inquiries) that in the case of 17 of them the patients were suffering from measles, bronchitis, pneumonia, alcoholic delirium, gastric fever, cold, or some malady other than typhoid fever A copy of this report was ordered to be sent to Dr John Barron, the medical practitioner who notified the cases, who in his reply points out that it was due to him that the medical officer of health should have met him in consultation He said that the medical officer of health seemed to have received his information from the patients themselves or from their relatives who had no special knowledge in diagnosing disease The fact that some of the patients were certified to have been suffering from bronchitis, measles, &c., did not prove (Dr Barron thought) that they were not suffering from typhoid fever also, as is frequently the case. His custom was to report a case at once, knowing the danger of typhoid fever spreading in epidemic form. He said that if in the future a question should arise as to the diagnosis of disease contained in his notifications he would be happy to accompany the superintendent officer of health and to afford him any information he wished concerning the case, but he protested against his going behind his back, a course at once unsatisfactory and unprofessional. After a long discussion it was decided to refer back to the public health committee, to make a finding thereon for submission to the council the report of No 2 hospital district with the reply of Dr John Barron.

Death of Mr William Park Blair, L R C P Edin., L F P S Glasg

I regret to announce the death of Mr Blair, which occurred on August 31st, at his residence, Ballynure, co Antrim, after a very short illness. The deceased was the sixth son of the late Dr Crawford Blair and succeeded his father as medical officer of Ballynure dispensary district. He received his early education in Scotland under his uncle, the Rev J Blair of Lockerbie, and subsequently studied at Glasgow and Edinburgh He had an excellent practice and was greatly respected by his patients He was interred on Sept. 2nd in Ballynure burying ground, a large concourse of friends and patients by their presence testifying to their respect for him

Lady Hermione Blackwood as a Nurse

During the last month Lady Hermione Blackwood, daughter of the late Marquis of Dufferin and Ava, has been acting as locum tenent for the nurse of the Bangor District Nursing Society She discharges all the duties required and prefers to be known as Nurse Blackwood Lady Hermione received her training at the London Hospital

County Cork Branch of the Irish Medical Association

At a meeting of the council of the County Cork branch of the Irish Medical Association, held on August 30th at 74, South Mall, Cork, it was decided, for the guidance of candidates for Poor law medical appointments in the county and city of Cork, to call their attention through the press to the following recommendations adopted by the Irish Medical Association in reference to these appointments and to impress upon them the advisability in their own interests of abiding by the decision of the council of the association —

1 We recommend after full consideration that £200 per annum be fixed as the minimum salary for any dispensary appointment, and £120 per annum for any workhouse appointment unless held jointly, when £300 should be the amount for both, and we suggest that these amounts be decided upon as reasonable

2. That all medical salaries should be subject to a quinquennial increment either based on the Civil Service scale or at a fixed percentage rate

3 A yearly holiday of one month as a right, with well-defined rules as regards the appointment and payment of a substitute

4 Superannuation on Civil Service scale as a right.

Sept 2nd

PARIS

(FROM OUR OWN CORRESPONDENT)

The Museum of the Assistance Publique

M MOURIER, director of the Assistance Publique, to whose sudden death I refer in my next paragraph, had intended to start a museum in connexion with the Assistance. If M Mourier's idea is carried out the proposition passed some 20 years ago by the municipal council will be realised M Mourier had intended to take for the purpose of housing his museum two or three rooms in the new buildings of the Assistance on the Boulevard de l'Hôpital. The museum will include sundry objects of art, sundry historical objects, and a number of interesting manuscripts which up to now have been scattered throughout the various hospitals and which certainly ought to be preserved Prominent among the objects to be exhibited are Fouquier-Tinville's desk at which he used to work and an instrument-case belonging to Dupuytren, the instruments have elaborately carved ivory handles and are thus regular nests of microbes From the Hôtel Dieu come two magnificent porcelain vases given by Napoleon I. to the hospital a bust in hammered iron and a small Renaissance coffer Finally there is a register of abjurations in which are inscribed the names of all Protestants who before they could be treated in the hospital had to abjure their Protestantism. There is also a remarkable collection of medicine-jars and the like of the seventeenth century From the Charité Hospital come three very fine antiphonaries, and among the pictures—of which there are a good many—is a portrait of the Chancellor D Aligre and another of the Comtesse de Lariboisière. Some curious documents are also preserved, among them being the *acte d'abandon* of the foundling Jean Lerond afterwards known as D Alembert, the great mathematician

The late M. Mourier

M Mourier the Director of the Assistance Publique, died very suddenly at the age of 44 years. He was *Chef de Cabinet* to M. Cazot in 1881 and to M. Ferrouillat in 1889 both of whom were Ministers of Justice. In 1896 he was made a member of the Conseil de Surveillance of the Assistance Publique and at the death of M Napias he was asked to take his post which after some hesitation he accepted. Having a large private fortune he refused to receive the salary of 15 000 francs. M. Mourier made up for his want of medical knowledge by a wonderful talent for administration, and the two ideas he had at heart were first, the reform of the hospital staffs—that is to say the substitution of female nurses for male and the separation of the non medical staff into two well-defined classes—namely, the proper hospital staff who were simply to look after the nursing of the patients and the general staff who were to look after feeding cleaning commissariat, and the like. The second project which he had in mind was the rebuilding of all the old hospitals and to carry out this latter work he wanted to enlist the aid of competent medical men and architects so that the hospital should be built by people having a complete knowledge of hygiene and hospital organisation. His early death has unfortunately occurred before these ideas could be carried out, but it is to be hoped that they will not disappear altogether on this account

A Judicial Error

A pharmaceutical chemist named Danval, was condemned some 20 years ago by the Court of Assizes for poisoning his wife His sentence was 20 years penal servitude. His friends however were convinced of his innocence and by no means agreed with the report of Dr Bergeron, the expert in forensic medicine, upon which Danval was mainly condemned and this opinion was by no means weakened when it became apparent that Dr Bergeron had for some time given evidence that he was suffering from cerebral weakness. A committee was formed to demand the revision of the sentence and on the committee were many pharmacists and medical men among whom were Professor Cornil a member of the Senate, and Dr Galippe. After an agitation carried out for a long time the committee obtained from the President of the Republic a pardon for Danval, and the Court of Cassation re-examined the evidence and decided that Danval was innocent. Danval accordingly left New Caledonia and has just returned to Paris, where he received a great reception at the station from members of his committee and from many students in pharmacy As the unfortunate man has no money Professor Cornil and Dr Galippe are trying to get him some employment at the hospitals

Sept 2nd

NEW YORK

(FROM OUR OWN CORRESPONDENT.)

Delay of a Telegram to a Physician in a Confinement Case

THE Supreme Court of Nebraska has affirmed, on a commissioner's opinion in Western Union Telegraph Company v Church, a judgment for $960 damages against the company for a failure promptly to deliver a telegram addressed to a physician saying Come to *L. C Church's at once. L. C Church.*" The message was delivered to the company for transmission at about 6 P.M. and was delivered at about 9 P.M. of the same day It had been previously arranged with the physician to attend a confinement case in that family and he started immediately upon the receipt of the telegram but did not arrive until after the birth of the child, a foot presentation " during which the child died. In the commissioner's opinion it was clear that the telegram itself addressed to a physician—one known to be such by the agent of the telegraph company at the place of delivery—was sufficient to apprise it of the necessity of prompt delivery It could not be supposed that a message of the character of the one in question should specifically set forth the actual conditions calling for the physician's presence the person who was sick, or the nature of the disease, and it was not necessary that this should be done in order to apprise the company of the need promptly to deliver the message There was no doubt that the labour during confinement was prolonged on account of the failure of the physician to attend and the party suing was entitled to substantial rather than nominal damages. Nor was the verdict excessive. That great pain and agony ordinarily accompany childbirth, even in cases where sympathetic and competent persons are in attendance to render all assistance lying within human power is a matter of common information. It may be said that this pain and agony are such that no person could negligently be the occasion of its prolongation without being culpable

Uniform of the Medical Department of the Army

A board of officers appointed to revise the uniform of the army has changed the insignia of the Army Medical Department and the Hospital Corps from the cross to the caduceus. This device is not only very sightly but is also particularly appropriate for the medical service of the army the rod signifying power the serpents healing and the wings diligence and celerity The matter of uniformity also was considered by the board, since in almost every foreign army the caduceus is used as the insignia of the Army Medical Department Still another reason for the change from the insignia of the cross to the caduceus is the fact that the former device is used by various relief organisations not under military control which fact caused much confusion in the popular mind as to the identity of the Army Medical Department and the Hospital Corps during the late war with Spain. The board further proposes to change the colour of the Army Medical Department from green to magenta this change is likewise in conformity with the customs of foreign nations superficial examination proving that dark red magenta, or maroon is the distinctive colour not only of the Medical Department of our own Navy but also of 13 of the most important armies of the world including those of England, Germany France, Austria, and Russia. The proposed changes will add much to the attractiveness of the uniforms of our medical corps the combination of blue and magenta is very rich and sightly while green and blue were quite the reverse. This same board is making other changes in the uniform as a whole, particularly with regard to the uniform of the soldier for field service these changes being conducive to greater comfort, hygienic advantage, and practical utility under the conditions of modern warfare

Regulation of the Sale of Virus

The Commissioners of the District of Columbia propose to regulate by law the sale of viruses serums toxins and analogous products. The Bill provides that the surgeon general of the army the surgeon general of the navy the supervising surgeon general of the marine hospital service, the chief of the Bureau of Animal Industry and the health officer of the District of Columbia shall constitute a board with authority subject to the approval of the Secretary of the Treasury to promulgate from time to time such rules and regulations as may be necessary in the judgment of that board to govern the issue suspension, and revocation of licences for the maintenance of establishments for the propagation and preparation of viruses serums, toxins and antitoxins and analogous products applicable to the prevention and cure of the diseases of man intended for sale in that district or to be sent, carried, or brought from any state, territory or the District of Columbia into any other state, territory or the District of Columbia or from the United States into any foreign country or from any foreign country into the United States. All licences for the maintenance of establishments for the propagation and preparation in any foreign country of any virus serum, toxin antitoxin or product aforesaid for sale barter or exchange in the United States shall be issued upon condition that the licentiates will permit the inspection of the establishments where such articles are propagated or prepared in accordance with this law

August 2[illegible]th

Obituary.

ALFRED COLEMAN, F R.C S ENG , L R.C P LOND , L.D S

WE regret to announce the death, from apoplexy, of Mr Alfred Coleman on August 26th Mr Coleman was born on Dec 30th, 1828, at Wandsworth, his father being of a Quaker family He was educated at St. Bartholomew's Hospital and became a Member of the Royal College of Surgeons of England and a Licentiate in Dental Surgery in 1860 In 1866 he obtained the diploma of Licentiate of the Royal College of Physicians of London and two years subsequently was admitted a Fellow of the Royal College of Surgeons. He devoted his professional life to the practice of dental surgery and was ever keenly interested in all that appertained to its progress, both scientifically and socially His name appears in the first list of members of the Odontological Society of Great Britain. His contributions to the Transactions of the society were numerous and valuable the more important being "The Nature of Dental Caries," "Anæsthesia considered especially in Reference to Dental Surgery," "Cystic Tumours," and "Forms of Irregularity of the Teeth and their Treatment." He became President of the society in 1877 and on his retirement from practice was made an honorary member He was the author of "A Manual of Dental Surgery and Pathology," and in addition contributed articles to THE LANCET, *Medical Times and Gazette*, *British Medical Journal*, &c Mr Coleman was for many years dental surgeon to St Bartholomew's Hospital and Lecturer on Dental Surgery in the medical school He was also President of the Abernethian Society For several years he held the post of Lecturer of Dental Surgery to the Dental Hospital of London and was also an Examiner in Dental Surgery for the Royal College of Surgeons of England. He took a keen interest in anæsthesia and was one of the first dental surgeons in this country to employ nitrous oxide extensively in practice. He devised a mouth opener which was the "father" of the modern "Mason" gag, and with Mr Clover he experimented with methods for prolonging anæsthesia in dental operations, and the present method of prolonging nitrous oxide anæsthesia by the nose piece has been evolved from his original ideas Mr Coleman commenced practice in Finsbury square and subsequently entered into partnership with Mr Samuel Cartwright at Old Burlington street At the expiration of the partnership he practised in Savile row and was associated in practice with Mr F Ewbank and Mr J Ackery Owing to failing health he retired to Streatham, where he still carried on a small practice, but this even proved too much for his health and in 1884 he emigrated with his family to New Zealand, where he remained for six years While in New Zealand he took especial interest in municipal affairs and was appointed surgeon to the New Zealand Defence Forces After his return to England in 1890 his old hospital attracted him once more and he took a great interest in its administration, becoming a governor and subsequently almoner to the hospital.

WILLIAM HENRY HAYWARD, M R C S ENG , L S A.

MR. W H HAYWARD died on August 6th from heart disease in Manchester where he had latterly practised His medical education was received at Queen's College, Birmingham, during which early period of his career he displayed much diligence and ability, taking a good position in the various classes and coming out first prizeman in clinical medicine and clinical surgery He was admitted M R.C S Eng in 1856 and subsequently took the additional qualification of L S A Among his first appointments he held the positions of house surgeon at Queen's Hospital and prosector of morbid anatomy For many years he practised at Oldbury, of which place he was the first medical officer of health, his tenure of the appointment continuing for 12 years Mr Hayward took a great interest in geology and wrote many papers on the subject, one of them, published in 1864, related to the discovery of remains of the *Elephas primigenius* at Oldbury A man of artistic, literary, and musical tastes he was a most genial companion, and his death is much regretted by all who had the pleasure of knowing him At the time of his death Mr Hayward was in his sixty eighth year, he was a widower and has left a large family

Medical News.

UNITED KINGDOM POLICE SURGEONS' ASSOCIATION —The annual meeting of the United Kingdom Police Surgeons' Association was held at Manchester on July 30th. There was a good attendance of members, including Dr H W Oulton (chief police surgeon of Dublin and Vice President of the association) in the chair, Mr J Chronnell (Hindley), Dr J F Craig (Birmingham), Mr R. J Dearden (Manchester), Mr H. Nelson Hardy (London), Surgeon-Major G Harrison (Chester), Mr F W Lowndes (Liverpool), Mr J T J Morrison (Birmingham), Surgeon Major W M Roocroft (Wigan), and Mr T Wolverson (Wolverhampton), and one visitor, Mr A. N Davies (Liverpool) Apologies for non attendance were received from Mr J Paul Bush, C M.G (Bristol), Dr H Barnes (Carlisle), Mr W J Heslop (Manchester), and Dr L Maybury (Portsmouth) The minutes of the previous annual meeting were read, confirmed, and signed. In its annual report the council drew attention to the continued efforts being made by this association in conjunction with the British Medical Association to obtain a more adequate scale of fees for medical witnesses in criminal cases Early in the present year, as a result of the exertions of Mr W F Lawrence, M P, and the interest taken by other members of the House of Commons, the Home Secretary appointed a departmental committee with Sir John Dorington, M P, as chairman, to report upon this long standing grievance of the medical profession Mr F W Lowndes and Mr Nelson Hardy in giving evidence before this committee showed that the expenses incurred by medical men in attending assizes frequently exceeded the fees payable under the existing code which was passed as far back as 1858, they also pointed out the increasing reluctance of the profession, for the foregoing reason, to examine cases of alleged criminal assault, and they mentioned the instances which had occurred at Hindley in Lancashire and Bungay in Suffolk where the medical practitioners had declined to examine such cases. The opinion expressed to the committee was that for each case the minimum fee should be one guinea per diem in magistrates' courts and two guineas per diem in assize courts and quarter sessions The matters dealt with in the report of the council were discussed by Mr Dearden, Mr Nelson Hardy, Mr Chronnell, Mr Roocroft, Mr Lowndes, Dr Oulton, and Mr Morrison, and it was unanimously resolved that the report should be received, adopted, and entered on the minutes —It was proposed by Mr Morrison, seconded by Mr Lowndes, and resolved unanimously, "That in the opinion of this association the medical practitioners of Bungay, having previously notified their intention to the police on stated grounds, were justified in declining to examine the case of alleged indecent assault referred to in the summer assizes held at Bury St. Edmunds, and this association is further of opinion that the subsequent animadversions of the Home Secretary, Mr Ritchie, were uncalled for, in view of the fact that whereas the authorities of the Home Office have acknowledged the hardship inflicted on medical witnesses in criminal courts by the existing scale of fees they have nevertheless repeatedly refused to increase the rate of remuneration"—The treasurer reported that the accounts had been duly audited, a favourable balance of £36 5s 9d being shown —The report of the revision sub committee, which had been approved by the council, was adopted. The alterations affect Rules 4, 7 and 11, and enact that the number of vice-presidents shall be two or more, that four members of council shall form a quorum of that body, that a general meeting of the association shall be held during the annual meeting of the British Medical Association, and that the retiring president shall be eligible for re election —The following officers were elected for 1902–1903 —President Mr J Paul Bush, C M G (Bristol) Vice Presidents Sir Henry D Littlejohn (Edinburgh) and Dr H W Oulton (Dublin) Treasurer Mr H Nelson Hardy (London) Honorary Secretaries Mr F W Lowndes (Liverpool) and Mr J T J Morrison (Birmingham) Council Dr H. Barnes (Carlisle), Dr J F Craig (Birmingham), Mr W J Heslop (Manchester), Mr E K Houchin (London), Dr L. Maybury (Portsmouth), Dr D McDonnell (Belfast), Mr W Powell (Cheltenham), Mr H. W Roberts (London) Mr W M Roocroft (Wigan), Dr C Templeman (Dundee), Dr T Wallace (Cardiff) and Mr W Washbourn (Gloucester) Representatives on Joint Committee for Medical Witnesses

Fees Mr Nelson Hardy Mr Houchin, and Mr Roberts.—Votes of thanks were accorded to Dr Oulton for presiding and to Mr Heslop for his kind hospitality to the association

Centenarians —It is announced that Mrs Rebecca Binks of Doncaster has celebrated the 103rd anniversary of her birthday She was born at Epworth, the birthplace of John Wesley on August 28th, 1799 —At Leyland, on August 23th Mary Mabon died at the residence of her daughter in Hough lane at the age of 103 years. The deceased who formerly lived at Bolton, had been bedridden for nearly three years. She could remember the reign of George III.

The Development of Cheltenham as a Spa.—For many years past Cheltenham has made spasmodic efforts with a view to the resuscitation of its natural mineral waters, but with little success. While the town council has been dallying with the question Mr H. Cronheim who is temporarily residing in the town, has recognised that Cheltenham has a valuable property in its mineral waters, and at the meeting of the town council a proposal was submitted by him Being impressed with the value of the waters he has approached several wealthy friends with a view to form a syndicate for the purpose of developing the waters, and he applied for an option for six months (for which he would pay 50 guineas) to acquire for a period of 50 years the whole of the Cheltenham mineral waters in the possession of the corporation in consideration of an annual payment and upon terms to be agreed upon. He also asked if the corporation would be prepared to let to him on lease the Winter Gardens for the same period. The council discussed the question at some length, and it was intimated that probably £200 000 to £300 000 would be spent on the enterprise. The council by resolution, expressed its willingness to comply with the application provisionally upon terms being arranged.

Congress on the Treatment of the Insane —The International Congress for the Improvement of the Condition of the Insane was opened at Antwerp on Sept. 1st, under the presidency of M. van den Heuvel, Belgian Minister of Justice.

Victoria Cottage Hospital, Abergavenny —The ceremony of declaring this hospital open will be performed by Lord Tredegar on Oct. 6th.

New Cottage Hospital at St Andrews —A new cottage hospital which was opened on August 27th at St. Andrews contains a ward forming a memorial to the late Lieutenant F G Tait, son of the late Mr Peter Guthrie Tait, professor of natural philosophy in Edinburgh University A tablet in marble bears the following inscription written by Mr Andrew Lang —

> In memory of Frederick Guthrie Tait Lieutenant 2nd Battalion Royal Highlanders (Black Watch) wounded at Magersfontein killed in action at Koodoosberg February 7 1900 aged 30 years. The wing of the hospital was erected by subscriptions from 145 golf clubs and a wide circle of friends by whom he was beloved for his manly and honourable character and admired for his pre-eminent skill in the game

At the last meeting of the Southend-on Sea town council the medical officer of health Dr J T C. Nash, was voted an honorarium of 125 guineas in recognition of his services in connexion with small pox

Rochdale Infirmary —On August 29th, at a meeting of the Rochdale Infirmary committee a letter was read from Mr James Ogden of Kilnerdeyne Terrace offering £1000 as a birthday gift on the occasion of the donor's seventieth birthday

BOOKS ETC RECEIVED

Alcan Félix 108, Boulevard Saint-Germain Paris.

La Prostitution réglementée et Les Pouvoirs Publics dans les Principaux États des Deux Mondes Par Louis Fiaux Ancien Membre du Conseil Municipal de Paris Price not stated

Arrowsmith, J. W., Printer Quay-street, Bristol Whitaker and Co., 2, White Hart-street Paternoster-square London

University College Bristol. Calendar for the Session 1902 1903. Price 1s.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent garden W C.

Suggested Standards of Purity for Foods and Drugs. By C G Moor M.A. F I C. F C.S Price 7s 6d net

Church Missionary House, Salisbury-square, E.C.

Preaching and Healing The Report of the C.M.S Medical Mission Auxiliary for 1901-02. Price not stated

Fischer, Gustav Jena.

Bacteriologische Diagnostik. Für Aerzte Tierärzte und Botaniker Von Teisi Matzuschita, Dr med et phil Price paper M. 15; cloth M 17

Mitteilungen aus der Augenklinik des Carolinischen Medico-Chirurgischen Instituts zu Stockholm Herausgegeben von Dr J Widmark, Professor der Augenheilkunde. Viertes Heft. Price M. 4

Handbuch der Anatomie des Menschen Herausgegeben von Professor Dr Karl von Bardeleben in Jena. (8 Lieferung: Harn und Geschlechtsorgane. Erster Teil Von Prof Dr J Disse, in Marburg) (9 Lieferung: Darmsystem 1 Abteilung Atmungsorgane. Von Friedrich Merkel in Göttingen.) Price, to subscribers M 6; to non-subscribers, M. 7.50.

Green William, and Sons Edinburgh.

A Pocket Guide to Anæsthetics For the Student and General Practitioner By Thomas D Luke, M B F R.C.S Edin Anæsthetist to the Deaconess Hospital to the Dental Hospital, and Instructor in Anæsthetics to the University Surgical Classes Royal Infirmary Edinburgh Price not stated

Institut International de Bibliographie, 93 Boulevard Saint Germain Paris.

Le Professeur Koch et le Péril de la Tuberculose Bovine. Par Paul Garnault, Docteur en Médecine, Docteur ès Sciences Naturelles Ex-chef des Travaux de Zoologie et Anatomie Comparee à la Faculté des Sciences de Bordeaux, Membre de la Société d Anthropologie de Paris. Price 12 francs

J P Lippincott Company Philadelphia.

The Artificial Feeding of Infants. Including a critical Review of the recent Literature of the Subject By Charles F Judson M.D., Physician to the Medical Dispensary of the Children s Hospital and J Claxton Gittings M D, Assistant Physician to the Medical Dispensary of the Children s Hospital. Price 10s 6d.

Longmans Green and Co., 39 Paternoster-row E.C

Text book of Electro-chemistry By Svante Arrhenius Professor at the University of Stockholm. Translated by John McCrae, Ph D Price 9s 6d net.

Macmillan and Co., London.

Reports from the Cancer Research Laboratories: The Middlesex Hospital. Vol. I. Edited for the Cancer Investigation Committee by Alexander G R Foulerton F.R C.S., Director of the Cancer Research Laboratories; Member of the Comité für Krebsforschung Price 8s 6d net.

Pitman Sir I and Sons Limited 1, Amen-corner E.C and Pulman G and Sons Limited Thayer-street Manchester-square, W

Phonographic Outlines of Medical Terms with an Appendix. Issued by the Society of Medical Phonographers. Third edition; 1902. Price 2s

Rebman Limited 129 Shaftesbury-avenue, Cambridge-circus, W C

The Treatment of Tabetic Ataxia by Means of Systematic Exercise By Dr H S Frenkel, Medical Superintendent of the Sanatorium Freihof in Heiden (Switzerland) Only authorised English Edition translated and edited by L. Freyberger M D Vienna, M.R C.P Lond M.R C.S Eng Price 12s 6d net.

Walter Scott Publishing Company Limited Paternoster-square E.C.

The Wife and Mother A Book of First Principles for the Guidance of Young Married Women By Ralph Vincent, M D late Senior Resident Medical Officer Queen Charlotte s Lying in Hospital London. Price 5s

Appointments

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number*

Adams J E L.R C.P., M.R.C.S has been appointed a Clinical Assistant in the Special Department for Diseases of the Throat in St. Thomas s Hospital.

Bernstein, Julius M., L.R.C.P M R C S Eng has been appointed House Physician at the Manchester Royal Infirmary

Bowdler, A. Penruin M.A. M.B B C. Camb., L R.C.P., M.R.C.S., has been appointed House Physician to the Victoria Hospital for Children Chelsea.

Bradford A. B L.R.C.P M.R C.S., has been appointed Assistant House Surgeon to St. Thomas s Hospital

Brown, Andrew Law, M D., M Ch R U I., Lieutenant-Colonel R.A.M C (retired) has been appointed in Charge of Troops at Taunton from Oct 1st next.

Child F J M.A., M B., B C. Cantab L.R C P M R.C.S has been appointed Junior Obstetric House Physician to St Thomas s Hospital.

Clarkson F M.B B.S D rh., has been appointed Senior Ophthalmic House Surgeon to St. Thomas Hospital

Coates, J L.R C.P., M R C.S., has been appointed House Surgeon to St Thomas s Hospital.

Crompton K. L., B A., M.B., B C Cantab has been appointed House Physician to St. Thomas s Hospital (extern)

Crow, John M.B. Ch B Glasg., has been appointed Certifying Surgeon under the Factory Act for the Largs District of Ayrshire

D'Ewart John M R C.S L.R.C.P has been appointed House Physician at the Manchester Royal Infirmary

Ellerton H Dyam, M.R.C.S Eng L.R C P Lond has been appointed Senior Assistant Medical Officer to the Metropolitan Asylum for Imbeciles Leavesden Herts

Exley John, M.R C S Eng has been appointed Medical Officer to H.M. s Prison at Leeds, vice Mr B S A. Moynihan

Hamilton A. D, M.B Lond L R C P, M R C S, has been appointed House Physician to St. Thomas's Hospital

Hedley J P, M A. B C Cantab has been appointed Assistant House Surgeon to St. Thomas's Hospital

Henderson T B, M.A. M B B Ch Oxon. has been appointed Assistant House Surgeon to St Thomas's Hospital

Hildesheim O B.A., M B B Ch. Oxon, has been appointed a Clinical Assistant in the Electrical Department at St Thomas's Hospital.

Hill W B A. Cantab., L R C P, M.R C S has been appointed House Surgeon to St. Thomas's Hospital.

Hudson, A. C, M A. M B B C Cantab has been appointed House Surgeon to St. Thomas's Hospital

Lapage, C P M B Ch.B Vict, has been appointed House Surgeon at the Manchester Royal Infirmary

Loosely A E A. B A Oxon L R C P, M.R C S has been appointed Junior Ophthalmic House Surgeon to St. Thomas's Hospital

Marshall, Frank E, M.B Ch B, L S.A. has been appointed an Administrator of Anæsthetics at the Royal Southern Hospital, Liverpool

Mavrogordato A, L R C P M.R C S has been appointed Assistant House Physician to St. Thomas's Hospital.

Merrick Ferdinand R H. M D Dubl has been appointed Medical Officer of Health of the Rural District of Basingstoke

Moore W B A. L R C S L R C P Irel has been appointed Resident Medical Officer Mercer's Hospital Dublin

Pearce, F H B A. L R C P M R C S has been appointed a Clinical Assistant in the Special Department for Diseases of the Ear in St. Thomas's Hospital

Pearson F J M R C S, L R C.P Lond has been appointed Special Medical Officer for Plague Duty in India.

Pritchard A W Surgeon Major (1st V B Gloucestershire Regiment) has been appointed Brigade Surgeon Lieutenant-Colonel of the Gloucester and Somerset Volunteer Infantry Brigade.

Pullin Thomas Henry Stocker M D St Andrews F R C S Edin, M R C S L S A has been re appointed Medical Officer of Health for Sidmouth (Devon) for three years

Roberts R E, M B B Sc Lond has been appointed Senior Obstetric House Physician to St. Thomas's Hospital

Rob J W B.A M.B B C Cantab has been appointed Assistant House Surgeon to St. Thomas's Hospital.

Scott S G M.A. M B B Ch Oxon has been appointed a Clinical Assistant in the Special Department for Diseases of the Throat in St Thomas's Hospital

Sedgwick C H., M.A., M.B B C Cantab, has been appointed House Physician to St Thomas's Hospital

Sinclair H. W M.B Lond L R C.P M R C S has been appointed House Physician to St Thomas's Hospital (extension)

Smith Ward M.B Ch B Edin F R C S Eng has been appointed Surgeon to Sir Peter Salt's Hospital Shipley

Spurrier H. B A. Cantab L R C P M.R C S has been appointed House Surgeon to St Thomas's Hospital

Tylecote, J H. L M B Ch B Vict has been appointed Chief Medical Officer of the Gold Coast Government Railways

Valentine W R M D B Ch Dubl has been appointed Honorary Surgeon to the Bideford and District Dispensary and Infirmary

Walker T M R C S L R C P, has been appointed House Surgeon at the Manchester Royal Infirmary

Waterhouse, A. T M.A. M B B Ch Oxon L R C P M R C S has been appointed a Clinical Assistant in the Special Department for Diseases of the Skin in St Thomas's Hospital

Wheen C B.A Oxon, L R C P, M R C S has been appointed a Clinical Assistant in the Special Department for Diseases of the Skin in St Thomas's Hospital.

Wilkins Arthur G M.B Ch B, has been appointed Resident Medical Officer to St Mary's Hospital for Women and Children Manchester

Yarred W H Harwood B Sc Lond, L R C P M R C S has been appointed Assistant House Physician to St. Thomas's Hospital

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

Bath, Royal Mineral Water Hospital.—Resident Medical Officer unmarried Salary £100 per annum with board and apartments

Bristol General Hospital.—Assistant Casualty House Surgeon Salary £70 with board residence &c.

Burton-on Trent Infirmary —House Surgeon Salary £120 rising to £140 per annum with rooms board coal, and light

Cancer Hospital London.—Pathologist Salary £250 per annum

Cancer Research Fund Examination Hall, Victoria Embankment, London W C —General Superintendent

County of London Epileptic Colony Horton, Epsom Surrey —Medical Superintendent Salary £600 per annum with unfurnished house

Denbighshire Infirmary Denbigh —House Surgeon Salary £100 with board residence and washing

East Suffolk and Ipswich Hospital.—Second House Surgeon unmarried Salary £80 per annum with board lodging and washing

East Sussex New Lunatic Asylum —Medical Superintendent. Salary £900 a year with unfurnished house &c.

Hitchin (near) Three Counties Asylum —Second Assistant Medical Officer unmarried. Salary £150 per annum with board, apartments washing and attendance

Hospital for Women Soho-square.—Clinical Assistantships

Kirkmichael, Banffshire.—Medical Officer Salary £115 exclusive of medicines

Leicester Infirmary —Assistant House Surgeon Salary £80 per annum, with board apartments and washing

Liverpool, City of Infectious Diseases Hospitals —Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing and lodging

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum with board and apartments

Liverpool Infirmary for Children Myrtle-street —Assistant House Surgeon for six months Salary £25, with board and lodging

London County Asylum Horton, near Epsom, Surrey —Junior Assistant Medical Officer Salary £150 per annum, with board, apartments and washing

Macclesfield General Infirmary —Junior House Surgeon. Salary £70 per annum, with board and residence

Manchester Hospital for Consumption and Diseases of the Throat and Chest —Honorary Assistant Physician

Metropolitan Hospital Kingsland road, N E —House Physician (salary at rate of £40 per annum) House Surgeon (salary at rate of £40 per annum) Assistant House Physician (salary at rate of £20 per annum) and Assistant House Surgeon (salary at rate of £20 per annum) all tenable for six months

Middlesborough, North Riding Infirmary —House Surgeon unmarried

Morpeth Dispensary —House Surgeon, unmarried Salary £120 per annum, with rooms and attendance

National Dental Hospital Great Portland street, W —Medical Superintendent. Honorarium £120 per annum

New Hospital for Women —Resident Medical Officer (female) for the Maternity Department, also Clinical Assistants (female)

Northampton County Borough —Medical Officer of Health Salary £500 per annum

Northampton General Infirmary —House Surgeon unmarried Salary £125 per annum with apartments, board, attendance and washing

North Eastern Hospital for Children, Hackney road, N E —Resident Medical Officer Salary £120 per annum, with board, residence and washing

Paisley Royal Alexandra Infirmary Barbour park —Assistant Surgeon Salary £30 per annum with bed and board

Reading Royal Berkshire Hospital —Assistant House Surgeon Salary £50 per annum with board, lodging and washing

Royal Hospital for Diseases of the Chest City road, E C —House Physician for six months Salary at rate of £60 per annum, with apartments, board, and washing

Rotherham Hospital and Dispensary —Assistant House Surgeon unmarried Salary £80 per annum

Roxburgh District Asylum Melrose N.B —Assistant Medical Officer Salary £120 per annum with board rooms and washing

St Mark's Hospital for Fistula and other Diseases of the Rectum City road London E C —House Surgeon Salary £80 per annum, with board lodging and washing

St Peter's Hospital for Stone etc Henrietta street Covent-garden, W C —House Surgeon for six months Salary at rate of £100 a year with board lodging and washing

Sheffield City of Hospitals for the Treatment of Cases of Infectious Disease.—Second Assistant Medical Officer Salary £150 per annum with board lodging and attendance

Sheffield Royal Hospital —Junior Assistant House Surgeon unmarried Salary £50 per annum, with board and lodging

Southwark Union London Infirmary East Dulwich grove S.E —Second Assistant Medical Officer Salary £100 per annum, with board, lodging and washing

Stockport Infirmary —Junior Assistant House Surgeon for six months Salary at rate of £40 per annum with board, washing, and residence

Victoria Hospital for Children, Tite-street Chelsea, S W —House Surgeon for six months Honorarium of £25, with board and lodging

Weston super Mare Hospital and Dispensary —Medical Officer to the Provident Dispensary Salary £100 per annum, with board, lodging and washing

Wonford House Hospital for the Insane, Exeter —Assistant Medical Officer unmarried Salary £150 per annum, rising to £200, with board, &c.

The Chief Inspector of Factories Factory Department Home Office, gives notice that vacancies as Certifying Surgeons under the Factory Act exist at Liphook, at Port William at Halesowen, and at Bury

Births, Marriages, and Deaths.

BIRTHS

Byham —On August 12th, at Woodlands, Sunbury-on Thames, the wife of Wm L Byham, L R C S L R C P of a daughter

Robb Smith —At MacGregor Lodge Stratford, London, on August 28th to Dr and Mrs Alec Robb-Smith a daughter

Stephen —On August 30th the wife of Lionel Stephen, M.R C S Eng, L R C P Lond of a son.

MARRIAGES

Powell—Barber.—On Sept 3rd at Cotham-grove Baptist Church, by the Rev T Campbell assisted by the Rev J F Holdsworth and the Rev C Pye (brother in law of the bridegroom) John Joseph Powell, M D Lond. of 2 Portland square, Bristol, to Edith, second daughter of Mr and Mrs Charles Barber, Kilbirnie, Cotham park, Bristol.

DEATHS

Grimsdale.—On August 29th at Sandycroft Hoylake Thomas F Grimsdale L R C P Edin M R C S Eng in his 80th year

McFarland —At the Royal Hospital Sheffield, on August 30th George McFarland M.B Ch.B Edin of Hawera, New Zealand.

N.B —A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

A CORONER AND PATENT MEDICINES

SOME strong and sensible remarks of Mr John Troutbeck upon the dishonest statements advertising quack remedies deserve more attention than they are likely to receive. The case which came before the coroner on August 22nd was that of a child who had died from convulsions for which the mother had treated her with a patent medicine. According to the label on the bottle its contents were a "lightning cure for all kinds of coughs," cured various ailments, and destroyed the germs and bacilli of consumption. It is little to be wondered at that the poor fall easy victims to the specious blandishments of these quack remedies. It is perhaps, more surprising that, as Mr Troutbeck remarked the Government make money out of dishonest advertising" There is little doubt that the Government stamp upon bottles of the kind in question goes far to confirm the favourable impression wrought in a poor woman's mind by the grandiloquent claims of the vendor's label. In the particular case to which we refer the coroner declared the "cure harmless. Often such is not the case but even if actually harmless in themselves these medicines do an infinite amount of harm by deferring or preventing the poor from seeking more trustworthy aid How long will it be before the law recognises the unsatisfactory condition respecting the sale of poisons or of quack medicines?

A FATAL CASE OF BELLADONNA POISONING

A PARTY of children from Portsmouth, spending a holiday in West Sussex ate a number of berries from the plant of the belladonna, or deadly nightshade." They were taken ill soon after one a boy aged 11 years who had eaten more freely than the others, seriously All showed the usual symptoms—flushed face, dry throat and skin, the latter covered with a scarlatiniform rash, rapid pulse widely dilated pupils and a restless delirium In the case of the boy an emetic did not perform its work for some time and he never recovered from the effects of the poison, death ensuing a few hours later Evidence at the inquest showed that the other children would have eaten more of the fruit but for the peculiar sweet flavour

A HOLIDAY WITHOUT RAIN

To the Editors of THE LANCET

SIRS —In offering some consolation to your readers for the badness of the summer you observe that had they gone abroad they would have fared no better May I say that I have had a month's holiday without a drop of rain except a slight drizzle one morning? I sailed from Liverpool at the end of June and returned at the end of July having had a fortnight in the Canary Islands. Though this was not the best time of the year for the islands it was never oppressively hot and the sea voyage was delightful As I took the trip for the benefit of my wife's health it occurred to me that medical men would be interested in knowing that it can now be done very cheaply Messrs Elder Dempster and Co issue a £15 ticket which covers first-class voyage to Grand Canary and back (about a week each way) and a fortnight's stay at the Hôtel Métropole at Las Palmas The hotel is a very pleasant one on the verge of the sea.

I am Sirs yours faithfully

August 28th, 1902. JAS. SYKES

OBJECTIONABLE ADVERTISEMENTS.

A CORRESPONDENT has sent us a copy of the August issue of the *English Illustrated Magazine*, which is published by Mr T Fisher Unwin, and asks our opinion of certain advertisements which appear in this popular periodical. The advertisements in question include one of Mr T R. Allinson's Book for Ladies" the character of which may possibly be well known to our readers; one of a book entitled "A Book for Wives which is published by Messrs. D Haddon and Co., surgical appliance makers of Ipswich and which according to the advertisements contains "golden information"; and one of a book entitled "Confidential Talks with Husband and Wife purporting to be written by an M D whose name does not appear on the Register and having for its sub-title the words, A Book of Information and Advice for the Married and Marriageable" The advertisement sets out that the last book, which is published by Messrs. Oliphant Anderson and Ferrier of Edinburgh deals with such pleasant subjects as Love's Consummation The Relative Amorousness of Males and Females "The Limitation of Offspring" and Old Age and Sexuality We can only express our surprise that a publisher of Mr Fisher Unwin's standing should sanction the appearance in any publication issued from his house of such advertisements.

THE MAN IT WAS THAT DIED

THE list of accidents from motor-cars bids fair to rival the casualty lists of a fair-sized campaign In most cases it is some sort of consolation to observe recklessness and ignorance play a large part in bringing about the catastrophe An unfortunately large proportion of accidents however appears to be unavoidable under the present conditions of roads and of motor-cars. Of such are the cases in which a break properly applied to a car going at no improper speed causes skidding and an accident. Perhaps in the category of unavoidable accidents may be classed the running-over of a couple of dogs fighting in the road An accident of this nature at Rottingdean recently led to the death of a farm labourer named Moffett. The deceased was sitting on a bank beside the road and his dog was fighting with another when a motor-car travelling only eight miles an hour ran into the dogs overturned and injured Moffett's leg He was treated at the Sussex County Hospital, when after 12 days tetanus set in and in spite of all treatment proved fatal

A QUESTION OF FEES

To the Editors of THE LANCET

SIRS,—A and B are both away from their separate practices and are friends; each leaves a locum tenent in charge—C and D—who are strangers to each other *C asks D to apply forceps in a case of labour D tells C he will expect a fee of a guinea. Is D justified in asking such a fee?* Is D justified in retaining it having first obtained consent, and who should pay? Should C pay or should his employer in case the patient does not do so? I am, Sirs yours faithfully

August 28th, 1902. JUSTITIA.

*** In our opinion D was quite justified in asking a fee but he should not retain it, for unless some special arrangement was made, all fees received by a locum tenent belong to the practitioner whose deputy he is. In the case of the patient not paying the fee C's employer will be legally liable, but of course the matter could be easily arranged by A and B when they return.—ED. L.

DETAILED MEDICAL ACCOUNTS.

To the Editors of THE LANCET

SIRS —Having had but a short experience of general practice I should like to know your opinion on the merits or otherwise of giving our patients a more or less detailed account when sending in our half *yearly or yearly bills The usual custom of merely stating the one* item of Attendance and medicine" does not to my mind appear quite satisfactory I should think the average business-like patient would prefer to have something a little more definite Nowadays we like to know what we are paying for and though the medical profession stands upon a different footing to all others yet I think there might be some alteration in the matter of our accounts which would be an improvement without reducing them to the level of ordinary trade bills which is to be avoided Of course there is difficulty at the outset as it does not seem desirable to me to enter every detail for which we charge, such as Bottle of medicine 2s 6d while if we do not do that, what is the next best course to pursue? I think we rather lay ourselves open to questioning on the part of our patients as to how such and such an account is made up and this might be avoided if we gave some indication of the services which we have rendered. Some such plan as stating the number of attendances per month and medicine for same might be resorted to or the figure due for each month without referring to the attendances or a combination of the two. I am afraid that this would mean a considerable increase in the trouble of preparing accounts but would not that be compensated by the satisfaction to our patients which would accrue from this more business-like procedure? One hesitates to adopt a new departure such as I have suggested without advice on the subject, and you, Sirs are in a position to afford such advice. Would the method I have here roughly sketched—or a similar one that your readers might suggest—be derogatory to the dignity of the profession?

I am, Sirs yours faithfully

Bept 2nd 1902. LEDGER

* The question of detailed medical accounts is a difficult one upon which to dogmatise. Perhaps some of our readers will give us their experiences.—ED L.

THE LAW FUND

THE following additional subscriptions have been received by Dr Paramore 2, Gordon-square W C:—Mr Clement Lucas £2 2s; Dr Ernest Alfred Edelsten 10s 6d.; Mr F R. Mallard 10s 6d.; Dr Prosser James £1 1s

THE CIRCULATION OF DISEASE.

To the Editors of THE LANCET

SIRS —Flies dust milk water &c are all credited with being vehicles for the spread of disease but what is more likely to carry infection and what is more circulated than money? If an ordinary penny could speak what a tale it might unfold! From the mouth of the old lady in an omnibus to the conductor's bag; from this to the trousers pocket of some labourer whose wife when he comes home gives it to the baby to play with Little Tootsie as is usual with babies sucks it and then little Annie just convalescent from scarlet fever gets hold of it. By-and by Annie goes to sleep and the penny rolls on to the floor where it may encounter some of Uncle Tom's phthisical expectoration Before long the penny is picked up from the floor and a jug (with the penny in it) is sent to the public-house for half a pint of ale (Who has not heard the story of the little girl who was sent to purchase three pennyworth of treacle and when the grocer having filled the jug with treacle asked her for the money she replied Please sir mother put the pennies in the jug"?) From the jug the penny is transferred to the till and is not long in coming into the possession of a child who may fall a victim to scarlet fever germs which had come from little Annie s hands I am sure that water in which old, greasy, thumbed £1 notes, American "greenbacks, and Indian rupee notes had been soaked would yield a host of noxious germs Isolation hospitals and sanitary precautions render valuable service in limiting the spread of disease but they are not enough, and I would suggest the formation of a society for the prevention of the circulation of disease whose business would be to consider all the different ways by which disease is spread There are few persons of sense who will not agree with my opinion that at all theatres banks, railway stations, and other places where large amounts of money are received there ought to be sterilisers into which all coins should be dropped In a practice I once had where I was accustomed to take a quantity of cash it was my custom to put all coins into a pot of water kept boiling over a small gas stove the coins being afterwards dried with a cloth In Uganda where the coinage consists of strings of cowrie shells, 900 to 1000 going to the rupee is it any wonder that small pox itch &c are so prevalent? It is a common sight to see a native with his fortune round his neck He may be covered with itch or have just got over small pox but it is all the same to him He goes to market and buys some bananas which cost him some shells these he hands over with the words ' Here you are, my friend unwittingly handing over germs of all sorts gratis

I am Sirs yours faithfully
Ralph Stoney
Medical Officer, Uganda Protectorate
Mbarara Ankole June 12th 1902

THE TREATMENT OF ASTHMA.

To the Editors of The Lancet

Sirs —Could you give me any information *re* Dr Tucker s atomizer for asthma? I know a lady who has been for many years a great sufferer from asthma and she tells me what a great benefit she has derived from this after stramonium &c. given in the ordinary way has had little or no good effect Therefore I would like to know what legitimate medicine can offer her, as I know nothing of this Dr Tucker but would greatly like a wrinkle as to this treatment

I am Sirs, yours faithfully
Sept 2nd 1902 Rusticus

*** We know nothing of the apparatus in question —Ed L

THE Y' FUND

Surgeon General H S Muir begs thankfully to acknowledge additional donations towards the above Fund from Mrs Hamilton Turner, Mr A. Haldinstein, Mrs A Halford Mr R Halford, Mrs Julius Meyer Mrs Edmund Davis Anonymous" (from several members of one family) Lieutenant Colonel O H. Channer I M S and the following officers of the Royal Army Medical Corps Lieutenant-Colonel J C Culling, Majors S R Wills, E Eckersley R. G Hanley Captain J G McNaught and Lieutenant F M Parry The fund now amounts to £582 As it is proposed to close it towards the end of the current month intending subscribers are requested kindly to forward their donations within the next three weeks Should any reader of The Lancet desire further particulars with a view to expressing *practical sympathy* a copy of the letter giving particulars of the case will be forwarded on application to Surgeon-General Muir, 26 Kensington-gardens terrace Hyde Park, London, W

A QUERY

To the Editors of The Lancet

Sirs —Does any medical man know anything of Dr Brillon of Paris and his ' cure" of masturbation? A patient suffering from the evil habit seeks reliable information before placing himself under treatment, ordinary remedies having failed

I am Sirs yours faithfully,
Sept 1st 1902 Enquirer.

MEDICAL EVIDENCE AT CORONERS INQUESTS

To the Editors of The Lancet

Sirs —I shall feel very grateful for your opinion or that of some of your numerous readers with regard to this case involving the question of a coroner s treatment of members of the profession in the witness box I will not go further into the case than to say that a healthy looking lad, aged nine years died suddenly on Tuesday, August 26th, at 9.30 P M after exhibiting symptoms which left considerable doubt in my mind as to the cause of death It seemed to me the case might be one either of cerebral lesion such as abscess with rupture hæmorrhage &c or of abdominal lesion—e g perforation—although pulse temperature and facial expression hardly warranted an expression of opinion in favour of the latter I asked the coroner through his officer whether he wished to hold an inquiry, hinting that I thought the case much too suddenly fatal for meningitis He sent me back a note saying that he understood I was 'satisfied the cause of death was meningitis" and asking if I was "satisfied the cause was natural" Now I was by no means satisfied as to the former statement had it been so I should not have troubled him at all as I had seen the boy twice the evening he died. Finally a post-mortem examination and inquest were ordered and it was when in the witness-box that I hold I was unfairly treated The coroner began to ask me a great many irrelevant questions In fact it was more a public examination in medicine and surgery than an inquest, and he even went so far as to ask why I had not examined the eyes ophthalmoscopically Of course, the idea of such a thing was absurd considering the boy's condition Then he wished to know why some one else was not called in in a way which left the impression on my mind and probably on the jury s that he attached little importance to my opinion Had I been an unqualified assistant or mere surgery help instead of a practitioner of some 15 years standing I could have had no less consideration at his hands As a matter of fact there was little time for a consultation and the parents were ordinary working people with, I presume, not too much ready money at hand. Then not having my thermometer (or rather having a broken one) on my first visit I did not take the temperature, and here was a splendid opportunity He referred to this *only* five times Mark you no one had ever hinted that my conduct of the case was in any way unsatisfactory Now, Sirs, has the profession just to bear this sort of thing without redress? I must say, in common fairness to coroners generally, it is unusual in my experience which is rather extensive for I was for some years locum tenent in many parts of England Of course, this sort of thing may be repeated in my case or some one else's. Must we grin and bear it? I ought to say a duodenal ulcer was found post mortem which had perforated

I am, Sirs yours faithfully,
Sept 2nd 1902. M.B Edin

THE HUMOURS OF CONSCIENTIOUS OBJECTION

The responsibility (if any) for the following rests with a Whitehav contemporary A ' conscientious objector who had been repeated refused an exemption certificate made a renewed application in th local court. He had in the meantime written to the Local Gover ment Board stating the facts from his point of view and he informe the bench of the nature of the communication "You may have conscientious objection to vaccination,' said one of the magistrate "but we have a conscientious objection to giving you a certificate "Yes,' quickly responded the applicant, but the law has not pr vided for your conscience" The magistrates were so impressed wit the cogency of this argument that they granted the exemptio certificate

A DANGEROUS EXHIBITION OF IRON

To the Editors of The Lancet

Sirs —The discovery by myself of acicular particles of iron in bres leads me to suggest that metal exhibited in such a form may *steel* march—perhaps a *dead* one—on the appendix of the genus homo

I am, Sirs yours faithfully,
L Grey Thompson, M.D Aberd.
Launceston, Tasmania, July 22nd, 1902

MEDICINE AS A CAREER

To the Editors of The Lancet

Sirs —I should be extremely grateful if you will favour me wit your opinion and advice in the following I have recently bought practice in a working-class town of about 10 000 inhabitant Directly opposite my surgery there is a cash chemist Now this ma does a tremendous business which consists chiefly in treating medic and surgical cases He not only dispenses his own medicines (whic he simply labels under his name, cough medicine rheumatic medicine &c) but holds consultations with people—the same people—for day and weeks In these consultations he examines people feels the pulse takes the temperature, and *in short, poses as doctor in every way* except name My patients have invariably gone through his hands first The custom here seems to be to visit a doctor only as a last resource. I have had several patients suffering from ambulatory typhoid and other fevers who have been under this chemist s care for a week or a fortnight before coming to me His surgical reputation is also well established. Only to-day a man came here suffering from tuberculous synovitis of the knee-joint. He has been under the chemist s treatment for a month whose treatment, the man informs me consisted of rubbing with different substances This treatment has been so detrimental that at last the man became alarmed and changed his surgeon. I cannot help feeling that such things should not be allowed in fairness both to the public and the medical profession There are two other medical men here but all our practices together are not equal to this consulting chemist s I am, Sirs yours faithfully,
August 28th 1902. Dubious.

*** There is at present no law in this country to prevent any one, however ignorant or incompetent from practising medicine or surgery provided that such person does not falsely pretend to be a registered person —Ed L

◆

Practitioner —In our opinion B should have communicated with A before examining the patient

Communications not noticed in our present issue will receive attention in our next

During the week marked copies of the following newspapers have been received —*Rhondda Leader, Nottinghamshire Free Press Newbury Weekly News, North American Review, Rochester and Chatham Journal and Mid Kent Advertiser Wakefield Express, Isle of Man Examiner Fraserburgh Advertiser St Pancras Gazette*

Scottish Guardian Guy's Hospital Gazette, St. Neot's Advertiser Surrey Advertiser Ayr Observer Grantham Journal, Western Morning News, Hertfordshire Mercury Herts Advertiser Bournemouth Visitors' Directory Malvern Advertiser Beveriges Beverley Recorder &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) St. George's (2 P.M.) St. Mary's (2.30 P.M.) Middlesex (1.30 P.M.) Westminster (2 P.M.) Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians, 2 P.M.) Soho-square (2 P.M.) Royal Orthopædic (2 P.M.) City Orthopædic (4 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Royal Free (2 P.M.), Guy's (1.30 P.M.)

TUESDAY (9th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.), Middlesex (1.30 P.M.) Westminster (2 P.M.) West London (2.30 P.M.) University College (2 P.M.), St. George's (1 P.M.) St. Mary's (1 P.M.) St. Mark's (2.30 P.M.) Cancer (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Royal Ear (3 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.) Soho-square (2 P.M.)

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.) University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M.) Charing-cross (3 P.M.) St Thomas's (2 P.M.) London (2 P.M.) King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.) St. Mary's (2 P.M.) National Orthopædic (10 A.M.) St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.) Gt. Ormond-street (9.30 A.M.) Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Cancer (2 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.) King's College (2 P.M.) Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.) Soho-square (2 P.M.) North-West London (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (Gynæcological, 2.30 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) St Mark's (2 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

FRIDAY (12th).—London (2 P.M.), St Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.) Middlesex (1.30 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.) King's College (2 P.M.) St. Mary's (2 P.M.) Ophthalmic (10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square, (9.30 A.M.) City Orthopædic (2.30 P.M.) Soho-square (2 P.M.)

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.) Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.) St. George's (1 P.M.), St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.) and the Central London Ophthalmic Hospitals operations are performed daily

LECTURES, ADDRESSES DEMONSTRATIONS, &c.

TUESDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P.M. Dr J Taylor: Clinique. (Medical.)

WEDNESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C)—4 P.M. Mr P J Freyer Clinique. (Surgical.)

THURSDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.)—4 P.M. Mr Hutchinson Clinique. (Surgical.)

FRIDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.)—4 P.M. Dr J Horne: Clinique (Throat.)

EDITORIAL NOTICES

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It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th and the Title-page to the Volume, were given in THE LANCET of July 5th.

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(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office Sept 4th 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall	Solar Radiation in Vacuo	Maximum Temp. Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 a.m.
Aug 29	29 78	E	–	[illegible]	81	[illegible]	[illegible]	[illegible]	Hazy
30	[illegible]	N E.		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Overcast
" 31	29 85	S		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Raining
Sept 1	[illegible]	S	[illegible]	100	71	60	[illegible]	[illegible]	Raining
" 2	29·83	S W	[illegible]	97	[illegible]	[illegible]	[illegible]	[illegible]	Cloudy
" 3	[illegible]	S W	[illegible]	[illegible]	[illegible]	64	[illegible]	[illegible]	Cloudy
" 4	[illegible]	S W	–	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Cloudy

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A Presidential Address

Delivered at the Meeting at Belfast, on Sept 10th 1902, of the British Association for the Advancement of Science

BY JAMES DEWAR, F.R.S., F.C.S.,

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PROFESSOR DEWAR commenced his address with an appropriate reference to King Edward's happy restoration to health. He then paid a sympathetic tribute to the memory of three members of the Association deceased since the last meeting—namely Mr George Griffith Sir Joseph Gilbert and Professor Alfred Cornu of Paris. In the next place he drew attention to the prominent position held by Belfast as one of the great cities of the United Kingdom and reviewed some points of the presidential address delivered by Professor Tyndall at the meeting of the Association in Belfast 28 years before. He then made some remarks on the endowment of education with especial reference (1) to the benefactions due to Mr. Cecil Rhodes and Mr Andrew Carnegie and (2) to the financial aspect of the work done at the Royal Institution in Albemarle-street, London. He had obtained from the books accurate statistics of the total expenditure on experimental inquiry and public demonstrations at the Royal Institution for 100 years—i.e for the whole of the nineteenth century—and he had found that the total outlay was £119 800 or an average of £1200 per annum, which was not a large sum considering that this period included the achievements of Young Davy Faraday and Tyndall. He then briefly discussed the causes of the rapid growth in Germany of trades and industries connected with chemistry after which he continued as follows —

HISTORY OF COLD AND THE ABSOLUTE ZERO

Science is advancing in so broad a front by the efforts of so great an army of workers that it would be idle to attempt within the limits of an address to the most indulgent of audiences anything like a survey of chemistry alone. But I have thought it might be instructive, and perhaps not uninteresting to trace briefly in broad outline the development of that branch of study with which my own labours have been recently more intimately connected—a study which I trust I am not too partial in thinking is as full of philosophical interest as of experimental difficulty The nature of heat and cold must have engaged thinking men from the very earliest dawn of speculation upon the external world but it will suffice for the present purpose if we take up the subject where it stood after the great revival of learning and as it was regarded by the father of the inductive method. That this was an especially attractive subject to Bacon is evident from the frequency with which he recurs to it in his different works, always with lamentation over the inadequacy of the means at disposal for obtaining a considerable degree of cold. Thus in the chapter in the Natural History Sylva Sylvarum, ' entitled Experiments in Consort touching the Production of Cold he says The production of cold is a thing very worthy of the inquisition both for the use and the disclosure of causes For heat and cold are nature's two hands whereby she chiefly worketh, and heat we have in readiness in respect of the fire, but for cold we must stay till it cometh or seek it in deep caves or high mountains and when all is done we cannot obtain it in any great degree, for furnaces of fire are far hotter than a summer sun but vaults and hills are not much colder than a winter's frost." The great Robert Boyle was the first experimentalist who followed up Bacon's suggestions. In 1682 Boyle read a paper to the Royal Society on New Experiments and Observations touching Cold or an Experimental History of Cold, published two years later in a separate work. This is really a most complete history of everything known about cold up to that date, but its great merit is the inclusion of numerous experiments made by Boyle himself on frigorific mixtures and the general effects of such upon matter The agency chiefly used by Boyle in the conduct of his experiments was the glaciating mixture of snow or ice and salt. In the course of his experiments he made many important observations. Thus he observed that the salts which did not help the snow or ice to dissolve faster gave no effective freezing and he showed that water in becoming ice expands by about one-ninth *of its volume and bursts gun barrels.* The greatest degree of cold that Boyle was able to produce did not make air exposed to its action lose a full tenth of its own volume, so that, in his own word the cold does not weaken the spring by anything near so considerable as one would expect." After making this remarkable observation and commenting upon its unexpected nature it is strange that he did not follow it up. After the masterly essay of Boyle the attention of investigators was chiefly directed to improving thermometrical instruments The old air thermometer of Galileo being inconvenient to use, the introduction of fluid thermometers greatly aided the inquiry into the action of heat and cold. For a time great difficulty was encountered in selecting proper fixed points on the scales of such instruments and this stimulated men like Huyghens, Newton, Hooke and Amontons to suggest remedies and to conduct experiments. By the beginning of the eighteenth century the freezing point and the boiling point of water were agreed upon as fixed points and the only apparent difficulties to be overcome were the selection of the fluid, accurate calibration of the capillary tube of the thermometer and a general understanding as to scale divisions It must be confessed that great confusion and inaccuracy in temperature observations arose from the variety and crudeness of the instruments. This led Amontons in 1702-03 to contribute two papers to the French Academy which reveal great originality in the handling of the subject and which, strange to say are not generally known. The first discourse deals with some new properties of the air and the mean of accurately ascertaining the temperature in any climate. He regarded heat as due to a movement of the particles of bodies though he did not in any way specify the nature of the motion involved and as the general cause of all terrestrial motion so that in its absence the earth would be without movement in its smallest parts. The new facts he records are observations on the spring or pressure of air brought about by the action of heat. He shows that different masses of air measured at the same initial spring or pressure, when heated to the boiling point of water acquire equal increments of spring or pressure, provided the volume of the gas be kept at its initial value. Further he proves that if the pressure of the gas before heating be doubled or tripled, then the additional spring or pressure resulting from heating to the boiling point of water is equally doubled or tripled In other words the ratio of the total spring of air at two definite and steady temperatures and at constant volume is a constant, independent of the mass or the initial pressure of the air in the thermometer These results led to the increased perfection of the air thermometer as a standard instrument, Amontons idea being to express the temperature at any locality in fractions of the degree of heat of boiling water The great novelty of the instrument is that temperature is defined by the measurement of the length of a column of mercury In passing he remarks that we do not know the extreme of heat and cold but that he has given the results of experiments which establish correspondences for those who wish to consider the subject. In the following year Amontons contributed to the Academy a further paper extending the scope of the inquiry He there pointed out more explicitly that as the degrees of heat in his thermometer are registered by the height of a column of mercury, which the heat is able to sustain by the spring of the air it follows that the extreme cold of the thermometer will be that which reduces the air to have no power of spring This, he says will be a much greater cold than what we call "very cold " because experiments have shown that if the spring of the air at boiling point is 73 inches the degree of heat which remains in the air when brought to the freezing point of water is still very great for it can still maintain the spring of 51½ inches The greatest climatic cold on the scale of units adopted by Amontons is marked 50 and the greatest summer heat 58. the value for boiling water being 73, and the zero being 52 units below the freezing point. Thus Amontons was the first to recognise that the use of air as a thermometric substance led to the inference of the existence of a zero of temperature, and his scale is nothing else than the absolute one we are now so familiar with. It results from Amontons experiments that the air would have no spring left if it were cooled below the freezing point of water to about two and a half times the temperature range which separates the boiling point and the freezing-point.

In other words, if we adopt the usual centennial difference between these two points of temperature as 100° then the zero of Amontons' air thermometer is *minus* 240° This is a remarkable approximation to our modern value for the same point of *minus* 273° It has to be confessed that Amontons' valuable contributions to knowledge met with that fate which has so often for a time overtaken the work of too advanced discoverers, in other words, it was simply ignored, or in any case not appreciated, by the scientific world either of that time or half a century later It is not till Lambert, in his work on "Pyrometrie," published in 1779, repeated Amontons' experiments and endorsed his results that we find any further reference to the absolute scale or the zero of temperature Lambert's observations were made with the greatest care and refinement and resulted in correcting the value of the zero of the air scale to *minus* 270° as compared with Amontons *minus* 240° Lambert points out that the degree of temperature which is equal to zero is what one may call absolute cold, and that at this temperature the volume of air would be practically nothing In other words the particles of the air would fall together and touch each other and become dense like water, and from this it may be inferred that the gaseous condition is caused by heat. Lambert says that Amontons' discoveries had found few adherents because they were too beautiful and advanced for the time in which he lived.

About this time a remarkable observation was made by Professor Braun at Moscow who, during the severe winter of 1759, succeeded in freezing mercury by the use of a mixture of snow and nitric acid. When we remember that mercury was regarded as quite a peculiar substance possessed of the essential quality of fluidity we can easily understand the universal interest created by the experiment of Braun This was accentuated by the observations he made on the temperature given by the mercury thermometer, which appeared to record a temperature as low as *minus* 200° C The experiments were soon repeated by Hutchins at Hudson's Bay who conducted his work with the aid of suggestions given him by Cavendish and Black. The result of the new observations was to show that the freezing point of mercury is only *minus* 40° C, the errors in former experiments having been due to the great contraction of the mercury in the thermometer in passing into the solid state From this it followed that the enormous natural and artificial colds which had generally been believed in had no proved existence Still, the possible existence of a zero of temperature very different from that deduced from gas thermometry had the support of such distinguished names as those of Laplace and Lavoisier In their great memoir on "Heat," after making what they consider reasonable hypotheses as to the relation between specific heat and total heat, they calculate values for the zero which range from 1500° to 3000° below melting ice On the whole, they regard the absolute zero as being in any case 600° below the freezing point. Lavoisier in his "Elements of Chemistry," published in 1792, goes further in the direction of indefinitely lowering the zero of temperature when he says "We are still very far from being able to produce the degree of absolute cold, or total deprivation of heat, being unacquainted with any degree of coldness which we cannot suppose capable of still further augmentation." Even as late as the beginning of the nineteenth century we find Dalton; in his "New System of Chemical Philosophy," giving 10 calculations of this value and adopting finally as the natural zero of temperature *minus* 3000° C

In Black's lectures we find that he takes a very cautious view with regard to the zero of temperature, but as usual is admirably clear with regard to its exposition. Thus he says 'We are ignorant of the lowest possible degree or beginning of heat Some ingenious attempts have been made to estimate what it may be, but they have not proved satisfactory Our knowledge of the degrees of heat may be compared to what we should have of a chain the two ends of which were hidden from us and the middle only exposed to our view We might put distinct marks on some of the links and number the rest according as they are nearest to, or further removed from, the principal links, but not knowing the distance of any links from the end of the chain we could not compare them together with respect to the distance or say that one link was twice as far from the end of the chain as another' It is interesting to observe, however, that Black was evidently well acquainted with the work of Amontons and strongly supports his inference as to the nature of air Thus, in discussing the general cause of vaporisation Black says that some philosophers have adopted the view "that every palpable elastic fluid in nature is produced and preserved in this form by the action of heat Mr Amontons, an ingenious member of the late Royal Academy of Sciences, at Paris, was the first who proposed this idea with respect to the atmosphere. He supposed that it might be deprived of the whole of its elasticity and condensed and even frozen into a solid matter, were it in our power to apply to it a sufficient cold, that it is a substance that differs from others by being incomparably more volatile, and which is therefore converted into vapour and preserved in that form by a weaker heat than any that ever happened or can obtain in this globe, and which, therefore, cannot appear under any other form than the one it now wears, so long as the constitution of the world remains the same or as at present" The views that Black attributes to Amontons have been generally associated with the name of Lavoisier who practically admitted similar possibilities as to the nature of air, but it is not likely that in such matters Black would commit any mistake as to the real author of a particular idea, especially in his own department of knowledge Black's own special contribution to low temperature studies was his explanation of the interaction of mixtures of ice with salts and acids by applying the doctrine of the latent heat of fluidity of ice to account for the frigorific effect In a similar way Black explained the origin of the cold produced in Cullen's remarkable experiment of the evaporation of ether under the receiver of an air pump by pointing out that the latent heat of evaporisation in this case necessitated such a result Thus, by applying his own discoveries of latent heat, Black gave an intelligent explanation of the cause of all the low temperature phenomena known in his day

After the gaseous laws had been definitely formulated by Gay-Lussac and Dalton the question of the absolute zero of temperature, as deduced from the properties of gases, was revised by Clement and Desormes These distinguished investigators presented a paper on the subject to the French Academy in 1812 which it appears was rejected by that body The authors subsequently elected to publish it in 1819 Relying on what we know now to have been a faulty hypothesis they deduced from observations on the heating of air rushing into a vacuum the temperature of *minus* 267° as that of the absolute zero After this time the zero of temperature was generally recognised as a fixed ideal point, but in order to show that it was hypothetical a distinction was drawn between the use of the expressions zero of absolute temperature and the absolute zero

The whole question took an entirely new form when Lord Kelvin, in 1848, after the mechanical equivalent of heat had been determined by Joule, drew attention to the great principles underlying Carnot's work on the "Motive Power of Heat," and applied them to an absolute method of temperature measurement, which is completely independent of the properties of any particular substance. The principle was that for a difference of one degree on this scale, between the temperatures of the source and refrigerator, a perfect engine should give the same amount of work in every part of the scale Taking the same fixed points as for the centigrade scale, and making 100 of the new degrees cover that range, it was found that the degrees not only within that range, but as far beyond as experimental data supplied the means of comparison, differed by only minute quantities from those of Regnault's air thermometer The zero of the new scale had to be determined by the consideration that when the refrigerator was at the zero of temperature the perfect engine should give an amount of work equal the full mechanical equivalent of the heat taken up T led to a zero of 273° below the temperature of freezing water, substantially the same as that deduced from a study of the gaseous state It was a great advance to demonstrate by the application of the laws of thermodynamics, not only that the zero of temperature is a reality, but that it must be located at 273° below the freezing-point of water As only one has attempted to impugn the solid foundation of theory and experiment on which Lord Kelvin based his thermodynamic scale the existence of a definite zero of temperature must be acknowledged as a fundamental scientific fact.

LIQUEFACTION OF GASES AND CONTINUITY OF STATE.

In these speculations, however chemists were dealing theoretically with temperatures to which they could not make any but the most distant experimental approach Davy and Faraday made the most of the means at command in liquefying the more condensable gases, but chemists were sorely hampered by the want of some powerful and accessible agent for the production of temperatures much lower than had ever been attained. That want was supplied by Thilorier who in 1835 produced liquid carbonic acid in large quantities and further made the fortunate discovery that the liquid could be frozen into a snow' by its own evaporation. Faraday was prompt to take advantage of this new and potent agent. *Under exhaustion he lowered its boiling point* from *minus* 78° C to *minus* 110° C, and by combining this low temperature with pressure all the gases were liquefied by the year 1844 with the exception of the three elementary gases—hydrogen, nitrogen and oxygen—and three compound gases—*carbonic oxide, marsh gas, and nitric oxide.* Andrews some 25 years after the work of Faraday attempted to induce change of state in the uncondensed gases' by using much higher pressures than Faraday employed. Combining the temperature of a solid carbonic acid bath with pressures of *300 atmospheres Andrews found that none of these gases* exhibited any appearance of liquefaction in such high states of condensation but so far as change of volume by high compression went Andrews confirmed the earlier work of Natterer by showing that the gases become proportionately less compressible with growing pressure. While such investigations were proceeding Regnault and Magnus had completed their refined investigations on the laws of Boyle and Gay Lussac. A very important series of experiments was made by Joule and Kelvin On the Thermal Effects of Fluids in Motion," about 1862, in which the thermometrical effects of passing gases under compression through porous plugs furnished important data for the study of the mutual action of the gas molecules No one, however, had attempted to make a complete study of a liquefiable gas throughout wide ranges of temperature. This was accomplished by Andrews in 1869 and his Bakerian Lecture On the Continuity of the Gaseous and Liquid States of Matter" will always be regarded as an epoch making investigation. During the course of this research Andrews observed that liquid carbonic acid raised to a temperature of *minus* 31° C lost the sharp concave surface of demarcation between the liquid and the gas, the space being now occupied by a homogeneous fluid which exhibited when the the pressure was suddenly diminished or the temperature slightly lowered a peculiar appearance of moving or flickering striæ, due to great local alterations of density At temperatures above *minus* 31° C. the separation into two distinct kinds of matter could not be effected even when the pressure reached 400 atmospheres. This limiting temperature of the change of state from gas to liquid Andrews called the critical temperature. He showed that this temperature is constant and differs with each substance and that it is always associated with a definite pressure peculiar to each body Thus the two constants critical temperature and pressure which have been of the greatest importance in subsequent investigations, came to be defined and a complete experimental proof was given that the gaseous and liquid states are only distinct stages of the same condition of matter and are capable of passing into one another by a process of continuous change.

In 1873 an essay ' On the Continuity of the Gaseous and Liquid State, full of new and suggestive ideas was published by van der Waals who recognising the value of Clausius's new conception of the virial in dynamics, for a long continued series of motions either oscillatory or changing exceedingly slowly with time applied it to the consideration of the molecular movements of the particles of the gaseous substance and after much refined investigation and the fullest experimental calculation available at the time devised his well known equation of continuity *Its paramount merit is that it is based entirely on a mechanical foundation and is in no sense empiric* we may therefore look upon it as having a secure foundation in fact, but as being capable of extension and improvement. James Thomson, realising that the straight-line breach of continuous curvature in the Andrews isothermals was untenable to the physical mind propounded his emendation of the Andrews curves—namely, that they were continuous and of S form. We also owe to James Thomson the conception and execution of a three-dimensional model of Andrews's results which has been of the greatest service in exhibiting the three variables by *means of a specific surface afterwards* greatly extended and developed by Professor Willard Gibbs. The suggestive work of James Thomson undoubtedly was a valuable aid to van der Waal. for as soon as he reached the point where his equation had to show the continuity of the two states this was the first difficulty he had to encounter and he succeeded in giving the explanation. He also gave a satisfactory reason for *the existence of a minimum* value of the product of volume and pressure in the Regnault isothermals. His isothermals with James Thomson's completion of them were now shown to be the results of the laws of dynamics. Andrews applied the new equation to *the consideration of the coefficients of expansion with temperature* and of pressure with temperature showing that although they were nearly equal nevertheless they were almost independent quantities. His investigation of the capillarity constant was masterly, and he added further to *our knowledge of the magnitudes of the molecules of gases* and of their mean free paths Following up the experiments of Joule and Kelvin, he showed how their cooling coefficients could be deduced and proved that they vanished at a temperature in each case which is a constant multiple *of the specific critical temperature* The equation of continuity developed by van der Waals involved the use *of three constants instead of one as in the old law of* Boyle and Charles the latter being only utilised to express the relation of temperature, pressure, and volume when the *gas is far removed from its point of liquefaction Of the two* new constants one represents the molecular pressure arising from the attraction between the molecules, the other four times the volume of the molecules Given these constants of a gas, van der Waals showed that his equation not only fitted into the general characters of the isothermals but also gave the values of the critical temperature, the critical pressure, and the critical volume. In the case of carbonic acid the theoretical results were found to be in remarkable agreement with the experimental values *of Andrews. This* gave chemists the means of ascertaining the critical constants, provided sufficiently accurate data derived from the study of a few properly distributed isothermals of the gaseous substance were available Such important data came into the possession of chemists when Amagat published his valuable paper on The Isothermals of Hydrogen Nitrogen Oxygen Ethylene, &c. in the year 1880 It now became possible to calculate the critical data with comparative accuracy for the so-called permanent gases oxygen and nitrogen, and this was done by Sarrau in 1882. In the meantime a great *impulse had been given to a further attack upon the so-called* permanent gases by the suggestive experiments made by Pictet and Cailletet. The static liquefaction of oxygen was effected by Wroblewski in 1883 and thereby the theoretical conclusions derived from van de Waals's equation were substantially confirmed The liquefaction of oxygen and air was achieved through the use of liquid ethylene as a cooling agent, which enabled a temperature of *minus* 140 degrees to be maintained by its steady evaporation in vacuo. From this time liquid oxygen and air came to be regarded as the potential cooling agents for future research commanding as they did a temperature of 200 degrees below melting ice. The theoretical *side of the question received* at the hands of van der Waals a second contribution which was even more important than his original essay, and that was his novel and ingenious development of what he calls The Theory of Corresponding States." He defined the corresponding states of two substances as those in which the ratios of the temperature, pressure and volume to the critical temperature pressure and volume respectively were the same for the two substances, and in corresponding states he showed that the three pairs of ratios all coincided. From this a series of remarkable propositions were developed some now some proving previous laws that were hitherto only empiric and *some completing* and correcting *faulty though approximate* laws As examples, he succeeded in calculating the boiling point of carbonic acid from observations on ether vapour proved Kopp's law of molecular volumes and showed that at corresponding temperatures the molecular latent heats of vaporisation are *proportional to the absolute critical* temperature and that under the same conditions the coefficients of liquid expansion are inversely proportional to the absolute critical temperature and that the coefficient of liquid compressibility are inversely proportional to the critical pressure. *It is, perhaps, not too much to say that as* a prolific source of knowledge in the department dealing with the continuity of state in matter it would be necessary to go back to Carnot's cycle to find a *proposition of greater* importance than the theory of van der Waals and his development *of the law of corresponding states.*

It will be apparent from what has just been said that thanks to the labours of Andrews, van der Waals, and others, theory had again far outrun experiment The problem now was not so much how to produce intense cold as how to save it when produced from being immediately levelled up by the relatively superheated surroundings. Ordinary non conducting packings were inadmissible because they are both cumbrous and opaque, while in working near the limits of our resources it is essential that the product should be visible and readily handled. It was while puzzling over this mechanical and manipulative difficulty in 1892 that it occurred to me that the principle of an arrangement used nearly 20 years before in some calorimetric experiments, which was based upon the work of Dulong and Petit on radiation, might be employed with advantage as well to protect cold substances from heat as hot ones from rapid cooling I therefore tried the effect of keeping liquefied gases in vessels having a double wall, the annular space between being very highly exhausted. Experiments showed that liquid air evaporated at only one fifth of the rate prevailing when it was placed in a similar unexhausted vessel, owing to the convective transference of heat by the gas particles being enormously reduced by the high vacuum *But in addition these vessels lend themselves* to an arrangement by which radiant heat can also be cut off It was found that when the inner walls were coated with a bright deposit of silver the influx of heat was diminished to one sixth the amount entering without the metallic coating The total effect of the high vacuum and the silvering is to reduce the in going heat to about 3 per cent The efficiency of such vessels depends upon getting as high a vacuum as possible, and cold is one of the best means of effecting the desired exhaustion All that is necessary is to fill completely the space that has to be exhausted with an easily condensable vapour and then to freeze it out in a receptacle attached to the primary vessel that can be sealed off. The advantage of this method is that no air pump is required, and that theoretically there is no limit to the degree of exhaustion that can be obtained. The action is rapid, provided liquid air is the cooling agent, and vapours like mercury, water, or benzol are employed. It is obvious that when we have to deal with such an exceptionally volatile liquid as hydrogen the vapour filling may be omitted because air itself is now an easily condensable vapour In other words, liquid hydrogen collected in such vessels with the annular space full of air immediately solidifies the air and thereby surrounds itself with a high vacuum. In the same way, when it shall be possible to collect a liquid boiling on the absolute scale at about five degrees, as compared with the 20° of hydrogen, then you might have the annular space filled with the latter gas to begin with, and yet get directly a very high vacuum, owing to the solidification of the hydrogen Many combinations of vacuum vessels can be arranged and the lower the temperature at which we have to operate the more useful they become Vessels of this kind are now in general use and in them liquid air has crossed the American continent Of the various forms that variety is of special importance which has a spiral tube joining the bottom part of the walls, so that any liquid gas may be drawn off from the interior of such a vessel. In the working of regenerative coils such a device becomes all-important and such special vessels cannot be dispensed with for the liquefaction of hydrogen.

In the early experiments of Pictet and Cailletet cooling was produced by the sudden expansion of the highly compressed gas preferably at a low temperature, the former using a jet that lasted for some time, the latter an instantaneous adiabatic expansion in a strong glass tube Neither process was practicable as a mode of producing liquid gases but both gave valuable indications of partial change into the liquid state by the production of a temporary mist Linde, however, saw that the continuous use of a jet of highly compressed gas, combined with regenerative cooling must lead to liquefaction on account of what is called the Kelvin-Joule effect, and he succeeded in making a machine based on this principle, capable of producing liquid air for industrial purposes These experimenters had proved that, owing to molecular attraction, compressed gases passing through a porous plug or small aperture were lowered in temperature by an amount depending on the difference of pressure and inversely as the square of the absolute temperature. This means that for a steady difference of pressure the cooling is greater the lower the temperature. The only gas that did not show cooling under such conditions was hydrogen Instead of being cooled it became actually hotter The reason for this apparent anomaly in the Kelvin Joule effect is that every gas has a thermometric point of inversion above which it is heated and below which it is cooled. This inversion point, according to van der Waals, is six and three-quarter times the critical point. The efficiency of the Linde process depends on working with highly compressed gas well below the inversion temperature, and in this respect this point may be said to take the place of the critical one when in the ordinary way direct liquefaction is being effected by the use of specific liquid cooling agents The success of both processes depends upon working within a certain temperature range, only the Linde method gives us a much wider range of temperature within which liquefaction can be effected This is not the case if, instead of depending on getting cooling by the internal work done by the attraction of the gas molecules, we force the compressed gas to do external work as in the well known air machines of Kirk and Coleman. Both these inventors have pointed out that there is no limit of temperature, short of liquefaction of the gas in use in the circuit, that such machines are not capable of giving While it is theoretically clear that such machines ought to be capable of maintaining the lowest temperatures, and that with the least expenditure of power, it is a very different matter to overcome the practical difficulties of working such machines under the conditions. Coleman kept a machine delivering air at *minus* 83° for hours, but he did not carry his experiments any further Recently M. Claude of Paris has, however, succeeded in working a machine of this type so efficiently that he has managed to produce one litre of liquid air per horse-power expended per hour in the running of the engine. This output is twice as good as that given by the Linde machine and there is no reason to doubt that the yield will be still further improved It is clear, therefore, that in the immediate future the production of liquid air and hydrogen will be effected most economically by the use of machines producing cold by the expenditure of mechanical work.

LIQUID HYDROGEN AND HELIUM

Hydrogen is an element of especial interest, because the study of its properties and chemical relations led great chemists like Faraday, Dumas, Daniell, Graham, and Andrews to entertain the view that if it could ever be brought into the state of liquid or solid it would reveal metallic characters Looking to the special chemical relations of the combined hydrogen in water, alkaline oxides, acids, and salts, together with the behaviour of these substances on electrolysis, we are forced to conclude that hydrogen behaves as the analogue of a metal. After the beautiful discovery of Graham that palladium can absorb some hundreds of times its own volume of hydrogen and still retain its lustre and general metallic character the impression that hydrogen was probably a member of the metallic group became very general The only chemist who adopted another view was my distinguished predecessor Professor Odling In his "Manual of Chemistry," published in 1861, he pointed out that hydrogen has chlorous as well as basic relations, and that they are as decided important, and frequent as its other relations From such considerations he arrived at the conclusion that hydrogen is essentially a neutral or intermediate body and therefore we should not expect to find liquid or solid hydrogen possess the appearance of a metal This extraordinary prevision, so characteristic of Odling, was proved to be correct some 37 years after it was made Another curious anticipation was made by Dumas in a letter addressed to Pictet, in which he says that the metal most analogous to hydrogen is magnesium and that probably both elements have the same atomic volume, so that the density of hydrogen, for this reason, would be about the value elicited by subsequent experiments Later, in 1872 when Newlands began to arrange the elements in periodic groups, he regarded hydrogen as the lowest member of the chlorine family, but Mendéleef in his later classification placed hydrogen in the group of the alkaline metals, on the other hand Dr Johnstone Stoney classes hydrogen with the alkaline earth metals and magnesium. From this speculative divergency it is clear that no definite conclusion could be reached regarding the physical properties of liquid or solid hydrogen, and that the only way to arrive at the truth was to prosecute low temperature research until success attended the efforts to produce its liquefaction This result I definitely obtained in 1898 The case of liquid hydrogen is, in fact an excellent illustration of the truth already referred to, that no theoretical forecast however apparently justified by analogy can be finally accepted as true until confirmed by actual experiment. Liquid hydrogen is a colourless transparent body of extraordinary intrinsic interest. It has a clearly-defined surface, is easily seen, drops well, in spite of the fact that its surface tension is only the thirty fifth part of that of water or about one fifth that of liquid air and it can be poured easily from vessel to vessel. The liquid does not conduct electricity and if anything is slightly diamagnetic Compared with an equal volume of liquid air, it requires only one-fifth the quantity of heat for vaporisation, on the other hand its specific heat *is ten times that of liquid air or five times* that of water The coefficient of expansion of the fluid is remarkable, being about *ten times that of gas It is by far* the lightest liquid known to exist its density being only one-fourteenth that of water the lightest liquid previously known was liquid marsh gas, which is six times heavier The only solid which has so small density as to float upon its surface is a piece of pith wood. It is by far the coldest liquid known At ordinary atmospheric pressure it boils at *minus* 252 5° or 20 5° absolute. The critical point of the liquid is about 29° absolute, and the critical pressure not more than 15 atmospheres. The vapour of the hydrogen arising from the liquid has nearly the density of air—that is, it is 14 times that of the gas at the ordinary temperature. Reduction of the pressure by an air pump brings down the temperature to *minus* 258° when the liquid becomes a solid resembling frozen foam and this by further exhaustion is cooled to *minus* 260° or 13° absolute, which is the lowest steady temperature that has been reached. *The solid may also be got in the form of* a clear transparent ice melting at about 15° absolute, under a pressure of 55 millimetres possessing the unique density of one-eleventh that of water Such cold involves the solidification of every gaseous substance but one that is at present definitely known to the chemist and so liquid hydrogen introduces the investigator to a world of solid bodies. The contrast between this refrigerating substance and liquid air is most remarkable. On the removal of the loose plug of cotton wool used to cover the mouth of the vacuum vessel in which it is stored the action is followed by a miniature snowstorm of solid air formed by the freezing of the atmosphere at the point where it comes into contact with the cold vapour rising from the liquid. This solid air falls into the vessel and accumulates as a white snow at the bottom of the liquid hydrogen. When the outside of an ordinary test tube is cooled by immersion in the liquid it is soon observed to fill up with solid air and if the tube be now lifted out a double effect is visible, for liquid air is produced both in the inside and on the outside of the tube—in the one case by the melting of the solid and in the other by condensation from the atmosphere A tuft of cotton-wool soaked in the liquid and then held near the pole of a strong magnet is attracted and it might be inferred therefrom that liquid hydrogen is a magnetic body This however is not the case the attraction is due neither to the cotton wool nor to the hydrogen—which indeed, evaporates almost as soon as the tuft is taken out of the liquid—but to the oxygen of the air which is well known to be a magnetic body frozen in the wool by the extreme cold

The strong condensing powers of liquid hydrogen afford a simple means of producing vacua of very high tenuity When one end of a sealed tube containing ordinary air is placed for a short time in the liquid the contained air accumulates as a solid at the bottom while the higher part is almost entirely deprived of particles of gas. So perfect is the vacuum thus formed that the electric discharge can be made to pass only with the greatest difficulty Another important application of liquid air liquid hydrogen &c. is as analytic agents. Thus, if a gaseous mixture be cooled by means of liquid oxygen only those constituents will be left in the gaseous state which are less condensable than oxygen Similarly if this gaseous residue be in its turn cooled in liquid hydrogen a still further separation will be effected, everything that is less volatile than hydrogen being condensed to a liquid or solid. By proceeding in this fashion it has been found possible to isolate helium from a mixture in which it is present to the extent of only one part in 1000 By the evaporation of solid hydrogen under the air pump we can reach within 13° or 14° of the zero but there or thereabouts our progress is barred. This gap of 13° might seem at first sight insignificant in comparison with the hundreds that have already been conquered. But to win one degree low down the scale is quite a different matter from doing so at higher temperatures in fact, to annihilate these few remaining degrees would be a far greater achievement than any so far accomplished in low temperature research. That the zero will ever be reached by man is extremely improbable. But supposing the experimenter to be able to reach within a few degrees of the zero it is by no means certain that he would find the near approach of the death of matter sometimes pictured. Any forecast of the phenomena that would be seen must be based on the assumption that there is continuity between the processes studied at attainable temperatures and those which take *place at still lower ones. But it would be rash to take for* granted that the changes which have been traced in explored *regions continue to the same extent and in the same direction* in those which are as yet unexplored for evidence to a contrary effect has already been obtained in at least one case A series of experiments with pure metals showed that their electrical resistance gradually decreases as they are cooled to lower and lower temperatures in such ratio that it appeared probable that at the zero of absolute temperature they would have no resistance at all and would become perfect conductors of electricity This was the inference that seemed justifiable by observations taken at depths of cold which can be obtained by means of liquid air and less powerful refrigerants. But with the advent of the more powerful refrigerant liquid hydrogen it became necessary to revise that conclusion. A discrepancy was first observed when a platinum resistance thermometer was used to ascertain the temperature of that liquid boiling under atmospheric and reduced pressure. All known liquids, when *forced to evaporate* quickly by being placed in the exhausted receiver of an air pump undergo a reduction in temperature, but when hydrogen was treated in this way it appeared to be an exception. The resistance thermometer showed no such reduction as was expected and it became a question whether it was the hydrogen or the thermometer that was behaving abnormally Ultimately by the adoption of other thermometrical appliances, the temperature of the hydrogen was proved to be lowered by exhaustion as theory indicated Hence, it was the platinum thermometer which had broken down in other words the electrical resistance of the metal employed in its construction was not, at temperatures about *minus* 250° C. decreased by cold in the same proportion as at temperatures about *minus* 200° This being the case, there is no longer any reason to suppose that at the absolute zero platinum would become a perfect conductor of electricity and in view of the similarity between the behaviour of platinum and that of other pure metals in respect of temperature and conductivity the presumption is that the same is true of them also. It may safely be predicted that liquid hydrogen will be the means by which many obscure problems of physics and chemistry will ultimately be solved so that the liquefaction of the last of the old permanent gases is as pregnant now with future consequences of great scientific moment as was the liquefaction of chlorine in the early years of the last century

The next step towards the absolute zero is to find another gas more volatile than hydrogen and that we possess in the gas occurring in clevite identified by Ramsay as helium, a gas which is widely distributed like hydrogen in the sun, stars and nebulæ A specimen of this gas was subjected by Olszewski to liquid air temperatures combined with compression and subsequent expansion, following the Cailletet method, and resulted in his being unable to discover any appearance of liquefaction even in the form of mist. His experiments led *him to infer* that the boiling point of the substance is probably below nine degrees absolute. After Lord Rayleigh had found a new source of helium in the gases which are derived from the Bath springs and liquid hydrogen became available as a cooling agent a specimen of helium cooled in liquid hydrogen showed the formation of fluid but this turned out to be owing to the presence of an unknown admixture of other gases As a matter of fact a year before the date of this experiment I had recorded indications of the presence of unknown gases in the spectrum of helium derived from this source When subsequently such condensable constituents were removed the purified helium showed no signs of liquefaction even when compressed to 80 atmospheres while the tube containing it was surrounded with solid hydrogen. Further on suddenly expanding no instantaneous mist appeared. Thus helium was definitely proved to be a much more volatile substance than hydrogen in either the liquid or solid condition. The inference to be drawn from the adiabatic expansion effected under the circumstances is that helium must have touched a temperature of from 9° to 10° for a short time without showing any signs of liquefaction and consequently that the critical point must be still lower This would force us to anticipate that the boiling-point of the liquid will be about five degrees absolute, or liquid helium will be four times more volatile than liquid hydrogen, just as liquid hydrogen is four times more volatile than liquid air Although the liquefaction of the gas is a problem for the future this does not prevent us from safely anticipating some of the properties of the fluid body It would be twice as dense as liquid hydrogen with a critical pressure of only four or five atmospheres The liquid would possess a very feeble surface tension and its compressibility and expansibility would be about four times that of liquid hydrogen, while the heat required to vapourise the molecule would be about one fourth that of liquid hydrogen. Heating the liquid one degree above its boiling point would raise the pressure by one and three quarter atmospheres, which is more than four times the increment for liquid hydrogen. The liquid would be only 17 times denser than its vapour, whereas liquid hydrogen is 65 times denser than the gas it gives off Only some three or four degrees would separate the critical temperature from the boiling point and the melting point, whereas in liquid hydrogen the separation is respectively 10° and 15° As the liquid refractivities for oxygen, nitrogen, and hydrogen are closely proportional to the gaseous values, and as Lord Rayleigh has shown that helium has only one fourth the refractivity of hydrogen, although it is twice as dense, we must infer that the refractivity of liquid helium would also be about one-fourth that of liquid hydrogen. Now, hydrogen has the smallest refractivity of any known liquid, and yet liquid helium will have only about one-fourth of this value—comparable, in fact, with liquid hydrogen just below its critical point This means that the liquid will be quite exceptional in its optical properties and very difficult to see This may be the explanation of why no mist has been seen on its adiabatic expansion from the lowest temperatures Taking all these remarkable properties of the liquid into consideration one is afraid to predict that we are at present able to cope with the difficulties involved in its production and collection

THE UPPER AIR AND AURORAS

If a sample of liquid air cooled to the low temperature that can be reached by its own evaporation be connected by a pipe to a condenser cooled in liquid hydrogen then any volatile gases present in solution but less condensable than the chief constituents of the atmosphere will distil over with the first portions of the air, and can be pumped off, being uncondensable at the temperature of the condenser In this way a gas mixture containing of the known gases free hydrogen, helium, and neon has been separated from liquid air The total uncondensable gas separated in this way amounts to about one fifty thousandth of the volume of the air That free hydrogen exists in air in small amount is conclusively proved, but the actual proportion found by the process is very much smaller than Gautier has estimated by the combustion method The recent experiments of Lord Rayleigh show that Gautier, who estimated the hydrogen present as one five thousandth, has in some way produced more hydrogen than he can manage to extract from pure air by a repetition of the same process The spectroscopic examination of these gases throws new light upon the question of the aurora and the nature of the upper air On passing electric discharges through the tubes containing the most volatile of the atmospheric gases they glow with a bright orange light, which is especially marked at the negative pole. The spectroscope shows that this light consists, in the visible part of the spectrum, chiefly of a succession of strong rays in the red, orange, and yellow, attributed to hydrogen, helium, and neon. Besides these, a vast number of rays, generally less brilliant, are distributed through the whole length of the visible spectrum The greater part of these rays are of, as yet, unknown origin The violet and ultra violet part of the spectrum rivals in strength that of the red and yellow rays. As these gases probably include some of the gases that pervade inter planetary space, search was made for the prominent nebular, coronal, and auroral lines. No definite lines agreeing with the nebular spectrum could be found, but many lines occurred closely coincident with the coronal and auroral spectrum. But before discussing the spectroscopic problem it will be necessary to consider the nature and condition of the upper air

According to the old law of Dalton, supported by the modern dynamical theory of gases, each constituent of the atmosphere while acted upon by the force of gravity forms a separate atmosphere, completely independent, except as to temperature, of the others, and the relations between the common temperature and the pressure and altitude for each specific atmosphere can be definitely expressed If we assume the altitude and temperature known then the pressure can be ascertained for the same height in the case of each of the gaseous constituents, and in this way the percentage composition of the atmosphere at that place may be deduced. Suppose we start with a surface atmosphere having the composition of our air, only containing two ten thousandths of hydrogen, then at 37 miles, if a sample could be procured for analysis, we believe that it would be found to contain 12 per cent. of hydrogen and only 10 per cent. of oxygen The carbonic acid practically disappears, and by the time we reach 47 miles, where the temperature is *minus* 132°, assuming a gradient of 3·2° per mile, the nitrogen and oxygen have so thinned out that the only constituent of the upper air which is left is hydrogen If the gradient of temperature were doubled the elimination of the nitrogen and oxygen would take place by the time 37 miles was reached with a temperature of *minus* 220° The permanence of the composition of the air at the highest helium altitudes, as deduced from the basis of the dynamical theory of gases, has been discussed by Stoney, Bryan, and others It would appear that there is a consensus of opinion that the rate at which gases like hydrogen and helium could escape from the earth's atmosphere would be excessively slow Considering that to compensate any such loss the same gases are being supplied by actions taking place in the crust of the earth, we may safely regard them as necessarily permanent constituents of the upper air The temperature at the elevations we have been discussing would not be sufficient to cause any liquefaction of the nitrogen and oxygen, the pressure being so low If we assume the mean temperature as about the boiling point of oxygen at atmospheric pressure then a considerable amount of the carbonic acid must solidify as a mist if the air from a lower level be cooled to this temperature, and the same result might take place with other gases of relatively small volatility which occur in air This would explain the clouds that have been seen at an elevation of 50 miles, without assuming the possibility of water vapour being carried up so high The temperature of the upper air must be above that on the vapour pressure curve corresponding to the barometric pressure at the locality, otherwise liquid condensation must take place In other words, the temperature must be above the dew-point of air at that place At higher elevations, on any reasonable assumption of temperature distribution, we inevitably reach a temperature where the air would condense, just as Fourier and Poisson supposed it would, unless the temperature is arrested in some way from approaching the zero Both ultra-violet absorption and the prevalence of electric storms may have something to do with the maintenance of a higher mean temperature The whole mass of the air above 40 miles is not more than one seven hundredth part of the total mass of the atmosphere, so that any rain or snow of liquid or solid air, if it did occur, would necessarily be of a very tenuous description. In any case the dense gases tend to accumulate in the lower strata and the lighter ones to predominate at the higher altitudes, always assuming that a steady state of equilibrium has been reached. It must be observed, however, that a sample of air taken at an elevation of nine miles has shown no difference in composition from that at the ground, whereas, according to our hypothesis the oxygen ought to have been diminished to 17 per cent. and the carbonic acid should also have become much less This can only be explained by assuming that a large intermixture of different layers of the atmosphere is still taking place at this elevation This is confirmed by a study of the motions of clouds about six miles high which reveals an average velocity of the air currents of some 70 miles an hour; such violent winds must be the means of causing the intermingling of different atmospheric strata. Some clouds, however, during hot and thundery weather, have been seen to reach an elevation of 17 miles, so that we have direct proof that on occasion the lower layers of atmosphere are carried to a great elevation. The existence of an atmosphere at more than 100 miles above the surface of the earth is revealed to us by the appearance of meteors and fireballs, and when we can take photographs of the spectrum of such apparitions we shall learn a great deal about the composition of the upper air In the meantime Pickering's solitary spectrum of a meteor reveals an atmosphere of hydrogen and helium and so far this is corroborative of the doctrine which we have been discussing It has long been recognised that the aurora is the result of electric discharges within the limits of the earth's atmosphere, but it was difficult to understand why its spectrum should be so entirely different from anything which could be produced artificially by electric discharges through rarified air at the surface of the earth Writing in 1879 Rand Capron after collecting all the recorded observations, was able to enumerate no more than nine auroral rays, of which but one could with any probability be identified with rays emitted by atmospheric air under an electric discharge. But since that time observations of the spectra of auroras have been greatly multiplied chiefly through the Swedish and Danish Polar Expeditions and the length of spectrum recorded on the ultra violet side has been greatly extended by the use of photography so that in a recent discussion of the results, M Henri Stassano is able to enumerate upwards of 100 auroral rays of which the wave length *is more or less approximately known some* of them far in the ultra violet. Of this large number of rays he is able to identify within the probable limits of errors of observation about two-thirds as rays which Professor Liveing and myself have observed to be emitted by the most volatile gases of atmospheric air unliquefiable at the temperature of liquid hydrogen. Most of the remainder he ascribes to argon and some he might, with more probability have identified with krypton or xenon rays if he had been aware of the publication of wave lengths of the spectra of those gases and the identification of one of the highest rays of krypton with that most characteristic of auroras. The rosy tint often seen in auroras particularly in the streamers appears to be due mainly to neon of which the spectrum is remarkably rich in red and orange rays. The predominance of neon is not surprising seeing that from its relatively greater proportion in air and its low density it must tend to concentrate at higher elevations

[Professor Dewar here discussed the spectroscopic phenomena of auroras at some length and explained the theory of Arrhenius accounting for the electric discharges which are generally believed to occasion them. He then continued]

VARIOUS LOW TEMPERATURE RESEARCHES.

We may now summarise some of the results which have already been attained by low temperature studies. In the first place the great majority of chemical interactions are entirely suspended, but an element of such exceptional powers of combination as fluorine is still active at the temperature of liquid air Whether solid fluorine and liquid hydrogen would interact no one can at present say Bodies naturally become denser but even a highly expansive substance like ice does not appear to reach the density of water at the lowest temperature. This is confirmatory of the view that the particles of matter under such conditions are not packed in the closest possible way The force of cohesion is greatly increased at low temperatures as is shown by the additional stress required to rupture metallic wires. This fact is of interest in connexion with two conflicting theories of matter Lord Kelvin's view is that the forces that hold together the particles of bodies may be accounted for without assuming any other agency than gravitation or any other law than the Newtonian An opposite view is that the phenomena of the aggregation of molecules depend upon the molecular vibration as a physical cause. Hence, at the zero of absolute temperature, this vibrating energy being in complete abeyance, the phenomena of cohesion should cease to exist, and matter generally should be reduced to an incoherent heap of cosmic dust. This second view receives no support from experiment.

The photographic action of light is diminished at the temperature of liquid air to about 20 per cent. of its ordinary efficiency and at the still lower temperature of liquid hydrogen only about 10 per cent. of the original sensitivity remains At the temperature of liquid air or liquid hydrogen a large range of organic bodies and many inorganic ones acquire under exposure to violet light the property of phosphorescence Such bodies glow faintly so long as they are kept cold but become exceedingly brilliant during the period when the temperature is rising Even solid air is a phosphorescent body All the alkaline earth sulphides which phosphoresce brilliantly at the ordinary temperature lose this property when cooled, to be revived on heating, but such bodies in the first instance may be stimulated through the absorption of light at the lowest temperatures. Radio-active bodies, on the other hand like radium which are naturally self luminous, maintain this luminosity unimpaired at the very lowest temperature and are still capable of inducing phosphorescence in bodies like the platino-cyanides. Some crystals become for a time self luminous when cooled in liquid air or hydrogen, owing to the induced electric stimulation causing discharges between the crystal molecules. This phenomenon is very pronounced with nitrate of uranium and some platino-cyanides

[Professor Dewar here gave a concise *résumé* of the results of a long series of experiments made in conjunction with Professor Fleming, on the electric and magnetic properties of bodies at low temperatures. The subjects that had been under investigation might be classified as follows The Thermo-Electric Powers of Pure Metals the Magnetic Properties of Iron and Steel Dielectric Constants, the Magnetic and Electric Constants of Liquid Oxygen and Magnetic Susceptibility He then continued]

The effect of cold upon the life of living organisms is a *matter of great intrinsic interest as well as of wide theoretical* importance. Experiment indicates that moderately high temperatures are much more fatal at least to the lower forms of life, than are exceedingly low ones. Professor McKendrick froze for an hour at a temperature of *minus* 182° C samples of meat, milk &c. in sealed tubes when these were opened after being kept at blood heat for a few days their contents were found to be quite putrid. More recently some more elaborate tests were carried out at the Jenner Institute of Preventive Medicine on a *series of typical bacteria.* These were exposed to the temperature of liquid air for 20 hours, but their vitality was not affected, their functional activities remained unimpaired and the cultures which they yielded were normal in every respect. The same result was obtained when liquid hydrogen was substituted for air A similar persistence of life in seeds has been demonstrated even at the lowest temperature they were frozen for over 100 hours in liquid air at the instance of Messrs. Brown and Escombe, with no other result than to affect their protoplasm with a certain inertness, from which it recovered with warmth. Subsequently commercial samples of barley pea, vegetable marrow and mustard seeds were literally steeped for six hours in liquid hydrogen at the Royal Institution yet when they were sown by Sir W T Thiselton Dyer at Kew in the ordinary way the proportion in which germination occurred was no less than in the other batches of the same seeds which had suffered no abnormal treatment. Bacteria are minute vegetable cells which it has been found possible completely to triturate when the operation is carried out at the temperature of liquid air the cells then being frozen into hard breakable masses. The typhoid organism has been treated in this way and the cell plasma obtained for the purpose of studying its toxic and immunising properties It would hardly have been anticipated that liquid air should find such immediate application in biological research A research by Professor Macfadyen, just concluded has shown that many varieties of micro-organisms can be exposed to the temperature of liquid air for a period of six months without any appreciable loss of vitality although at such a temperature the ordinary chemical processes of the cell must cease. At such a temperature the cells cannot be said to be either alive or dead in the ordinary acceptation of these words. It is a new and hitherto unobtained condition of living matter—a third state A final instance of the application of the above methods may be given Certain species of bacteria during the course of their vital processes are capable of emitting light. If however the cells be broken up at the temperature of liquid air and the crushed contents brought to the ordinary temperature the luminosity function is found to have disappeared. This points to the luminosity not being due to the action of a ferment—a Luciferase"—but as being essentially bound up with the vital processes of the cells and dependent for its production on the intact organisation of the cell These attempts to study by frigorific methods the physiology of the cell have already yielded valuable and encouraging results and it is to be hoped that this line of investigation will continue to be vigorously prosecuted at the Jenner Institute

And now, in conclusion, I may remind you that I commenced by referring to the plaint of Elizabethan science, that cold was not a natural available product. In the course of a long struggle with nature man, by the application of intelligent and steady industry, has acquired a control over this agency which enables him to produce it at will and with almost any degree of intensity short of a limit defined by the very nature of things But the success in working what appears at first sight to be a quarry of research that would soon suffer exhaustion has only brought him to the threshold of new labyrinths The battle fields of science are the centres of a perpetual warfare in which there is no hope of final victory, although partial conquest is ever triumphantly encouraging the continuance of the disciplined and strenuous attack on the seemingly impregnable fortress of nature.

TETANUS AND VACCINATION

AN ANALYTICAL STUDY OF 95 CASES OF THE COMPLICATION

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DURING the year 1901 an unusual number of cases of small pox in different parts of the United States stimulated the health authorities to a vigorous endeavour to protect the public by vaccination and in that year great activity in this direction took place throughout the United States

The occurrence of a number of cases of tetanus succeeding vaccination at first in Cleveland, Ohio, and then in Camden, New Jersey, early attracted my attention as this, to me, unknown complication seemed a matter of the greatest importance, increasing the danger of vaccination and correspondingly increasing the animosity of those misguided persons who have banded themselves together for the organised opposition of this well recognised and only safeguard against small pox.

The cases of tetanus in Camden have been so exploited in the newspapers and have been made the subject of so many editorial articles and comments in the medical press that they will, no doubt, form the starting-point of numerous future attacks against vaccination, so that I deemed it important that as many cases of the complication as could possibly be collected should be brought together and carefully analysed in order to determine whether tetanus is a necessary or an avoidable complication of vaccination If necessary, we should be prepared for it and should know how often to expect it, if avoidable, we should seek to eliminate it by every precaution regarding the selection of a superior virus and the performance of a careful operation. At all events, we should know what relationship exists between the two affections

TETANUS IS NOT A RECOGNISED COMPLICATION OF VACCINATION

The only text-book in which I have been able to find any mention made of the complication is the recent edition of Osler's "Text-book of Medicine" in which it is simply stated that "tetanus occasionally follows vaccination." In the Minority report of the British Commission, published in 1896, in which the disadvantages of vaccination are carefully and forcibly summarised, a single case, apparently the only one they were able to collect, is mentioned. Ordinary writers upon vaccination entirely ignore tetanus The literature on the subject is extremely meagre In the Index Catalogue of the Surgeon General's Library at Washington only *seven* cases are mentioned under titles by which they can be recognised and I have found a total of but 14 cases in the literature. These cases have occurred at remote periods in different parts of the world and were all attributed to secondary infection of the wound. It seems reasonable, therefore, to conclude that tetanus has not been a frequent or important complication of vaccination in the past, either in this or any other country It may however, be surmised that what is true at the present time has also been true in the past and that when a case of tetanus did occur an attempt was made to suppress rather than to publish it lest its influence should be injurious , but if in the past any such epidemics of tetanus had taken place as have been recently experienced the medical literature would certainly contain some reference to it, for, suppressed as the cases are at the present time, very few of the recent cases having been published in detail, rumours of cases and editorial articles referring to the cases and speculating upon their occurrence are to be found in many of the journals both in this country and abroad The lack of information concerning the complication cannot depend upon the failure to recognise it, as tetanus has been a well known disease for centuries and, indeed, very little has been added to its symptomatology since the days of Hippocrates

I have been able to collect a total of 95 cases of tetanus following vaccination Throughout the paper I shall refer to "cases," meaning by the term occurrences of tetanus that I have succeeded in authenticating and of which I have considerable detail, while the term "rumour" will be used for cases of tetanus the occurrence of which is certain but concerning which for various reasons I have been unable to secure the details The greater part of my information has been collected by personal corresponden and has been obtained with the request that it should l regarded as confidential I do not, therefore, append th synoptical lists from which my conclusions are drawn, though I can at once place the matter at the disposal of anyone interested in the subject

Cases of tetanus following vaccination are reported as follows —

1854 —Isabella XX. Dr J D Cottman, *New Orleans Medical and Surgical Journal*, 1854-55, vol xi , p 783

1878 —Edward K. Dr G Ross, *South Clinic*, Richmond, Va., 1878-79, vol. i p 468

1882.—Ben Jones Dr W C T Bates Transactions of the South Carolina Medical Association, Charleston 1882, vol xxxii p 105 —John McLane Dr T Dimon *St. Louis Courier of Medicine* 1882 vol vii, p 310-312.—D M Dr H J Berkeley, *Maryland Medical Journal* Baltimore 1882-1883 vol ix pp 241-245

1886 —Malo Dr Rudesindo Garcia Rijo *Cron Med Quir de la Habana*, 1886, vol xii p 388

1889 —Infant Bromley Case THE LANCET, Nov 2nd (p 922) and 9th (p 970), 1889

1891 —Negro boy Dr Ruiz *Cron Med Quir de la Habana* 1891 vol xvii p 649

1893 —M D W Bellport L I Dr S W S Toms *Medical News*, Feb 24th 1894

1897 —British Commission case Appendix IX to the Final Report of the Royal Commission on Vaccination 1897, Case 10 p 6

1899 —A K. XXX and C R Surgeon-General s Report, June 30th, 1900 pp 205 and 206

1901 —XXX. Dr W Findlay and Dr J W Findlay, THE LANCET Feb 22nd 1902, p 506

TABLE I.—*Synoptical Table of the Cases*

Cases from the literature		14
Cases collected but not published—		
a With complete details	40	
b With incomplete details	13	
	——	53
Rumours		28
		——
		95

Fatalities	61	Adults	25	Males	38
Recoveries	24	Children	45	Females	29
Unknown	10	Unknown	25	Unknown	28
	——		——		——
	95		95		95

The following table shows the chronological order of the cases which I have succeeded in collecting

TABLE II —*Cases of Tetanus showing the Chronological Occurrence*

Chronology	Cases	Rumours.	Chronology	Cases	Rumours
1854	1	—	1898	3	2
1878	1	—	1899	3	—
1882	3	—	1900	1	—
1886	1	—	1901	45	18=63
1889	1	—	1902	5	1
1891	1	—	Unknown date	—	1
1892	0	6		67	28
1893	1	—		95	
1897	1	—			

TABLE IIA.—*Showing the Month of Appearance of Symptoms of Tetanus in the Cases occurring in 1901*

	Cases.		Cases
January...	0	July...	1
February	0	August	1
March	1	September	1
April	0	October	1
May	0	November	24
June	1	December	7

TABLE IIB.—*Showing the Locality and Source of Virus in Cases occurring in November 1901*

Case.	Locality	Virus.	Case.	Locality	Virus
33	Atlantic City N.J	E	54	Philadelphia, Pa	E
27	St. John s N.B	E	55	"	E
26	Three Rivers Ont	I	56		E
34	Atlantic City N.J	E	66	Camden, N J	E
36		E	67		E
37		E	68		E
39	Millville, N.J	E	69		E
40	Bridgeton N.J	E	70		E or A
47	Bristol Pa	8	72		E or A
48		E	73		E or A
52	Philadelphia, Pa.	E or A	74		E
53		E	76		E

Virus E = 18 cases; E or A = 4 cases; 8 = 1 case I = 1 case; total, 24 cases

The large number of cases in the year 1901 indicates that some exceptional condition existed that changed an unimportant and infrequent complication into a very important and frequent one.

The occurrence of tetanus as a complication of vaccination has been variously explained as follows.

1. *That it is an accidental secondary infection of the vaccination sore*—Those holding this view think that the complication depends upon conditions ever present and only to be expected and that its deplorable occurrence can be prevented by the exercise of greater skill and caution in the performance of the operation of vaccination and in the subsequent treatment of the wound That such a micro-organism as the tetanus bacillus the natural habitat of which is the soil and which occurs widely disseminated in nature, may occasionally be able accidentally to find its way into vaccination lesions cannot be gainsaid. It is certainly possible, and may occasionally happen, as, indeed the scattered cases in the literature seem to prove, but there are very cogent reasons opposed to the view that the many cases of 1901 can be so explained, and to content one's self with this simple explanation may be to fall into egregious error for if tetanus does thus occur it should do so in all parts of the world and with more or less regularity

The various indices to the medical literature are without any references to cases of tetanus following vaccination in most European countries. A communication from the Imperial Health Office of Berlin informs me that the complication is *unknown in the German Empire* Letters from the Pasteur Institute at Paris the Pasteur Institute at Lille and the French Institute inform me that the complication is *unknown in France* No cases appear to have occurred in Italy Russia, Austria, or other European countries, *so that* we are engaged in the consideration of a complication that is chiefly American, has become important within a year and was epidemic in the month of November 1901.

2. *That the occurrence of the complication depends upon a local prevalence of the tetanus germs*—The epidemic in Camden has been attributed to germs in the dust of that city in which there had been a prolonged period of dry weather Were this the true explanation we should find ordinary traumatic tetanus occurring more frequently than usual. See tables of statistics of Camden and Philadelphia Health Departments. This is however not the case, as aside from the vaccination cases there were fewer than the usual number of cases both in Camden and Philadelphia. Further while it is true that a greater number of cases of tetanus following vaccination occurred in Camden than in other places of equal size the occurrence of tetanus following vaccination has too wide a geographical distribution to be explained in this way

Cases are reported from 17 different States in the United States, from the Dominion of Canada, Porto Rico the Philippine Islands Cuba &c.

TABLE III.—*Report of the Board of Health, Room 610 City Hall, Philadelphia March 4th 190– —Deaths from Tetanus*

Months	1897	1898.	1899	1900.	1901.
January	6	5	0	4	3
February	1	4	3	1	1
March	4	2	2	3	0
April	1	1	0	4	2
May	1	4	3	3	1
June	3	3	3	1	1
July...	1	1	10	6	6
August	3	1	7	5	1
September	3	1	3	1	2
October	1	3	5	5	5
November	1	2	2	1	4
December	3	2	3	3	3
Totals	23	29	41	37	29

Note.—This table is of but small value as it shows no apparent increase of tetanus during the year 1901 and shows only 29 reported cases in all whereas I have been able to collect nine fatal cases resulting from vaccination Should we subtract those we would find much less traumatic tetanus than usual in Philadelphia during that year The table certainly shows very little, but fails to show that because of atmospheric or telluric conditions tetanus was exceptionally prevalent in Philadelphia during 1901.

TABLE IV.—*Report of the Health Department of the City of Camden.—Deaths from Tetanus.*

—	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890
January	—	—	—	—	—	—	—	—	—	—	—	—
February	—	—	—	—	—	—	—	—	—	—	1	—
March	—	—	—	—	—	—	—	—	—	—	—	—
April	—	—	—	—	—	—	—	—	—	—	—	—
May	—	—	1	—	1	—	—	—	—	—	—	—
June	—	—	—	—	—	—	1	—	—	—	—	—
July	1	—	—	—	—	—	—	—	—	—	—	—
August	—	—	—	1	—	—	—	—	—	—	—	—
September	—	—	—	1	—	—	—	1	—	—	—	1
October	—	—	—	—	—	—	—	—	—	—	—	—
November	9	—	—	—	—	—	—	—	—	—	—	—
December	1	1	—	—	—	—	—	—	—	—	—	—
Totals	11	1	1	3	1	—	1	1	—	—	1	1

Note.—I was able to collect 11 cases of tetanus following vaccination in Camden and one case of traumatic tetanus occurred about the same time making a total of 12 cases The table shows 11 deaths. Three of the vaccination cases recovered so that there is here a slight difference between my collected cases and the report of the Health Department The eight fatal vaccination cases, plus the fatal traumatic case subtracted from the 11 reported fatalities leave us two cases unaccounted for—a difference not sufficient to show any greater general prevalence of the disease than occurred in 1898.

That geographical conditions may exert a pronounced influence upon the occurrence of the tetanus which is known to be particularly prevalent in certain districts. Thus it is said that Cuba and Porto Rico have soils particularly rich in tetanus bacilli and that Long Island has a similar dangerous soil. That such an influence is important is however very doubtful as from the so-called dangerous localities very few cases have been reported (three Cuba three Porto Rico and two Long Island) (see table.)

TABLE V —*Tetanus Cases showing the Geographical Distribution.*

	Cases	Rumours
Canada —Three Rivers Quebec	1	—
St John N B	1	—
Connecticut.—South Glastonbury	1	—
Cuba —Havana	3	—
England —Recorded in THE LANCET	1	—
Commissioners Report	1	—
Illinois —Chicago	0	1
Louisiana.—New Orleans	1	—
Maine —Biddeford	1	—
Maryland —Baltimore	1	—
Massachusetts —Belmont	1	—
Cambridgeport	1	—
East Dennis	1	—
Boston	1	—
Michigan —Kalamazoo	1	—
Minnesota —Minneapolis	1	—
Taylors Falls	1	—
Missouri —St Louis	0	1
New Jersey —Atlantic City	4	2
Bridgeton	1	—
Camden.	11	—
Jordantown	0	1
Millville	1	—
New York —Albany	1	—
Long Island	2	—
Owego	1	—
Ocean —City of Para	1	—
Ohio —Cincinnati	0	1
Cleveland	4	—
Pennsylvania —Bristol	2	—
Easton	1	—
Girardville	1	—
Lyndell	1	—
Millbach	0	1
Philadelphia	11	12
Rosemont	0	2
Philippine Islands	1	—
Porto Rico	1	2
Scotland	1	—
South Carolina —Charleston	1	—
Tennessee —Paris	1	—
Unknown	0	6
Virginia —Richmond	1	—
Wisconsin —Milwaukee	1	—
	67	28
	95	

3 *That carelessness in the treatment of the vaccination wound facilitates accidentally secondary infection with tetanus* —While this has a ring of genuineness about it, and is doubtless true in some of the scattered cases, the argument is extremely unconvincing when applied to the cases of 1901 For 100 years vaccinations have been performed with a total disregard to cleanliness and asepsis in all parts of the world, on all classes of people, in towns and cities, by careless and careful physicians, upon clean and dirty persons, without the use of any dressing, yet during these many years tetanus has remained almost an unknown complication. We cannot conceive of any difference between the social conditions of the present and those of the past that are not immensely in favour of the present, yet it is at present that we find tetanus epidemic.

In our own country greater care is undoubtedly exercised at the present time than heretofore, and in those countries in which because of ignorance and poverty, the same social conditions prevail at the present time that existed a hundred years ago—as, for example, among the peasantry of Europe—we find tetanus practically unknown.

Vaccination wounds are treated with much greater care at the present time than ever before, and it is now becoming recognised that vaccination is an operation, and that to free it from the common dangers of all operative manipulations cleanliness and care are essential. We therefore find that at present the skin is cleansed and disinfected and the lesion itself protected and subsequently dressed with a care never dreamed of a few years ago, yet when we come to examine the details of those cases which have come within our knowledge we find that this care of the wound appears to be without influence upon the occurrence of tetanus, for while many cases have occurred among ignorant and filthy children, in an equally great number of cases more than ordinary care seems to have been exercised Thus one case occurred in the person of an adult sister of a physician in Cleveland, Ohio Both the patient and the operator were refined and cultured people, were apprehensive of the results, and exerted unusual precautions, yet despite all death from tetanus followed this vaccination Here let it be said that the virus associated with so many cases (virus E) was used.

The ignorant and filthy people of the island of Porto Rico, with no knowledge of hygiene or personal cleanliness, living in a place reputed to be extremely dangerous because of tetanus bacilli in the soil, were vaccinated by the United States authorities after the occupation of that territory, and out of some 800,000 vaccinations three cases of tetanus, two of which are very doubtful, are reported by Dr George G Groff

4 *The use of a shield to protect the vaccination wound has recently become quite common and has been blamed for the occurrence of tetanus* —The shield has, however met with violent and perhaps justifiable condemnation, on the ground that the pressure of its edges and of the adhesive plaster bandages by which it is held in place obstruct the lymphatic circulation and increase the severity of the wound and the danger of infection, also that the shield induces anaerobic conditions, so that by some the occurrence of tetanus has been blamed upon the shield Upon looking over the reported cases, however, we find so few in which shields were used that they seem to have no influence upon the occurrence of the complication

THE RELATION OF TETANUS TO THE VACCINE VIRUS.

With the evolution of vaccination as a prophylactic measure certain changes in technique have been gradually introduced. Thus bovine virus has now displaced the arm-to-arm and human scab vaccinations previously practised, and within the last quarter of a century the use of human virus has been almost entirely given up Can it be that the danger from tetanus has something to do with the bovine virus? In a few of the early cases drawn from the literature tetanus followed the use of human virus That the bovine virus is at fault seems possible when we consider that it is only in the last half century that cases of tetanus have occurred, yet it can scarcely be at fault in itself, as bovine virus is the only form employed in Belgium, Germany, France, and other European countries where no tetanus has occurred While it is suggestive that the first cases of tetanus reported in the literature make their appearance about the time bovine virus began to come into general use, it is not true that the number of reported cases increased in proportion to the popularity of the bovine virus for from 1852, when the first case I have found makes its appearance in the literature, until 1901 only isolated cases are reported, usually at intervals of years

The next step in the evolution of vaccination was the improvement in the quality of the virus, suggested by Copeman in 1891, by which glycerine was permitted to act for some time upon the virus for the purpose of destroying the undesirable micro-organisms it contained By the use of the glycerine a bacteria free virus may thus be secured This improved virus made slow but steady progress, until at the present time it has attained the greatest popularity and bids fair to replace all other forms It is used almost exclusively in Europe and has made very large inroads into America.

The glycerinated virus is so new, having been in use but 10 years and in common use little more than five years, that we are scarcely able to express a positive opinion regarding its advantages and disadvantages The advantage of having the contaminating bacteria destroyed by the glycerine is indisputable, the disadvantage of occasionally having the glycerine act so long that the specific germs of vaccinia are killed and the virus made inert is also indisputable That at times when the demands upon the manufacturer are exceptionally great the virus mixed with the glycerine might be placed upon the market before the necessary time had elapsed for the contained bacteria to be killed is a somewhat grave danger These possibilities have somewhat lessened the confidence with which the preparation is received and used by many practitioners

When we come to investigate the cases of tetanus concerning which information is at hand we are somewhat startled to find that a large number of them have succeeded *the employment of this supposedly best and most refined* preparation. This point will be discussed below

It must also be pointed out that the epidemics of tetanus which are *the subject of this paper occurred at a time* when an almost unprecedented demand for virus taxed the output of the manufacturers to their utmost and must have tempted them to market partly refined" goods. It is not impossible that it was insufficient contact with the glycerine that permitted tetanus bacilli to remain alive in the virus, though as glycerine fails to kill tetanus spores it is doubtful whether this is the chief or sole error

TABLE VI.—*Showing the Relation of Tetanus to the Make of the Virus.*

Viruses	Dry	Glycerinated.		Totals
		Points	Tubes.	
E	3	10	17	30
A	2	—	—	2
D	0	—	2	2
W	0	1	—	1
S	0	—	3	3
I	1	—	—	1
G	1	—	—	1
—	7	11	22	40
Proportion	7	33		

Relationship to particular brands of virus—When an attempt is made to determine whether the employment of any particular brand or make of virus is succeeded by an unusually large number of cases of tetanus we discover that while an occasional case of tetanus has succeeded the use of the virus of nearly all of the large manufacturers, the great majority of the cases of 1901 have succeeded the use of a particular brand of virus and make us suspect that the tetanus bacilli were contained within it.

The brands of virus to be considered are called E D A S, W I, St, and Wd. Those called E A, and D are the products of the largest American manufacturers who it is not improbable do about an equal amount of business It is safe to say that these vaccines are all made with the exercise of as great amount of skill as present knowledge permits. No care or expense is spared to have these products perfect *We find however a remarkable discrepancy* in the results following their employment—a discrepancy that leads me to conclude that the tetanus bacillus is contained in the virus and distributed with it. Careful examination of the accompanying table will show the disproportion of cases.

The occurrence of 30 cases of tetanus after the employment of virus E suggests that tetanus germs were present in it in larger proportions than in any other though the occurrence of only 30 cases following the use of millions of doses of this virus indicates that the number of tetanus *organisms present is small* and the *occurrence* of the cases in groups that their distribution is irregular

The occurrence of cases in groups—In this connexion must be pointed out as interesting and significant the groups of cases that have occurred from time to time. Thus in Cleveland Ohio during 1901 we note the occurrence of four cases in Camden, New Jersey during October November and December 1901, the occurrence of 11 cases at Atlantic City about the same time five cases and in Philadelphia and vicinity nearly at the same time about 25 cases (and rumours). If we analyse the cases we find one vaccine (virus E) chiefly if not exclusively implicated. The most instructive group of cases that I have been able to study occurred in the Philadelphia Hospital In this institution with nearly 4500 inmates there was a threatened epidemic of small pox depending upon the admission of a case of small pox from the street. After one or two cases had developed within the institution it was decided to vaccinate every inmate, and the resident physician went systematically through the institution, vaccinating sick and well alike. The institution was thus vaccinated with the exception of the Men s Insane Department, the greater number of the inmates of which were obliged to wait a few days until a new consignment of virus arrived With this new consignment (virus E) they were then all vaccinated. *Upon looking up the statistics of the hospital* we find that in the insane departments, male and female, no case of spontaneous traumatic tetanus had developed within 12 years. *It is, in fact, not known that there* ever has been a case of traumatic tetanus developed within the walls of the institution, but this cannot be determined as the records prior to 12 years ago were destroyed by fire Succeeding the vaccination, however a group of tetanus cases, confined exclusively to the Men s Insane Department, occurred. Here five typical cases with trismus and opisthotonos and every marked symptom of the disease occurred all being followed by death four from trismus itself and one from pneumonia occurring immediately after a cessation of the spasms The occurrence of this outbreak occasioned much alarm so that every suspicious vaccination wound observed was thoroughly excised and treated antiseptically After this excision of the wounds 11 additional cases developed trismus and muscular rigidity though after the administration of enormous doses of antitoxin they all recovered In going carefully over the details of these cases I find that with one very doubtful exception (vaccinated with E or A) every patient who developed tetanus was vaccinated with the same virus which had caused tetanus at Cleveland Camden, Atlantic City and elsewhere (virus E) As the diagnosis of the 11 cases that recovered is somewhat questionable I have included them among the *rumours* and have not introduced them into the statistical tables. Should it be suggested that the occurrence of the cases of tetanus in groups depends upon the popularity of the virus in certain districts, as Philadelphia, Camden and Atlantic City where it was almost exclusively used and that in these districts some telluric, atmospheric, or other condition prevailed causing them to be more predisposed to tetanus than the country in general the idea should be at once dispelled by a few moments consideration of the statistics presented. Thus if we deduct from the 30 cases succeeding the use of virus F the six positive cases occurring in Camden the seven positive cases occurring in Philadelphia, and the three positive cases occurring in Cleveland, there remain against this virus a total of 14 cases which is greater than the sum total of all the cases referable to all the other viruses produced in the country thus showing that even where the cases are scattered and not in groups virus E has four times as many cases against it as any other virus and more cases than all the other viruses put together

In the accompanying table 40 cases are presented with exact information concerning the make and form of virus employed. Of these 40 cases 30 follow the employment of virus E 10 follow the use of all other forms combined and no single other virus has a higher number than three. This seems to show quite convincingly that there is something about virus E that is different from the others. In addition to these 40 cases with complete details I have eight additional cases in which it is known that one or the other of two viruses was used but in which it cannot now be certainly determined which of the two it was

TABLE VII.—*Cases of Disputed Virus where One or the Other of Names are Given.*

Cases	E	A	D	W	Wd	St
25	1	—	—	1	—	—
29	1	—	1	—	—	—
45	1	—	—	—	—	1
66	1	1	—	—	—	—
71	1	1	—	—	—	—
72	1	1	—	—	—	—
73	1	1	—	—	—	—
91	—	—	1	—	1	—
—	7	4	2	1	1	1

We find that in the cases of this group vaccine E figures in seven. If we assume which it would be fairly justifiable to do, that in all of these cases virus F was used, then the disproportion is changed from E 30 to all others 10 (30 10) to E 37 to all others 10 (37 10), thus making matters worse. If however we proceed on the reverse order and admit that

E may be erroneously charged with these cases we find the proportion E 30 to all others 18 (30 18), so that matters are but little improved for virus E Comparing E with the other viruses made by equally large houses the disproportion is, of course, much more striking than when comparing it with the sum of all others, thus —

$$\left.\begin{array}{l}\text{E 30 (without disputed cases)}\\ \text{E 37 (with disputed cases)}\end{array}\right\}\text{D 2.}$$

$$\left.\begin{array}{l}\text{E 30}\\ \text{E 37}\end{array}\right\}\text{A 2.}$$

$$\left.\begin{array}{l}\text{E 30}\\ \text{E 37}\end{array}\right\}\text{S 3}$$

It certainly seems impossible that if the viruses were of equally good quality such a disproportion as 30 2 and 30 3 could persist.

TABLE VIII —*Table of Comparisons*

Viruses	Known	Disputed
E	30	7
A	2	4
S	2	0
D	3	2
W	1	1
Wd	0	1
St	0	1
G	1	0
M I	1	0

If we refer to the chronological table given it becomes apparent that it is only occasionally that outbreaks of tetanus following vaccination occur The scattered cases in the literature and the few cases observed to occur after the employment of viruses of all makes may depend upon secondary infection. In the few cases contained in the literature in which tetanus succeeded arm to-arm vaccination this is very probably true, but it is impossible for this explanation to apply in the sudden appearance of 24 cases (without rumours) that developed during November, 1901. The only explanation that appeals to me is that while secondary infection of vaccination wounds occurs very rarely and while tetanus bacilli are contained in bovine vaccine in numbers large enough to produce tetanus occasionally, some times through accidents or carelessness unusually large numbers of tetanus bacilli get into the virus with resulting epidemics such as the one which is here considered. Granting the possibility of this it becomes of prime importance that the utmost precaution should be exercised in preparing the virus, and if possible that some new method should be adopted by which its manufacture shall be carried out with out the possibility of danger of this kind.

Dry and glycerinised viruses —The respective influence of dry and glycerinised virus upon the causation of tetanus is shown by reference to Table VI, where it is shown that seven cases followed the use of dry points, 11 the use of glycerinised points, and 22 the glycerinised tube virus This proportion (seven to 33) appears to be convincingly in favour of the dry virus, but we find an error resulting from virus E All three forms of virus E have been followed by tetanus in the respective proportions of dry points three, to glycerinised points 10, and glycerinised tube virus 17 If we entirely omit virus E from the consideration we find the totals of all other viruses to be —

$$\begin{array}{l}\text{Dry points}\\ \text{Glylcerinised points}\\ \text{Glycerinised tubes}\end{array}\quad \left.\begin{array}{l}4\\ \left.\begin{array}{l}1\\5\end{array}\right\}6\end{array}\right\} = 4\ \ 6$$

The proportion of four dry to six glycerinised is about correct when we remember that the glycerinised is the popular virus at the present time. This seems to show that there is no important disproportion in favour of dry over glycerinised virus as regards the occurrence of tetanus.

The source of the tetanus bacilli in virus —When we consider the distribution of the tetanus bacillus in nature we find it in the soil chiefly whereon it has been well fertilised and in manure. The tetanus bacillus is, no doubt, frequently swallowed by herbivorous animals in browsing upon the surface of the ground, and the anaerobic conditions for its growth being excellent we find that the intestines of herbivorous animals commonly contain large numbers of the bacilli which escape with the evacuations to be again deposited upon the soil in increased numbers The first source of danger, therefore, by which vaccine virus can be contaminated is the manure of the calf, the next source the dusts arising from the dry manure and the soil, both of which may be brought into the stables with the hay or upon the animals

When large hay fed animals are employed for the manufacture of virus the manure is certainly a source of danger, but in stables where sucking calves are used for the purpose fewer tetanus bacilli are present in the excrement However, Huddleson found them present in the fæces of 8 per cent. of the small calves used in the laboratory of the Health Department of New York It is evident that from these sources opportunities for the entrance of tetanus germs into the vaccine virus occur, but as a matter of fact no one has yet succeeded in finding them in the virus This indicates that their number must be so small that in the distribution of the virus in tubes and on points hundreds or thousands of tubes escape where one is contaminated It must be unusual for many tetanus germs to be implanted at the time of vaccination but no doubt such implantations can and do occur

The incubation period —The period of incubation or ordinary traumatic tetanus varies from a few hours to several weeks (see chart), according to statistics derived from the study of a large number of cases

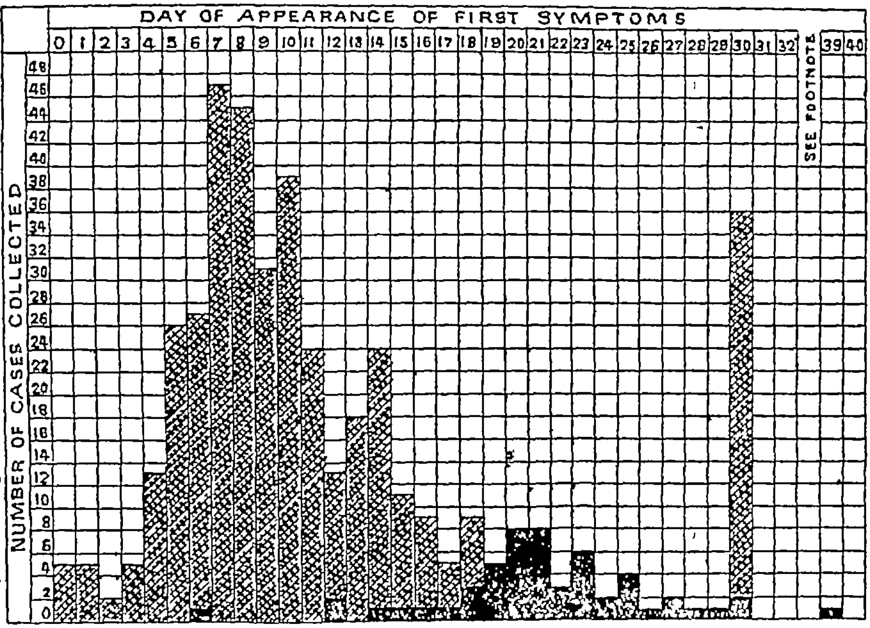
TABLE IX.—*Tetanus Cases, showing Incubation Period*

Shortest period	6 days
Longest period	39 ,,
Average	22 ,,
For points—	
Shortest period	16 ,,
Longest period	30 ,,
Average	23 ,,
For glycerine virus—	
Shortest period	6 ,,
Longest period	39 ,,
Average	22 ,,

The usual incubation period varies from seven to nine days In the vaccination cases—that is in cases of tetanus following vaccination—we find the shortest period of incubation to be six days, the longest 39 days, and the average 22 days It is thus seen that tetanus following vaccination appears on the average about two weeks later than ordinary traumatic tetanus. This is the chief weak point in my argument and I think that if this error could be eliminated it would at once be conceded that the remaining facts are indisputable The prolonged incubation is usually interpreted to signify that the infecting organism entered the vaccination as a secondary infection. In truth, however, how rarely do superficial ulcerations become infected with tetanus Did anyone ever hear of a sudden paroxysmal outbreak of 61 cases of tetanus in one year following the infection of leg ulcers, furuncles, mosquito bites &c, even when cleanliness was not observed?

I think after the statistical demonstration that this secondary infection theory must be looked upon as a misinterpretation and that the fact probably is that the tetanus bacillus being ingrafted into the skin at the time of vaccination fails to find suitable conditions for its growth until the development of the vaccine lesion paves the way for it by the local destruction of tissue. This enables us to add to the usual period of incubation an additional period (a couple of weeks), during which the wound has been prepared for the implanted organisms to grow, thus bringing the entire period to the length usually observed in the vaccination cases. An examination of Table IX. shows that no difference exists between dry vaccine on points and glycerinised virus regarding the length of the incubation period.

In nearly every case in which I have succeeded in securing details I learned that the vaccination "took well." This may not be without significance, though it may be interpreted in several ways. It may mean that those vaccinations in which marked local lesions occur are those in which secondary infection has the best chance of occurrence If so, it means that severe vaccination lesions are dangerous and that mild viruses should be used, the multiple insertion of a mild virus being preferable to a single insertion of an active virus It may also mean that the lesion was caused by an impure virus in which the tetanus bacillus might be contained as well as other organisms Lastly, and I think truly, it



Period of incubation.—The columns in light shading represent cases of traumatic tetanus (387 in number); the black columns represent cases of vaccination tetanus (64 in number). In the original diagram the eight vertical columns with the headings 31 to 38 inclusive were blank; five of these were omitted in the reproduction as above indicated for economy of space.

may mean that it is only when such local lesions occur that the *implanted* tetanus bacilli can find conditions suitable for their development.

Reference is again to be made to the chronological development of the cases, by which it will be observed that the majority of cases occur at times when, because of agitation concerning small pox, the demands for virus are great. This being the case it is not impossible that vaccine viruses are sometimes marketed prior to the time when the action of the glycerine has extinguished the life of the bacteria in the virus and with less than the customary precautions regarding excellence of quality.

CONCLUSIONS.

The following conclusions seem justifiable. 1. Tetanus is not a frequent complication of vaccination. 2. The number of cases observed during 1901 was out of all proportion to what had been observed heretofore. 3. The cases are chiefly American and occur scattered throughout the eastern United States and Canada. 4. The cases have nothing to do with atmospheric or telluric conditions. 5. A small number occurred after the use of various viruses. 6. An overwhelming proportion occurred after the use of a certain virus (E). 7. The tetanus organism is in the virus in small numbers, being derived from the manure and hay. 8. Occasionally through carelessness or accident the number of bacilli becomes greater than usual and may lead to the epidemic occurrence of tetanus. 9. The future avoidance of the complication is to be sought for in greater care in the preparation of the vaccine virus.

NOTE.—Since writing the above the final proof needed to complete the argument seems to be given by Dr. Robert M. Willson who contributed to the Philadelphia County Medical Society on April 23rd, 1902, the information that he had discovered tetanus bacilli in large numbers in a vaccine virus made about the time of the epidemic of 1901. This bacillus which was microscopically demonstrated to the society was virulent for the small laboratory animals.

Philadelphia.

A SUCCESSFUL CASE OF GASTRECTOMY FOR CARCINOMA OF THE PYLORUS AND LESSER CURVATURE OF THE STOMACH

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THE operation of gastrectomy is on its trial. Mr. W. Watson Cheyne and Mr. F. F. Burghard in their recently published "Manual of Surgical Treatment" say: "Although the entire stomach has been removed for cancer with temporary success, we cannot think that the number of cases in which this can be done will be large, nor do we look upon the operation as at all a favourable one." They do not even describe the operation, as "if the growth be sufficiently large to warrant such a severe procedure it is practically beyond hope of immunity from recurrence."

In the following case the operation as performed was not such a very severe procedure, and though it remains to be seen whether the growth will recur there is reason to believe that it has been radically removed. It seems to me that in all cases of gastric carcinoma, where operation *is advisable* at all, gastrectomy is indicated, as it having been proved that the stomach is not essential for digestion, the more complete its removal the greater should be the probable immunity from recurrence, while the risk is not proportionally increased. If at all possible it is, however, wise, for physiological reasons as well as for ease in operation, to leave a small portion of healthy stomach.

As compared with pylorectomy the operation as performed in this case was easier and took less time, because there was less stomach surface to suture. The cut edges were easily and rapidly brought together with continuous silk sutures (through all the coats) and then the duodenum was implanted into the very small surface of the fundus that was left Had there been difficulty in approximation I would have closed the duodenum and attached the jejunum The microscopical examination subsequently showed that where cut the stomach was perfectly normal, though the growth was disseminating widely along the lymphatics

For the detailed notes and for careful attention to the after treatment of the case I am indebted to Dr Murphy, resident medical officer at St Vincent's Hospital, Melbourne, to which institution the patient, a married woman, aged 55 years, was admitted on May 8th, 1902, under my care. She complained of pain in the abdomen and vomiting She stated that except for occasional pain in the left shoulder she had enjoyed good health until seven months previously when she began to suffer from indigestion and flatulence. Five months previously she began to vomit, and had continued to vomit, at intervals of one or two days, up to the time of her admission. The vomiting generally occurred at night, and she brought up food taken eight or 10 hours previously, as well as acid watery matter She had lost weight.

On examination she was found to be a spare active woman, looking younger than her years, but distinctly emaciated Just above the umbilicus was a hard moveable tumour of the size of a mandarin orange The stomach was dilated Her pulse was 90 and rather small in volume but strong Her temperature was 99° F. All the other organs and the urine appeared to be normal On May 11th she was given a test-meal which was withdrawn four and a half hours afterwards and examined by Dr Wilkinson, assistant demonstrator of physiology, Melbourne University, who reported that the meal was considerably digested and that no free hydrochloric acid could be found On the 13th and 14th the stomach was washed out and again on the morning of the 15th, when the operation was performed under ether anæsthesia.

The abdomen was opened in the mid line, between the ensiform appendix and the umbilicus The pylorus was found to be occupied by a hard growth which extended along the lesser curvature and in radiating lines over the anterior stomach wall. No enlarged glands could be detected The cardia appeared to be free from disease. After a little deliberation it was decided to remove the stomach The abdominal incision was enlarged and the stomach was delivered from the abdominal cavity and packed off with plain sterilised gauze, wet with hot sterilised normal saline solution. The small omentum was ligatured off in sections with silk (and the pyloric and gastric arteries secured) at a distance of about one and a half inches from the lesser curvature and then divided. The great omentum was ligatured and divided in a similar way The cardiac end of the stomach was then clamped obliquely in long forceps (not covered with rubber) and the stomach on the distal side of the clamps and about one and a half inches from them was tied round with a piece of rubber tubing The stomach was then divided between the clamps and tubing, so that the whole of the lesser curvature up to the œsophagus was removed and the greater part of the greater curvature, leaving about two and a half inches of cardia attached to the œsophagus The stomach and growth were turned over the abdominal wall to the right and out of the way and covered with hot sterile gauze wet with saline solution. The cut edges of the stomach beyond the clamps were disinfected and then sutured with a continuous silk suture through all the coats and then a continuous Lembert silk suture was passed through the sero muscular coat, invaginating the previous one Further search was then made for infected glands and some, though not obviously hard or enlarged, were removed from near the pancreas The duodenum was then clamped about one inch from the growth and a rubber ligature was tied round it nearer the growth, the duodenum was divided between the two and the stomach and growth were removed. The cut edges of the duodenum were disinfected and approximated to the remaining portion of stomach and œsophagus and laterally implanted on it. One wall of the duodenum was attached to the stomach by a continuous serous suture, the ends being left long The stomach was then incised and the cut edge next the suture was attached to the adjacent duodenal wall with a continuous suture through all the coats and this was carried all round The serous suture was then finished off. The exposed viscera were flushed with hot saline solution and replaced The abdominal incision was then closed with through and through sutures. An enema of one pint of saline solution and one ounce of brandy was administered and the patient was put to bed The operation took a little over an hour The following diagram roughly shows the amount of stomach removed and the position of the growth. The shock was not great and the patient rallied well She was fed by nutrient enemata, alternating with saline, every four hours

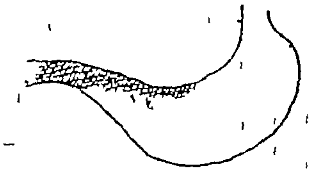

Diagram of stomach showing portion affected by growth shaded

On May 16th enemata (nutrient and saline alternately) were administered every four hours and one fortieth of a grain of strychnine was given every four hours The temperature was 101°, the pulse was 112, and the respirations were 24 The patient was feeling well. On the 17th one drachm of water was given occasionally by the mouth. The temperature was 100°, the pulse was 116, and the respirations were 20 From two drachms to half an ounce of sterilised water or peptonised milk was given every two hours by the mouth Enemata were administered every four hours On the 18th her general condition was good. The temperature was 99°, the pulse was 80, and the respirations were 20 From one drachm to half an ounce of water, peptonised milk, or broth was given every hour Nutrient enemata were administered every six hours On the 19th the patient was feeling very well The temperature was 99°, the pulse was 80, and the respirations were 20 Half an ounce of peptonised milk, water, broth, or beef-tea was given every hour No discomfort was experienced after taking it. An enema was administered every eight hours The bowels acted on this date On the 20th the patient was feeling very well The temperature was 99° and the pulse was 80 One ounce of water, peptonised milk, beef-tea, Benger's food, or jelly was given every hour and occasionally she had small drinks On the 21st the temperature was 99° and the pulse was 80 She was given one and a half ounces as above or solution of plasmon every one and a half hours Two enemata were administered in the 24 hours On the 22nd the temperature and pulse were normal She was taking one and a half ounces of nourishment every hour with occasional drinks 10 minims of dilute hydrochloric acid were given with the nourishment She did not like taking the acid. On the 24th the temperature and pulse were normal She was taking two ounces of nourishment every hour with occasional drinks. On the 25th she was taking three ounces every two hours and one drachm of somatose every three hours The hydrochloric acid was discontinued, she said that she felt better without it On the 28th she was having five ounces of nourishment every two hours with a little bread crumb and bread and butter She experienced no feeling of indigestion. All the sutures were removed On the 30th she was taking six ounces of milk, bread and milk, custard, somatose, fish, or arrow root every two or three hours. On June 3rd the diet was as follows six ounces of liquid and occasionally tripe, mashed potatoes, boiled eggs, and bread and butter She did not suffer from indigestion The temperature and pulse were normal and she was feeling very well On the 4th she was taking the same articles of diet as on the 3rd, also grilled steak, mashed potatoes and cauliflower, and biscuits On the 12th she was eating ordinary food and could take as much as she did when she was quite well. She did not suffer from indigestion No acid or pepsin was given She said that she could feel the food going into the intestine. She was increasing in weight and strength and was walking about. She stated that she felt very well On the 17th she was discharged.

The patient and the specimen removed were exhibited at the July meeting of the Medical Society of Victoria, and the following report on the specimen has been received from Dr H. G Chapman, demonstrator of pathology, Melbourne University "The part removed consisted of the first part of the duodenum, the pyloric end, and a portion of the cardia and fundus, of the stomach The removed duodenum measured 40 millimetres from the sphincter pylori The stomach has been divided obliquely, the lesser curvature being cut 90 millimetres and the greater curvature 270 millimetres from the pyloric groove At the pyloric orifice and extending into the duodenum for about 10 millimetres and towards the stomach walls, especially along the lesser curvature was a diffuse thickening fading imperceptibly towards the stomach walls The cut edges were free from thickening On section the cut edge of the diffuse thickening showed a white downgrowth from the mucous to the muscle layer Sections under the microscope showed a carcinomatous downgrowth from the glands through the muscularis mucosa into the submucous coat, but nowhere directly passing into the muscular coat, which was, however diffusely infiltrated with cancer cells lying along the lymphatic vessels In the deeper part of the mucous membrane all glandular structure was lost in a diffuse mass of carcinoma. In the submucosa on the edge of the cancerous infiltration were collections of small round cells betokening irritation. There had been a considerable dissemination along the lymphatics, accounting for the general thickening and giving rise to early gizzard like cancer Sections taken close to the incision at the lesser curvature were free from growth with the mucous membrane everywhere clearly defined and the muscle free from infiltration.'

Melbourne.

A CASE OF HÆMOPHILIA IN A WOMAN WITH SYMPTOMS OF DEFECTIVE CIRCULATION IN THE LEGS AND THREATENED GANGRENE OF THE TOES, DEATH WITH CEREBRAL SYMPTOMS

BY JOSEPH A. ARKWRIGHT, M.D CANTAB.

THE patient was a single woman, aged about 30 years at the time of her death in November 1901 of fair complexion tall large-boned and well developed None of her relatives in previous generations were known to have been bleeders She had two sisters, both alive, one aged about 26 years who suffered from attacks of dyspepsia and vomiting which lasted for weeks or months, but who had good health between the attacks though at one time she was very anæmic, the second sister was 13 years old and had very good health. There was one brother 20 years of age, who had hæmophilia but not very severely he had had excessive swelling and ecchymosis about one knee from a slight injury and swelling and pain in the hip-joint after a very slight injury On other occasions he had had troublesome bleeding from a cut on the thumb and great swelling and ecchymosis which continued to increase for some days after a bruise of the upper arm. The present patient had always had a tendency to anæmia and had suffered from dyspepsia. In 1890 a superficial cut on one finger bled for two or three days, but some years ago she had a tooth extracted without excessive hæmorrhage. On Sept. 15th 1893, a right lower first molar was extracted and the next day the bleeding had not stopped and the patient was very pale and faint the hæmorrhage was arrested by applying pressure and the strong solution of perchloride of iron. On Nov 14th 1893, the right upper second bicuspid was extracted and the bleeding continued till the next day when it was stopped in the same way as before, but on the 16th it recurred till it was finally arrested by the same means, tincture of hamamelis being also taken internally On Nov 5th 1894 she complained of pain in the lower limbs there were aching pains in the left thigh and hip chiefly in the anterior part, as though in the bone" which had been present and had never quite left her for eight weeks sometimes they were severe especially at night and they had been worse during the last month there had also been pain in the right thigh like that on the left side, especially along the anterior aspect and for the last 24 hours also in the right hip and in the sacrum There was no tenderness on pressure except over the front of the femur on the right side just above the knee. The patient's temperature was normal in the daytime. About the middle of November the pains began to get better and by Dec. 25th she was very much better but there were still some pains in the limbs. In April 1898 she complained of bad neuralgic" pains in her right arm which improved after she had taken Blaud's pill and arsenic for a short time. On April 25th 1898 she twisted her right ankle slightly in getting over a stile On the next day the ankle was swollen and on the 28th the ankle had become much more swollen in spite of rest and the skin was tense and hot, there was also much ecchymosis On Sept. 1st tense ecchymosed swelling of the calf and ankle followed a slight injury In November the bleeding from a slight cut on the finger lasted for two or three days and was then only arrested with some difficulty by very hot water and tight bandaging In the summer of 1900 the left leg was noticed to be colder than the right and a variable purple mottling was almost constantly present on the skin of the left leg below the knee. These two symptoms persisted from this time onwards In the very cold frosty weather of the winter 1900-1901 the ends of the toes on the left foot became black and purple and gangrene threatened This condition passed off with rest and elevation but returned several times after walking a short distance at one time there was some ulceration The purpuric mottling about this time spread from the leg on to the left thigh hip, buttocks, and the opposite (right) hip and outer side of the right thigh For four months in the summer of 1901 she was in the General Hospital Birmingham and whilst there the toes were at one time very bad but later regained their natural appearance. A relapse again occurred after a journey and walking a little and the toes became painful and discoloured While in hospital she also had an attack of general rheumatic (?) pains in the legs and arms especially in the left elbow with raised temperature. On August 28th 1901, the toes were less well after sitting out of doors in rather cold and damp weather On Oct 1st a sharp attack of bleeding from the gums occurred without any known exciting cause the gums were not at all spongy or sore. On Oct. 7th the patient was found to be better with regard to the pain and the circulation in the legs but lately the hands had been colder and sometimes the fingers blue and the hands mottled with a purplish colour both the radial arteries felt small the general nutrition and appearance were good and the appetite was fair Both the legs were mottled and purplish there was no raised erythema. The left leg was much more mottled than the right and the mottling was most over the malleoli and on the dorsum of the foot. The right great toe was dusky in colour the left middle toe was black at the end and a little dried serum was to be seen on the surface but no moist discharge was ever noticed There was no pain and both feet were warm but they were kept well wrapped up and raised the feet easily became cold and if on the floor for long became painful but not hot. The left dorsalis pedis artery was felt beating but the left posterior tibial artery could not be felt, the right dorsalis pedis artery was not felt but the right posterior tibial was felt beating On Oct. 15th the left little and middle toes were seen to be almost black. On the 17th these toes were slightly better in colour and the right foot had only some mottling on the dorsum no duskiness of the toes. The left foot and leg were noticed to tremble and twitch (this was seen to affect especially the tendons of the tibiales muscles) when the limb was held up unsupported but the right foot and leg did not tremble The left knee jerk was exaggerated the left plantar reflex was absent, the right knee jerk was very much exaggerated a tap set up clonus the right plantar reflex was very feebly obtained Ankle clonus could not be obtained on either side. On Nov 1st, after the leg had been lightly massaged daily for a fortnight the feet were thought to have kept warmer and the toes a better colour on the whole On the morning of the 4th the patient felt better but had complained of a headache for the last two days and the feet were rather colder but this was usual just before the menstrual period which was due that day In the evening at 7 30 while talking to a friend, the mouth began to be drawn to one side then the head to one side, and then she said she was choking and put her hands to her throat Soon after convulsions on one side of the body and twitching of the left arm and leg began and she sweated profusely she spoke and complained of pain over her eyes At 8 30 P.M. there was conjugate deviation of the eyes to the right the pupils were small and equal and reacted to light one eyeball was slightly bulging She was dull mentally but spoke sensibly once occasionally she became restless and excited throwing her limbs about and passed urine under her After this she went to sleep but woke again and was convulsed several times in the night struggling" much latterly Her breathing became noisy at 4 A.M. on Nov 5th and she died at 5 15 A.M.

This case presented an unusual combination of symptoms The tendency to bleeding was shared by a brother, and though not extreme and not traced to a former generation it resembled hæmophilia. The coldness and deficient blood-supply to the lower limbs had some resemblance to Raynaud's disease, but the symptoms were too persistent and progressive and did not intermit with sufficient completeness to agree with the classical description of that disease, moreover, the symmetry was very imperfect. Exacerbations were generally excited by the use or dependent position of the legs and were not truly paroxysmal The mottling of the skin affected the lower limbs high up and even the buttocks and consequently the circulation must have been defective in these parts This suggests some obstruction to the main arteries of the limbs, but the arteries supplying the feet were also not all felt beating in the usual situations An arteritis, or constriction of the smaller arteries, possibly due to nervous influence, seems to be the most likely explanation of the symptoms, but this leaves the ultimate cause and the connexion with the tendency to hæmorrhages unaccounted for Perhaps the neuralgic pains in the limbs were due to deficient blood supply or deep hæmorrhages The final cerebral symptoms preceding death are best explained by meningeal hæmorrhage determined by the increased blood pressure preceding the menstrual period, but intracranial hæmorrhage does not appear to be a recognised cause of death in hæmophilia.

Halesowen

THE ULTIMATE RESULTS IN A SERIES OF 76 CASES OF FRACTURE OF THE TIBIA AND FIBULA.

By R. W MURRAY, F R.C S Eng,

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During the last few years several articles have appeared in the medical journals drawing attention to the treatment and prognosis in the case of simple fractures of the bones of the lower limbs Fractures of the tibia and fibula have perhaps received the chief attention, and although most of the surgeons who have recently written upon this subject express themselves as being dissatisfied with the ultimate results obtained after the so-called ordinary methods of treatment, yet it would be difficult to find any two surgeons who entirely agree as to some of the important details in the remedies suggested For example, one surgeon, believing that the impaired utility of the limb after a fracture of the bones is largely due to hæmorrhage into, and inflammatory thickening of, the soft parts at the seat of the fracture, advocates the early employment of massage. Another surgeon, believing that spasmodic muscular contraction is a very important factor in preventing the correct apposition of the broken fragments, practises tenotomy, while a third surgeon, being convinced that the subsequent utility of the injured limb will be directly proportionate to the accuracy of the reduction of the fracture, does not hesitate to cut down upon the fractured ends and to fix them together with wire or a screw All are, however, agreed that the age of the individual is one of the most important factors as regards prognosis It is a well-established fact that if a child sustains a fracture of the femur or of the tibia and fibula the probabilities are that the ultimate utility of the limb will be in no way impaired.

My personal experience of fractures of this kind in children has been somewhat extensive, for in the 10 years during which I was connected with the Liverpool Infirmary for Children I forcibly straightened—or, in other words, broke—more than 1400 crooked legs In all these cases the fracture produced was a simple fracture either of the lower end of the femur or of the tibia and fibula, according as the deformity corrected was a knock-knee or a bowed leg The after-results were in every way satisfactory in respect to the union of the fracture and the position and utility of the limb When, on the other hand, a fracture occurs in an adult the prognosis for obvious reasons is much more grave and the object of this communication is to try to arrive at a fair estimate of the after-results from these injuries. My original intention was to include fractures of the femur, patella, tibia, and fibula, but for the present I propose to limit my remarks to the treatment and prognosis after simple uncomplicated fractures of the tibia and fibula. For this purpose I wrote to every patient who had been treated for a fractured tibia or fibula at the David Lewis Northern Hospital during the last five years, and I regret to say that the number of patients who responded to my request to attend at the hospital bore a very small proportion to the number of post-cards sent. However, I succeeded in finding at their own homes many of those who did not come, and although the numbers thus obtained are comparatively small the results are interesting and, I think, well worth consideration As the majority of these patients were not under my own care I have to thank my colleagues, Mr Chauncy Puzey and Mr Damer Harrisson, for kindly allowing me to make use of their cases and I am pleased to have this opportunity of expressing my great obligation to Mr Arthur N Walker and Mr C Thurstan Holland for the time and trouble which they have taken in furnishing me with the x ray photographs

In the hospital where these cases were treated, situated as it is close to the Liverpool Docks, we have to deal with a large number of fractures (about 350 annually) and as we therefore have a somewhat exceptional experience in the treatment of broken legs I hope that I am justified in assuming that the results obtained are at least equal to the average results obtained elsewhere

What, then, do these results amount to? I have succeeded in learning the after results of 76 cases and a brief account of each case is given in the appended table In almost every instance the patient was an adult male and the fracture was a so called simple fracture and not complicated by a wound of the big blood vessels, by a dislocation, or by a joint being involved, except, of course, in some of the cases of Pott's fracture I have only included a few fractures in females because I wished to ascertain how far a man's wage earning capacity was interfered with after a simple fracture of the tibia and fibula, in other words, how long he would be off work and how far he would be able to resume his former employmemt This will, of course, depend very largely upon the man's trade The after-result might be entirely satisfactory if he is a tailor or a dock labourer and works on the flat, but the same result may be by no means satisfactory if the man is a sailor, an Everton forward, or a steeplejack. Whether we do or whether we do not, my belief is that we should be able in the majority of cases so to mend a broken leg that whatever a man's trade is he will subsequently be able to follow it.

The depreciation in the wage earning capacity of a labouring man after he has sustained an oblique fracture of the lower third of the tibia is said to be considerable and has been estimated at being somewhere between 40 and 60 per cent I am pleased to find that the results obtained at the David Lewis Northern Hospital, judged by these standards, have been very creditable But however creditable these results may be I sincerely hope that in the future they may be infinitely better, as I firmly believe they should be

Why is it that at the beginning of the twentieth century we are not able to mend broken legs better than we do? I believe that it is in a great measure owing to the fact that in hospitals fractures, as a rule, do not excite much interest, at all events not to be compared to the interest excited in treating a cancer of the pylorus or a cerebral tumour But surely it is better completely and permanently to restore the utility of a broken limb of a healthy man than to prolong the life of a cancerous patient for a few years Owing chiefly to the introduction of antiseptics the advances in abdominal and cerebral surgery have, even in my own time, been little short of marvellous, but the treatment of simple fractures at the beginning of this century is very much the same as it was at the beginning of the last So far as I have been able to ascertain, if a man with a simple fracture of the tibia and fibula, whether the fracture is oblique or not, be admitted into any hospital in England, the great probability is that after the fracture has been "set," with or without an anæsthetic as the case may be, the limb is fixed in a back splint with a vertical foot-piece and side splints I am perfectly well aware that other methods of splinting are employed, but the one which I have mentioned is, I believe, the most usual one.

I do not know whether any practising surgeons have ever had the curiosity to try the ordinary back splint with the vertical foot-piece on themselves, but I have and have found the

TABLE SHOWING THE ULTIMATE RESULTS IN 76 CASES OF FRACTURE OF THE TIBIA AND FIBULA

No	Age in years.	Date of admission to hospital	Fracture	Length of stay in hospital.	Period off work.	Result and remarks
1	55	January 1897	Pott's	5 weeks.	1 year	Very unsatisfactory; the patient walks with a stick and is unable to resume his former work of carter
2	65	April, 1897	Tibia and fibula (lower third oblique)	5	11 months	Patient working as before (boiler maker)
3	61		Tibia and fibula (lower third)	3	6 „	(porter)
4	45	July 1897	Pott's.	3	7	Patient not able to resume former work
5	38	August 1897	Pott's.	4	4	Patient working as usual (coal heaver)
6	37			4	2	„ (labourer)
7	50	September 1897	Tibia and fibula (middle third)	6	?	Patient working as before but lighter work as he cannot walk far (carter)
8	57	October 1897	Tibia and fibula (lower third, oblique)	6	6 months.	Patient working as before (porter)
9	27		Pott's	5	4	(carter)
10	47	November 1897	Tibia and fibula (lower third oblique)	8	4½	(driver)
11	43	January 1898.	Fibula (lower fourth)	7	4	(labourer)
12	39	January 1898.	Tibia and fibula (compound).	8	?	(polisher)
13	30	„	Pott's.	4	2 months.	(labourer)
14	28	February 1898.	„	5	4	Patient resumed former work (fireman) but limps and ankle is painful.
15	48	March 1898.	Tibia and fibula (lower third)	4	7	Patient working as before (labourer)
16	53	May 1898.	Tibia and fibula.	8	5	(stage-man)
17	66		Tibia and fibula (lower third)	6	5	Patient cannot go aloft as a rigger; working as a labourer
18	30	July 1898.	Tibia and fibula (lower third oblique)	4	3	Patient working as before (warehouseman) The seat of the fracture is distinct and some overriding of the tibia is present; there is slight shortening but not sufficient to cause lameness.
19	60		Tibia (lower third)	4	5 „	Patient working as before (carter)
20	32		Pott's.	3	3 „	Patient working as usual (labourer)
21	49			3	3	Patient working as before (overseer)
22	33	August 1898.	Tibia (lower third)	6	3	(porter)
23	38		Tibia and fibula lower third comminuted)	10	10 „	Patient working as before (mason). His foot swells after the day's work
24	38	September 1898.	Tibia and fibula (lower third)	4	3	Patient working as before (foreman)
25	22		Pott's.	3	3	(coal-heaver).
26	69	November 1898.	Tibia and fibula (lower fourth)	5	3	(sailmaker)
27	23		Internal malleolus.	4	3	„ (labourer)
28	21			5	4	
29	28	December 1898.		4	3	
30	19		Tibia and fibula (lower third)	4	3	„
31	50		Tibia and fibula.	6	4 „	„ (coachman)
32	30	February 1899	Tibia and fibula (lower third oblique)	5	?	Five months after the accident the patient was in the workhouse; leg and ankle swollen; unable to put foot to ground; walking with crutches.
33	61	„	Pott's.	4	7 months	Patient not able to resume former work as carter
34	22	„		3	2	Patient working as before (labourer).
35	33	March, 1899.	Tibia and fibula (lower third, oblique)	5	4	Patient walks fairly well, but with a limp; some overriding of fragments Working as before, but leg painful after a heavy day's work (labourer)
36	28	April 1899	Tibia.	3	3	The seat of fracture is distinct at the lower third of the tibia. Result is very satisfactory the patient working as before (labourer)
37	49	May 1899	Tibia and fibula (lower third oblique)	6	8	There is considerable callus at the seat of the fracture Patient not yet able to work walking with a stick (November 1899)
38	21		Tibia and fibula (middle third comminuted).	5 „	5	Patient not able to resume former work of mounting ladder and carrying bricks. Is working as a dock labourer
39	25		Tibia and fibula (lower third oblique)	5	8	Patient not able to resume work as leg is swollen and painful X ray photograph shows obliquity of fracture (labourer)
40	33		Pott's	4	4	Patient working as before (labourer)
41	17	June 1899	Tibia.	8 „	4 „	„ „
42	31	July 1899	Pott's.	3 „	2 „	„ (window cleaner)

TABLE SHOWING THE ULTIMATE RESULTS IN 76 CASES OF FRACTURE OF THE TIBIA AND FIBULA—(*Continued*)

No	Age in years	Date of admission to hospital	Fracture	Length of stay in hospital	Period off work	Results and remarks
43	26	July 1899	Tibia and fibula (lower third, oblique)	3 months	8 months	As no union had occurred a month after admission an operation was performed the ends of the tibia being resected and fixed in position by means of a plate with screws which was removed a month later Result very satisfactory the patient is working as before and can go up and down stairs *easily* the movements of the ankle are free
44	21	August, 1899	Tibia and fibula at junction of middle with lower third	8 weeks	6 "	Patient was admitted in first instance on May 1st and as no union occurred he was re-admitted on August 5th the ends of the bone were exposed and screwed Utility of the limb was perfect He has resumed his former work (bargeman)
45	16	November, 1899	Tibia and fibula (lower third oblique and compound)	3 months.	4 "	When the patient was brought to hospital the lower end of the upper fragment was projecting through his trousers Operation was performed on the same day, the ends of the tibia being united with wire The result is very satisfactory, the outline of the bone being good He can walk and run as well as before
46	27	"	Pott s	1 month	3 "	Patient as before (coal heaver) the movements of the ankle are free Some thickening of external malleolus is present Doubtful if true Pott s fracture
47	33	December, 1899	Tibia and fibula (lower third)	1 "	7 ,	Patient has resumed his former work (carter) No obvious *deformity is present* He walks well
48	42	January 1900	Tibia about the middle	50 days	5 "	Patient working as before (dock labourer) He can go upstairs without pain *His leg as useful as before*
49	38	February, 1900	Pott s	38 "	9 ,	Much thickening of external malleolus is present Patient is working as before (labourer), but not yet full time as the ankle swells and is painful (January, 1901)
50	56	,	Tibia and fibula (lower third, oblique)	2½ months	8 "	Much callus exists at the seat of the fracture and the leg is bent slightly outwards Patient is working as before (labourer), but he cannot go upstairs without pain (January 1901)
51	24	March 1900	Tibia and fibula (lower third, oblique)	6 weeks	7 "	There is marked projection of the lower end of the upper fragment The patient walks well and the leg is quite useful, but the leg and ankle swell at night (January 1901)
52	50		Pott s	1 month	3	Patient working as before (coal heaver) Some flatfoot and pain in leg and foot are present after a day s work (January, 1901)
53	55	May 1900	Dislocation of astragalus and fractured fibula	5 weeks	6 "	The astragalus was reduced under chloroform In January 1901 the general appearance of the foot was normal and movement of the ankle was good The patient was working well and could work as before, but slack time (labourer)
54	44	"	Tibia and fibula (lower third oblique)	65 days	Not yet able to work (13/1/01)	Patient was a heavy man The fracture was a bad one with much swelling and bruising A large bulla formed He had been drinking Slight delirium tremens was present In January, 1901, he was walking with a stick There were considerable swelling of the leg and much thickening at the seat of the fracture The movements of the ankle were impaired
55	23	June 1900	Pott s	4 weeks	3 months	Patient working as before (labourer) Some thickening of external malleolus is present
56	37	July 1900	Pott s	15 days	10 weeks	Patient working as before (waterman) There is thickening of the external and also of the internal malleolus The position of the foot is good and he walks well
57	42	"	Tibia and fibula (lower third oblique)	5 weeks	Not yet able to work. (19/6/01)	The lower end of the upper fragment projects inwards Considerable callus is present The ankle is painful and swells at night The patient walks with difficulty
58	32	August 1900	Pott s	25 days	Not yet able to work. (20/1/01)	Patient cannot resume former work as dock labourer He walks badly and suffers much pain in ankle which swells at night He cannot go upstairs A month ago he bought a small cart and tries to earn a living (January, 1901)
59	48	,	Tibia (about middle)	27 ,	8 weeks.	Patient working as usual (labourer) Considerable callus is present, which, however, is well above the tendons
60	39	"	Tibia and fibula (lower third oblique)	38	Not yet able to work (17/2/01)	Patient is a boiler-maker The outline of the limb is fairly good but the lower end of the upper fragment projects inwards The foot and leg swell at night time He walks with difficulty
61	51	October 1900	Tibia and fibula (lower third)	5 weeks	3 months	Patient walking with a limp (January 1901) but gets about fairly well without any support There is still some swelling at the seat of the fracture She cannot get her boot on
62	32	November 1900	Tibia (about middle)	4 ,	2 "	Patient has resumed his former work (water inspector) The result is perfect as regards function Marked callus is present at the seat of the fracture which however, is well above the tendons
63	45	December 1900	Tibia (middle and also lower third)	6 ,	11 ,	The seat of the double fracture is distinct Much callus is present The outline of the limb is good. The patient walks as well as ever and has resumed his former work (dock labourer)
64	17	January, 1901	Tibia and fibula (about middle)	4	8 "	Patient walked too soon after his discharge and the tibia bent forward. He was re-admitted in April 1901 and was operated upon by Mr Harrison the end of the bone being screwed The final result is excellent as regards function of the limb which is as useful as ever There is much callus which however is well above the tendons He has resumed his former work (labourer)
65	36	March 1901	Tibia and fibula (lower third, oblique)	10 ,	9 ,	In May 1902, the patient had been walking for about five months Now there is considerable limp the heel is drawn up and she has to wear cork inside her boot The foot and ankle are swollen The seat of the fracture is distinct the lower end of the upper fragment projecting inwards

TABLE SHOWING THE ULTIMATE RESULTS IN 76 CASES OF FRACTURE OF THE TIBIA AND FIBULA—(*Continued*).

No	Age in years.	Date of admission to hospital	Fracture.	Length of stay in hospital	Period off work	Result and remarks
66	36	April, 1901.	Tibia (about middle)	2 weeks.	1 month	The seat of the fracture is distinct. The patient is walking with a slight limp Considering how early she walked the result is good (May 1902)
67	51		Tibia and fibula (lower third oblique).	8 "	7 months	As the fracture was oblique and x-ray photograph showed bad position the operation was performed on April 24th, 1901. The ends of the bone were exposed and screwed. The result is very satisfactory The patient walks well and has resumed his former work (labourer)
68	32	"	Tibia and fibula	4	3	The lower end of the upper fragment projects. The patient has a useful leg and walks with a slight limp. Pains are present in the leg and foot. The ankle swells at night (May 1902)
69	30	May 1901	Tibia and fibula, (lower third oblique)	6	3 "	The position of the fragments is unsatisfactory, but the patient declined operation On July 14th 1902, the patient was walking well and without limp or pain; the movements of the ankle were free The seat of the fracture was distinct and marked. The bone end of the upper fragment projected inwards There was a considerable amount of callus The leg for all ordinary purposes was as good as it was before the accident
70	14	"	Tibia and fibula (long and spiral shaped fractures)	9	7	While the patient was in hospital much swelling of the leg was present and it was feared that the result would not be good though the position of the fragments as shown by an x ray photograph was fairly satisfactory In May 1902, the leg was still slightly swollen but he walked well and could run without pain or limp
71	35		Internal malleolus.	5 "	5	There was marked thickening of the internal malleolus The results were very satisfactory In May 1902 the patient was working as before (labourer)
72	35	June, 1901	Tibia and fibula (lower third oblique)	6	8 "	Patient walks with a marked limp and is not able to do heavy work, as the leg is weak and the ankle is painful. Getting upstairs is difficult The lower end of the upper fragment projects (May 1902)
73	16	July 1901.	Tibia, just below the middle (transverse).	7	4½	Patient working as before (engine-cleaner) and the limb is as useful as ever There is not much callus, which is above the tendons (May, 1902)
74	32		Tibia (lower one-fourth oblique)	19 days.	6	Patient walks well and without a limp The limb quite useful for ordinary purposes but he cannot run He has resumed his former work as a groom The lower end of upper fragment projects inwards The leg swells after long standing and some pain is present in the sole of the foot (June 1902)
75	25	November 1901	Internal malleolus.	6 weeks	3	Patient working as before (carter) He suffers no pain or inconvenience from the fracture (May 1902)
76	19	December 1901	Tibia and fibula, at the junction of the middle with the lower third.	5	6 "	Much callus is present at the seat of the fracture and the lower end of the upper fragment projects inwards He walks well and without any limp and says that his leg is quite strong and useful. He has resumed his former work of stage-porter

position a forced one and uncomfortable. A forced one for the reason which Mr Lane was one of the first to point out—namely that when a person is lying on his back the natural tendency is for the feet and legs to rotate slightly outwards. What then happens when we apply this splint for a fractured tibia and fibula? The foot is securely fixed to the [illegible] and prevented from rotating outwards [illegible] being so securel [illegible] so the broken enc [illegible] Nor is this all, [illegible] heel in contact w [illegible] ult to keep it t [illegible] nt on the streto [illegible] ments is necess [illegible] es we have the [illegible] t then endeavour to imitate the natural position of rest as far as possible?

The form of splint which I have found most generally useful for fractures of the tibia and fibula, including cases of Pott's fracture, is a back splint with a foot-piece, but this foot piece instead of being vertical is inclined outwards to an angle of 70° and with the same inclination forwards. A splint so shaped permits of the foot and leg being fixed in the natural position of rest. The patient is more comfortable in a splint of this description and as no endeavour is made to force the foot into an unnatural vertical position there is much less tendency to the formation of a sore over the heel Moreover, the tendo Achillis not being in a state of passive tension (as is the case when the vertical foot piece is used) the tendency to overriding of the fragments is lessened

The leg piece of this splint should be of such a length as to permit of the knee being bent and, after the applications of side splints, to allow the leg and splint to be swung from a cradle. When the fractured bone has firmly united say at the end of four weeks, movements of the ankle and knee joints should be encouraged and massage practised if available The mistake usually made is keeping the injured limb in a state of immobility for too long a time If the fracture has been an oblique one it should be remembered that the newly formed callus will have to bear the strain of the body weight, and consequently will be apt to "give" if the patient rests the full weight of his body on the injured limb before the end of the third month

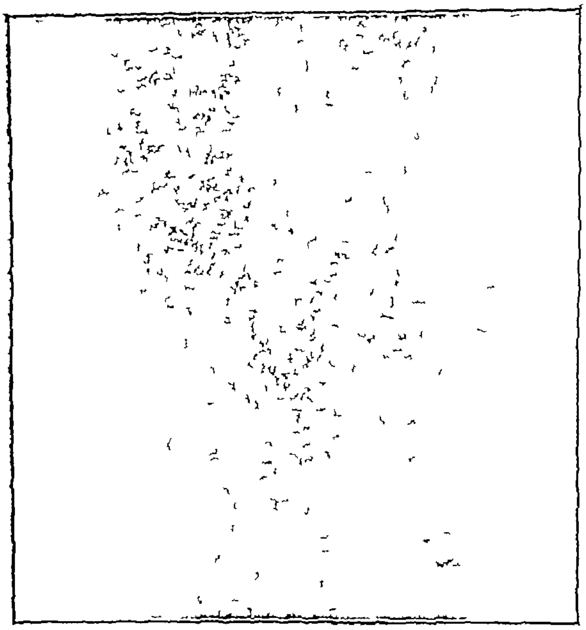
But whatever form of splinting is employed I feel sure that in a certain proportion of cases of simple fracture of the tibia, more especially when the fracture involves the lower one-third of the bone and is of the oblique or spiral character try as one will, even with the patient under the influence of an anæsthetic, one will fail to obtain a satisfactory apposition of the broken ends of the bone because it is practically impossible by splints alone to get the broken ends in accurate position and to keep them there. If anyone doubts the accuracy of this statement let him have an x ray photograph taken of such a fracture after the splint has been applied I wish this was much more frequently done than it is at present, and when there are facilities for doing so I would suggest that it be always done in doubtful cases

What is it that prevents the replacement of the fragments? After some experience in operating upon these cases, I feel sure that Mr Lane is correct when he says:

"Spasmodic muscular contraction affords a very slight and transitory obstacle to the replacement It can be measured and placed in abeyance for the time being by putting the patient under an anæsthetic In simple oblique fractures the chief obstacle to replacement of the fragments in accurate apposition is hæmorrhage into and inflammation of, the soft parts." And I would add another factor occasionally met with—namely, the piercing of adjacent muscles and fascia by the sharp ends of the broken bone.

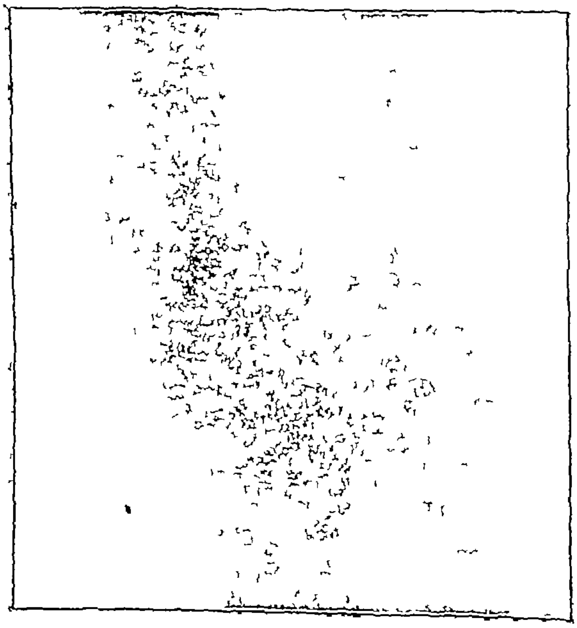
I take it that all surgeons are agreed that the more completely a fracture is reduced the better, and there can, I think, be no doubt that if "accurate apposition" of the broken ends of the bone is essential in order to restore the complete and perfect utility of the injured limb the logical conclusion must be to cut down upon, and to expose, the broken ends in the vast majority of cases. But is such a procedure either necessary or justifiable? For my own part I have no hesitation in saying, Certainly not. Any surgeon who has really interested himself, not only in the *immediate* treatment of fractures, but who has also followed *his cases* to a conclusion, must realise that although it is practically impossible, for reasons which I have mentioned, *to obtain by* any means short of operative interference accurate apposition of the broken ends of the bone, still, clinically, the results in many such cases have been perfect even when the line of fracture has been of some obliquity. At the same time I am sure, speaking as a hospital surgeon with a labouring man as a patient, that there is a considerable number of cases in which operative treatment is not only justifiable but urgently called for.

FIG 1 (CASE 76)



Simple fracture about the middle of the tibia and fibula Skiagram taken at the time of the accident.

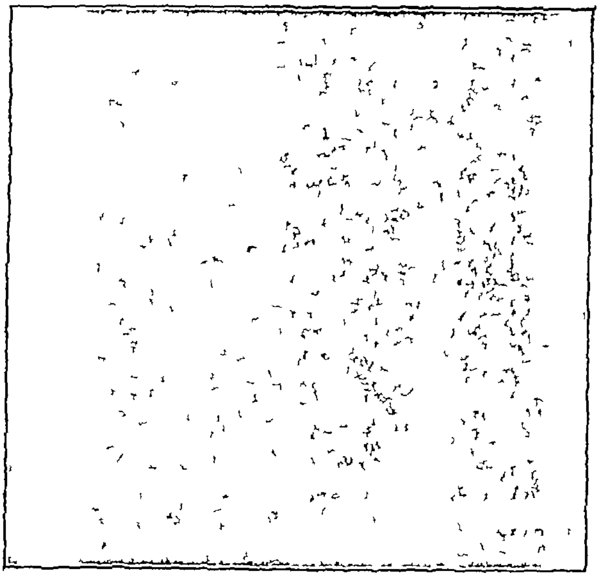
FIG 1A



After recovery No operation useful limb

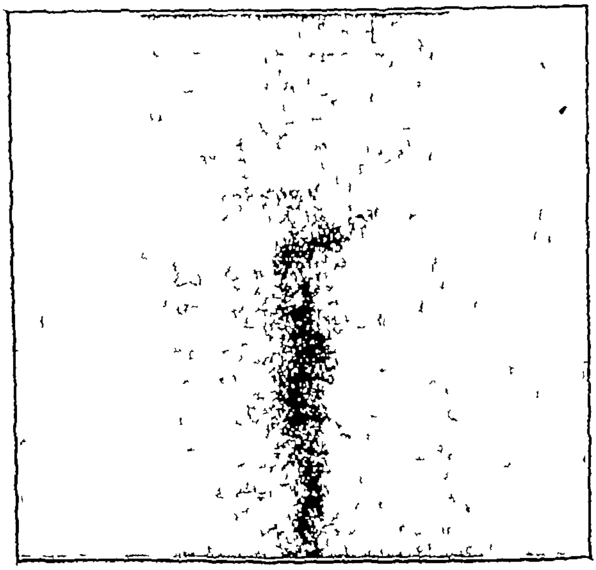
In deciding for or against an operation in any individual case the employment of the patient and the position and character of the fracture as determined by the x rays should be carefully considered. As regards the position of the fracture, if it is situated in the upper two-thirds of the tibia—namely, that part of the bone above the position of the tendons—operative interference is seldom called for. If on the other hand, the lower one-third of the bone is involved and the fracture is oblique or spiral shaped, I would suggest that if after the fracture has "set" one half or more of the fractured surfaces are in contact, and provided that there is no rotatory displacement, an operation is

FIG 2 (CASE 66)



Before operation

FIG 2A.



After operation.

not called for in the majority of such cases but if these conditions cannot be obtained the broken ends should be exposed and fixed securely and accurately together Though undoubtedly there are cases in which the x rays, if they are to be trusted, clearly demonstrate not only an oblique fracture involving the lower one third of the tibia but also show that considerably less than one half of the fractured surfaces are in contact, and yet the patients have recovered with the utility of the limb restored, still I am convinced that such recoveries are the exception I have a photograph of a fracture which is an excellent illustration of this point. (See Fig 1 and 1A.)

In cases of a doubtful nature the employment of the patient will probably turn the balance for or against an operation. A leg with its utility slightly impaired might still serve all the purposes of a tailor but the same degree of deficiency would render it useless to a postman. At the same time it would be idle to deny that there are certain risks in operating for although it would appear to be a simple enough procedure, judging from the x ray photograph, still the actual operation is often one of considerable difficulty A very free incision is advisable and the chances of sepsis will be considerably diminished if the operator and his assistant keep their fingers from contact with the wound. I do not propose to deal with compound fractures of the tibia, but cannot refrain from mentioning that the results are frequently much better than after a simple fracture no doubt owing to the wound relieving the soft parts of extravasated blood and inflammatory products. Further the practice, which I presume is now universal, of enlarging the wound for cleansing purposes permits of a view of the actual position of the bones—strong arguments, by the way in favour of operating for simple fracture. (See Fig 2 and 2A.)

Passing now to the consideration of the cases of so-called Pott s fracture I say 'so-called advisedly for in many cases that are diagnosed as Pott s fracture the injury sustained is by no means so severe as at all to answer to the *original description of Mr Percival Pott.* And this criticism would probably apply to several of the cases in the appended table Here, again I maintain that the x rays should be frequently employed, for in a few hours the swelling of the foot and ankle makes it practically impossible correctly to estimate by ordinary means the exact nature of the injury and the relative position of the broken bones.

From x ray photographs which I have had taken of Pott s fracture I would say that the usual defect remaining after reduction is a slight displacement outwards and backwards The form of splint which I have already suggested will be found especially useful for this class of fracture, for if the foot is forced into a vertical position the tension on the tendo Achillis will tend to exaggerate the already slight displacement of the foot backwards. When a fracture is close to a joint early passive movement and massage are of great importance, and after a Pott s fracture this line of treatment should be adopted at the end of the third week. I have never considered it necessary to operate upon these cases and feel sure that the indications for doing so must be very exceptional.

It only remains for me to say in conclusion, that I have *personally investigated the after results in every case here* recorded, which although a somewhat troublesome procedure is, I believe, infinitely better than collecting the mere general impressions of others, for general impressions are apt to be somewhat misleading, and if my small effort will only induce surgeons to take more interest in their cases of fractures, and so bring this branch of surgery more in a line with the general surgical advance, I shall be satisfied

Liverpool.

An Unruly Workhouse Inmate.—At the meeting of the Warminster board of guardians held on August 25th a discussion arose about a workhouse inmate who had assaulted the master and porter and had threatened " to swing for the medical officer " The man had been sentenced to four months imprisonment, but as he was destitute the chairman said that he would probably return to the workhouse at the expiration of his sentence. It was decided to write to the Local Government Board asking if the Board would sanction any exceptional treatment in regard to the man, as the guardians felt that they must protect their officers whilst discharging their duties

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THE CHOICE OF AN ANÆSTHETIC FOR SHORT OPERATIONS UPON THE THROAT AND NOSE[1]

By J Henry Chaldecott L.R C.P Lond,
F F.P S. Glasg.

Anæsthetist to the Metropolitan Throat and Ear Hospital and
Italian Hospital; Late Assistant Anæsthetist to the
Central London Throat Nose, and Ear Hospital.

By short operations I mean those which can be performed during the time which elapses between the removal of the anæsthetist s mask and the patient s return to consciousness. The most common of these are tonsillotomy and the removal of adenoids posterior and anterior turbinectomy, removal of nasal spurs and polypi and draining the antrum of Highmore through the alveolus. The anæsthetic agents which we have to choose from are chloroform A.C E and C E. mixture nitrous oxide, nitrous oxide and oxygen, nitrous oxide and ether ether, and chloride of ethyl.

Tonsillotomy and Removal of Adenoids.

The enormous number of these operations now performed renders the choice of a suitable anæsthetic a very important matter The operation *per se* entails no immediate risk to life, and one can hardly conceive the possibility of a patient dying on the table or in the chair if operated upon without an anæsthetic. It follows then, that any fatalities which have occurred have been caused by the anæsthetic employed and so far as I have been able to ascertain the anæsthetic has in every recorded case been chloroform or some mixture containing *chloroform. I have collected a list of more than* 50 recorded deaths under chloroform given for this operation including children and adults cases in which the chloroform was given by specialists in anæsthetics and cases *in which it was administered by general practitioners and* house surgeons cases of death at all stages of the procedure, before the commencement of the operation, during the operation and after its completion. Now this list lays no claims to being exhaustive and could probably be largely increased. What, then, is the obvious deduction? That here we have an operation which ought to be and is in itself absolutely free from immediate danger perverted by the use of chloroform into one of the most immediately deadly of any in the long list of surgical operations. Is there any one surgical operation—major or minor—which can claim such a record of deaths upon the table? I doubt it. Could any or all of these fatalities have been avoided? I think so, and how? by avoiding the use of chloroform. In 1897 in a paper read before the British Medical Association by Dr Waller the author remarked I am greatly astonished that, in the face of the clinical experience of the last 50 years, chloroform should still be employed for the purposes of minor surgery " These words were spoken in 1897 and since then more than 30 *recorded* deaths from chloroform have taken place during adenoid operations only

Now what was the cause of death in these cases? In a *small percentage of the cases blood was found post mortem* in the larynx trachea, and bronchi, death having been apparently due to this cause but in the majority no such cause was discovered and the patients had apparently succumbed to an overdose of chloroform and it is easy to appreciate, firstly that adenoid subjects whose intake of oxygen is already insufficient, are very likely subjects to be poisoned by chloroform and secondly that a gasping and coughing patient, with perhaps his mouth half full of blood, is quite likely if the chloroform is continued during the operation to get a very intermittent supply—none one inspiration and perhaps a deadly dose the next. With reference to those who died from blood in the air passages we may be told that these accidents would not have happened if the chloroform had not been pushed far enough to abolish the cough reflex. Quite so but it is by no means easy in all cases to know exactly when anæsthesia has arrived at that particular point, and with chloroform one is also met by the difficulty that the patient may pass into deeper anæsthesia after the removal of the mask. I do not dispute this a longer anæsthesia after the removal of the mask can be obtained with chloroform than with any other anæsthetic, but I maintain that in order to obtain that increase of time the drug must be pushed to the extent of abolishing the cough reflex or perilously near it, and that an anæsthesia which stops short of that point has no advantage whatever over ether narcosis and is infinitely more dangerous

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[1] A paper read at the Metropolitan Throat, Nose and Ear Hospital

What, then, are the alternative methods? Infants aged less than 12 months should be given ether on an open mask. Children from one to four years of age do not take N_2O well, especially if they have large tonsils, but, as a general rule, they take ether without any trouble at all from a Clover's inhaler, with or without the bag, according to the ease with which they go under For children from four to 12 years of age N_2O will generally do, but if when pressed it causes much jactitation and rigidity it is better to give a little ether In adolescents and adults the operation can be done under gas alone in most cases, indeed, a rapid operator will frequently remove in the time allowed by N_2O anæsthesia tonsils, adenoids, and the posterior ends of the inferior turbinals What a rapid operator will do under gas only an average operator will do easily under gas and ether

Gas and oxygen is perhaps *slightly better than gas or gas* and air, but for these operations the apparatus is rather inconvenient, and as a matter of fact, we find that gas or gas and ether meet our demands The purified chloride of ethyl used as a general anæsthetic is still under trial, but from the results I have had in about 80 cases I doubt if it has any advantage over ether, and it is certainly less trustworthy and more tedious to administer

What do the critics of these methods say? Their first objection is that the operation cannot be satisfactorily and completely done under this form of anæsthesia Now, this method has been in vogue at the Metropolitan Throat, Nose, and Ear Hospital and at the Central London Throat Hospital for 12 years, during which time 20,000 cases have been so operated upon. Is it seriously suggested that the surgeons attached to these two hospitals have not learnt in 12 years whether or not they can clear a naso-pharynx of tonsils and adenoids in the time allowed by a gas or gas and ether anæsthesia? If at these hospitals these operations were habitually only half done would there not be an ever-increasing back flow of recurring cases? As a matter of fact, the percentage of recurrences is very small and certainly not greater than that of cases done under chloroform elsewhere The second objection which is raised is that gas and gas and ether cause more hæmorrhage than chloroform Even supposing that they do so, unless it can be shown that they cause *dangerous* hæmorrhage the objection ought not to be taken into account against the risk to life which I have shown is entailed by the employment of chloroform, but, personally, I believe the objection to be purely fanciful. I can only say that amongst the several thousands of these operations which I have seen and assisted at I have never seen a case of alarming or even of serious hæmorrhage We are told that while chloroform kills on the table, ether kills by its after effects, and with prolonged administrations this is doubtless sometimes true, but the objection does not, of course, apply to short inhalations of ether such as are employed for the operations in question.

Gag—The best gag for these cases is certainly Doyen's, and it should be applied before the administration of the anæsthetic.

Position.—For gas or gas and oxygen the sitting position is very much the best For ether or gas and ether some surgeons prefer the recumbent position, and it is not a matter of much importance From an anæsthetist's point of view I prefer the sitting position as being more cleanly and as obviating the necessity of using mops or sponges

The other operations on the list can all be done under gas, gas and oxygen, or gas and ether, and there is never any necessity for the use of chloroform.

In conclusion I should like to explain that I do not suggest that the methods which I here advocate are confined to the two hospitals named, I only quote them because I have personal experience of their work and access to their records. Nor do I wish to be misunderstood in my attitude towards chloroform, which in suitable cases I regard as *facile princeps* of anæsthetics The points that I wish to emphasise are (1) chloroform has been the means of destroying more than 50 lives during adenoid operations and cannot, therefore, be regarded as other than a *dangerous* anæsthetic in this particular class of case, (2) at least five of these deaths have occurred in the practice of anæsthetists of the highest possible skill and experience, and (3) thousands of these operations are performed every year under gas and gas and ether without a single death and with hardly an anxious moment. In view of these facts, are we justified in subjecting patients to the absolutely unnecessary risk of chloroform anæsthesia? I think decidedly not.

Welbeck-street, W

A CASE OF TRAUMATIC RUPTURE OF THE SPLEEN, REMOVAL FOLLOWED BY EMPYEMA AND RECOVERY

BY EDGAR BEAUMONT, L R C P LOND, M R C S ENG,
SURGEON TO THE NORWOOD COTTAGE HOSPITAL,

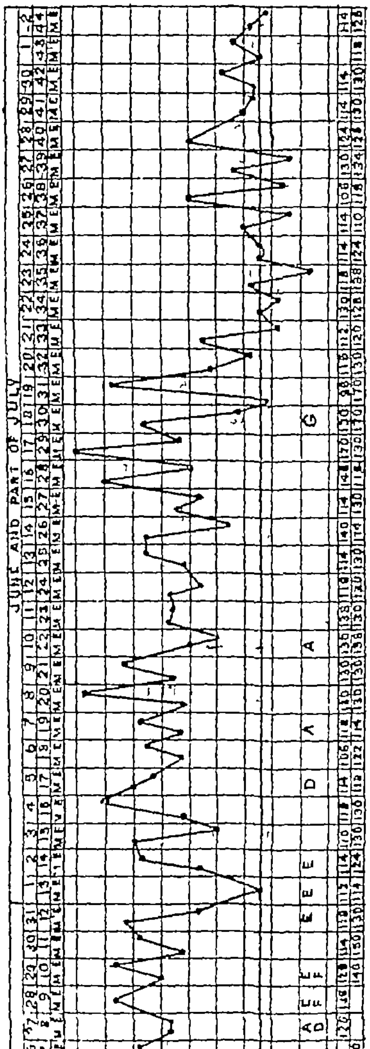
AND

EDWARD HOUSEMAN, M B, B C CANTAB,
LATE HOUSE SURGEON TO ST GEORGE'S HOSPITAL

THE patient was a youth, aged 17 years, who was brought into the Norwood Cottage Hospital on the evening of May 20th, 1902. There was a history of his having fallen from a wagon, one wheel of which passed over his body On examining the youth we found that he was suffering great pain in the left loin There was a bruise over the ninth and tenth ribs in the posterior axillary line of the size of the palm of a man's hand. His temperature was 97·6° F, his respirations were 24, and his pulse was 100 His breathing was not markedly thoracic and there was an absence of rigidity of the abdominal muscles There was no evidence of fractured ribs, but there was dislocation of the acromial end of the clavicle and a fracture across the infra spinous fossa of the scapula with a large hæmatoma under the bone A few hours after admission the boy became very restless and the distension of the abdomen, with loss of liver dulness, brought forcibly to our minds the fact that there was severe abdominal lesion and decided us to open the cavity without delay Chloroform and ether were administered and we were then able to feel distinctly a loose body in the left hypochondrium which we took to be, and which ultimately turned out to be, a portion of the spleen In consequence of the loss of liver dulness we thought it likely that there might be intestinal injury as well, so we decided on a median incision.

We made a free incision in the middle line and on opening the peritoneum found the cavity full of blood clot. In addition there was a welling up of blood, showing that active hæmorrhage was still going on. There was no free gas in the cavity On pressing the hand into the cavity the spleen was instantly felt to be in two pieces, and on finding and holding the vessels between the finger and thumb the hæmorrhage was controlled The spleen was then drawn forward to the surface, the pedicle was clamped, and after separating the tail of the pancreas from the hilum was transfixed, tied, and divided and the spleen removed The abdominal cavity was then flushed with several gallons of hot sterilised water and the abdomen closed There was considerable ecchymosis of the intestines

The patient by this time had become very collapsed, so 15 minims of liquor strychninæ were injected hypodermically before he was removed from the table and hot salt-water injections per rectum with five minims of liquor strychninæ hypodermically were continued every three hours during the night. Next morning we found the patient fairly comfortable, the pulse, which had been 160 after the operation, had come down to 120 He had not vomited, but there was still absence of liver dulness and the patient lay on his back with his knees drawn up He was unconscious and moaned incessantly His temperature was 101 5° He remained in much the same condition until the third day after the operation, when his temperature suddenly shot up to 105° He became violently delirious, restless, and sweated profusely, there was diarrhœa and urine was passed under him, so we decided to dress the wound, which we found apparently healthy The abdomen was *slightly distended but moved* freely and did not seem tender On the sixth day after the operation we found some fluid effused at the base of the left lung, so we aspirated and removed six ounces of decomposing blood with an almost fæcal smell. As there had been no



A Operations first, second, third and fourth B Hypodermic injection of morphia. C, Tepid sponging D Aspiration of fluid E, Injection of anti-streptococcic serum. F Stitches removed. G Irrigation. Temperatures were taken every four hours; only those taken at 10 A.M. and 10 P.M. are shown in this chart.

fracture of ribs at the time of the accident we concluded that this had probably come through the diaphragm from the abdominal cavity and so we decided to explore the subdiaphragmatic region.

With this object we made an incision in the loin from behind forwards, the centre of the incision being over the angle of the eleventh rib We resected the lower ribs and so were enabled without difficulty to examine the stump of the spleen. Not finding any pus we closed the opening On this we concluded that septicæmia was the cause of his high temperature and general condition, so we made an examination of the blood and found streptococci in large numbers. We therefore commenced the hypodermic injection of anti *streptococcic serum and gave him 90 cubic centimetres* with little effect on his temperature and within four hours he developed a very large pleural effusion on the left side only the dulness extending up to the clavicle so we aspirated and withdrew two pints of fluid slightly blood stained and sweet. We continued the injection for four days during which time we used 330 cubic centimetres of the serum On the morning of the fifth day after these injections had been commenced the temperature came down to normal and the patient was quite conscious for the first time for nine days. All the wounds including the hypodermic punctures became about this time septic in spite of antiseptic dressings, so we swabbed the worst of them with pure carbolic acid. After this treatment they cleaned up very much. On June 5th 15 days after the original operation we found signs in the left chest about the angle of the scapula of a localised empyema, so we aspirated and found pus and subsequently resected considerable portions of the seventh and eighth ribs. There was free discharge of pus for several days, but the temperature remained high, reaching 104° and 105° daily The cavity was washed out with a weak solution of lysol and remained sweet but as the temperature remained high we decided to try the effect of the frequent application of pure oxygen through a tube passed into the pleural cavity This treatment was attended by the most satisfactory results. The temperature came down to normal the discharge ceased and a general repair commenced in all the wounds With the exception of the wound leading into the pleural cavity all are now healed this is rapidly closing and the lung is expanding well and filling the cavity The patient is in good general condition eats and sleeps well and spends his time in the garden.

Remarks —The following points are of interest in this case. 1. The absence of collapse and comparative slowness of pulse in so severe an abdominal injury 2. That since the removal of the spleen the pulse has never come below 112, although the patient is now in comparatively good health. 3 We have noticed that since the removal of the spleen there has been marked general enlargement of lymphatic glands with anæmia. 4 The very slight reaction to exceptionally large doses of anti streptococcic serum although to get different strains we obtained it from different sources 5 The extraordinary general and local improvement which took place at once on the application of oxygen to the pleural cavity

Addendum —At this date (Sept. 8th) the patient is perfectly recovered and is to all appearances in as good health as before the accident He is occupied in light gardening &c. His pulse rate still remain however, at from 112 to 120

Clinical Notes

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A PECULIAR CASE OF SCARLATINA HÆMORRHAGICA.

By J DUNCAN HOWE, M R.C.S ENG

FORMERLY ASSISTANT MEDICAL OFFICER, MONSALL FEVER HOSPITAL, MANCHESTER.

THE following are notes on a case similar to the one reported by Dr C D. Boinville in THE LANCET of August 9th, 1902, p 359

The patient, a boy aged six years suffering from necrosis of the right tibia, had been an inmate of the Cheadle

Convalescent Home for six weeks On Sept 8th, 1885, an erythematous blush was observed around the wound on the right leg On the 13th it was elicited that he had been restless during the night and on waking in the morning the trunk and limbs were covered with a red rash There was no sore throat, rigor, or vomiting The temperature was 99° F. On the morning of the 14th the patient was admitted into the Monsall Fever Hospital. The temperature then was 103° and the pulse was 132. The body and limbs were covered with a brilliant red, fine punctate rash and the cheeks were very red, but there was no cervical glandular enlargement The right tonsil was ulcerated and there was a small yellow patch on it, the left tonsil was enlarged and injected and the fauces and conjunctivæ injected. In the evening the temperature was 99·2° and the pulse was 116 The patient progressed favourably as regarded the scarlet fever Desquamation began on the 19th and continued normally Nothing further was observed or reported about the case until Oct 7th, the twenty fifth day of the illness, when there was difficulty in micturition. On examination there was found œdema of the skin of the penis and prepuce, but not of the scrotum. It was relieved by acupuncture and there was no further trouble On the 8th a large square purple patch, two inches by two inches, surrounded by a light-red halo, was observed on the inner side of the calf of the left leg On the 9th a similar patch appeared on the outer side of the right thigh It was of about the size of the palm of the hand. At 5 30 P M it had extended upwards as far as the groin and downwards to the knee, and encircled the whole thigh and was spreading to the buttock. The parts implicated, which were tense, smooth, and shining, did not pit on pressure but were hard There was no pain or tenderness The patch on the right leg had not spread since the previous day The cuticle over it was raised and the subjacent part looked like a piece of raw liver There was no œdema of the penis or the scrotum. The rest of the body presented a blanched appearance. Treatment had no effect in stopping the progress of the hæmorrhage There were no hæmorrhages from the interior of the body The patient died quietly on the morning of Oct. 10th.

Preston

TWO CASES OF FOREIGN BODIES SWALLOWED AND THEIR TREATMENT

BY H. W BOREHAM, M B EDIN

THE first of these cases was that of a woman who had swallowed three false teeth with their plate, which when *in situ* was attached to the molars on either side of the upper jaw by means of the ordinary wire arrangements One of these latter had been broken, leaving a sharp point about a quarter of an inch long directed straight outwards from the plate. The woman was in a great state of nervousness and complained of considerable pain in the epigastrium. After the administration of 20 grains of bromide of ammonium she was given bran and coarse porridge with small pieces of thread in large quantities, allowing the minimum amount of fluid The pain soon left her and in the course of two days she passed without any pain the plate which was found to be encased in the thread and bran, forming a solid mass

The second case was that of a man who had swallowed a pin He was treated in the same manner with an equally good result.

In my opinion it is very important that in such cases as little fluid as possible should be allowed during the first two days, and that the bowels should be kept somewhat confined, by the use of opium if necessary, until the foreign body has been passed

Swindon.

A METHOD OF TREATING TRAUMATIC TETANUS

BY DR. S ZLOTOWSKI.

IN 1877, when holding the position of chief of the surgical department of the Imperial Ottoman Military Hospital, Gumush Son, at Constantinople, I had occasion to remove the terminal phalanx of the index finger of a soldier On the third day after the operation trismus set in and on the fourth day there was opisthotonos with violent spasms No benefit being derived from treatment on the ordinary lines I had recourse to a method which has not, so far as I know, been mentioned in medical literature Attached to the hospital there was a Turkish bath which was being used day and night The patient, in a state of universal rigidity, having been taken there was kept lying on a hot marble slab and every four hours was put into a hot bath for 30 minutes This treatment succeeded admirably The spasms ceased, the breathing became more free, and the tetanic symptoms diminished. Before the expiry of the first six days the patient felt comparatively well, the trismus and opisthotonos almost disappeared, he could walk about and even take solid food, and he was very averse to persevere with the treatment which I was intending to continue for at least a day or two longer Disobeying orders he made his way out of the bath premises to another part of the hospital, but had hardly arrived there when the tetanic symptoms returned with great severity I therefore had him carried back to the bath and resumed the treatment. The symptoms immediately improved and after 14 more days in the Turkish bath and 24 days' treatment in the wards he was able to return to his regiment quite recovered The last patient whom I have treated for tetanus was a woman, about 35 years old, who had run a rusty nail into the sole of her foot As there was no Turkish bath at hand I had a stove put into a room the temperature of which was kept day and night at 35° R. In this room she had a hot bath every three hours, remaining in the bath for 30 minutes After 14 days' treatment in this heated room she was entirely cured.

This method used by me can be applied in any house or even hut The temperature of the room is kept between 32° and 35° R. (between 104° and 111° F) and every three hours the patient has a hot bath of 30 minutes' duration. Morphine injections along the vertebral column are used for the purpose of soothing pain. The result of this treatment, which must be continued for at least 15 days, will always, I think, be satisfactory

Rustchuck, Bulgaria

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere et inter se comparare —MORGAGNI *De Sed et Caus Morb.*, lib iv, Prœmium

BIRMINGHAM GENERAL HOSPITAL

A CASE OF HÆMATURIA OF MANY YEARS' DURATION DUE TO VILLOUS PAPILLOMA OF THE RENAL PELVIS, NEPHRECTOMY

(Under the care of Mr GEORGE HEATON and Mr LEONARD PARKER GAMGEE.)

VILLOUS papillomata of the pelvis of the kidney are extremely rare, but histologically they are indistinguishable from the villous growths of the bladder They may affect both kidneys,[1] and a case has been recorded by Murchison[2] in which not only were both kidneys affected by these papillomata but a similar growth was found in the bladder at the orifice of each ureter

A man, aged 48 years, while at work one day nine and a half years ago felt "something go in his left side" On the next day he noticed blood in his urine and for two days afterwards the hæmaturia was very severe After this there was a complete absence of symptoms for six months, but at the end of that time the hæmaturia returned and the patient was admitted into a hospital near Birmingham. There the left kidney was exposed by the lumbar operation but with a negative result. For some time after this the attacks of hæmaturia recurred at intervals of about six months, and eight years ago, during an especially severe attack, the man was admitted into the Birmingham General Hospital under the care of Mr Heaton, and as the bladder was distended up to the umbilicus with blood clot suprapubic cystotomy was performed but no source of bleeding could be found in the bladder. There was no hæmaturia for three months after this but then the attacks began to increase in frequency and the patient was admitted into the same hospital as on the first occasion and his right kidney was explored but also with a negative result. The hæmaturia continued and four years ago the left kidney was again explored in the same hospital but with a similar result.

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[1] J Bland Sutton: Tumours, Innocent and Malignant second edition, p 225

[2] Transactions of the Pathological Society of London, vol xxi, p 241

The patient was readmitted into the Birmingham General Hospital two and a half years ago and the bladder was examined with the cystoscope but no source of the bleeding could be found. Since that time he had had almost constant severe pain in the left loin and had passed blood every day. On Jan. 1st, 1902, he was again admitted into the Birmingham General Hospital. He was very anæmic, was passing a large quantity of blood each time he micturated and on bimanual examination his left kidney was felt to be much enlarged. He also complained of constant aching pain in the region of the left kidney. As previous explorations of the kidney had been without result it was decided that the best course to adopt would be to perform lumbar nephrectomy. Accordingly on Jan. 10th, this was done by Mr Gamgee, the operation proving to be difficult owing to the very dense adhesions resulting from the two previous operations. The patient made an uneventful recovery and is at the present time in good health and free from hæmaturia.

The kidney after removal was found to be of about twice the normal size of the organ. The renal pelvis was dilated and completely filled with a diffuse villous growth which was growing from the whole of the lining wall of the pelvis there being apparently no part of the wall free from growth which however did not extend down the ureter. The kidney substance had completely disappeared only a fibrous walled sac remaining. The inner lining of the sac wall was over about two-thirds of its area covered with villous growth which did not fill the sac to the same extent that the pelvis was filled. On microscopic examination the growth was found to be a non malignant villous papilloma.

Remarks by Mr GAMGEE.—The existence of a villous papilloma in the pelvis of the kidney gives rise, in the first instance, to symptoms strikingly like those caused by the presence of a similar tumour in the bladder—namely intermittent profuse hæmaturia with intervals of freedom from symptoms. In this case at the time of operation the enlargement of the kidney had given the first definite information as to the source of the bleeding and it was felt that nephrectomy and not simply another exploration, would be the best treatment. Notwithstanding that the growth had been in existence for such a long time, the interior of the ureter was apparently free from growth though it is a well known fact that such a growth occurring in the pelvis of the kidney may extend down the ureter into the bladder. The irritation caused by the presence of a calculus may give rise to a villous papilloma in the renal pelvis, but in this instance it does not seem possible to assign any direct cause. The case came under my care owing to the absence through illness of Mr Heaton to whom I am indebted for permission to use the notes relating to the past history of the patient and for valuable advice concerning the treatment of the case.

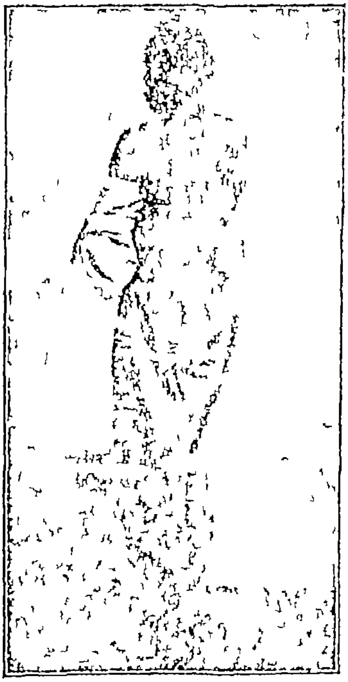
CIVIL HOSPITAL, HALFA, SOUDAN

A CASE OF LUMBAR HERNIA

(Under the care of Mr A. WEBB JONES.)

LUMBAR hernia is a hernia through or in the neighbourhood of the triangle of Petit. The size of this triangle varies greatly in different persons. It consists in an interval left between the latissimus dorsi and the external oblique muscles and sometimes these overlap at their attachment to the iliac crest, so that then no triangle of Petit exists. In many cases of lumbar hernia an abscess has weakened the abdominal wall at this spot in others there is a clear history of local injury. These herniæ have a great tendency to strangulation[1] and in the first case of which we have any record the patient died from the strangulation in 1731.[2] Ravaton[3] in 1738 operated successfully on a strangulated lumbar hernia. Mr Edmund Owen's[4] case was the first in which a radical cure was performed of a hernia of this form and below is recorded a very successful radical cure of a large lumbar hernia.

In a fairly typical case of lumbar hernia the patient was a well-developed male Soudanese, aged about 45 years. He had noticed the swelling for some four or five years and had lately had considerable trouble from local pain and tenderness, with constipation and dyspepsia. The patient could not recall any special blow or strain to which one might attribute the protrusion but of course any such details from a native of his mental calibre would be of little value. For some days previous to the operation his evening temperature ranged between 99° and 100° F. On examination the right lumbar region presented a large fluctuating tumour roughly oval in shape but of slightly irregular outline. It extended from the level of the iliac crest inwards and upwards towards the spine and overlapped the lower three or four ribs. The mass gave one the impression that it was to a great extent composed of fat, but on reduction—which was easily effected through Petit's triangle—a distinct gurgle was to be felt. The impulse on coughing was very well marked. Over the site of Petit's triangle was a broad scar about two inches long. Mr Jones was of opinion that this was the result of a mere superficial cut and had no causal relation to the hernia. (It should be mentioned that the habit of making *skin cuts with a razor either for* cosmetic or medicinal effect is very common amongst the



Lumbar hernia.

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[1] Macready, THE LANCET, Nov. 8th, [illegible], p. 973.
[2] Garangeot, Traité des Opérations, p. [illegible]
[3] Traité des Plaies d'Armes de Feu, 17[illegible]0.
[4] THE LANCET, May [illegible], p. [illegible]

Soudanese.) In the left lumbar region there was a slight undue fulness, apparently consisting of fat (perhaps subperitoneal in origin and the forerunner of a hernia), but this gave rise to no symptoms The patient also presented a left inguinal hernia of moderate dimensions.

An operation with a view to a radical cure was commenced by an oblique incision downwards and forwards over the site of the triangle After retracting the edges of the external oblique and latissimus dorsi the lumbar fascia was incised. Here a large lobulated mass of adipose tissue presented. The depths of the opening appeared to be divided, so to say, into an upper and lower division by some fibrous bands, above and below which portions of the fatty tissue protruded. Traction on this tissue brought into the wound the ascending colon, which appeared somewhat dilated and thickened After removing the fat and reducing the colon, the edges of the latissimus dorsi and external oblique were united with silkworm gut and the wound was closed. Primary union was obtained and recovery was uneventful

Remarks by Mr. Jones —Herniæ in the region of Petit's triangle, other than those following abscess, are so uncommon that an account of a fresh case may prove of interest. Looking at the somewhat imperfect records of 25 old cases[5] one is able to generalise on the common features of this rare condition With regard to etiology the sexes are almost equally represented, whilst the majority of the herniæ appear for the first time at middle age Three of the 25 cases occurred in infants, but one of these followed an old psoas abscess By far the gravest characteristic, however, of this variety of hernia is its very marked tendency to produce symptoms of local pain, constipation, or even strangulation. Of the 25 cases referred to above no less than four became strangulated, five are said to have been from time to time the cause of vomiting, colic, or constipation, whilst six only are stated definitely to have given no trouble , the rest are without details One case was bilateral and associated with an inguinal hernia. In two instances the diagnosis was at fault and the bowel was damaged, the surgeon being under the impression that he was incising an abscess

The question of the existence or non existence of a sac in these cases is a matter of great interest. In Dr G H Hume's[6] case (operated on for strangulation) a sac is mentioned, but no post-mortem examination was made In Mr E Owen's[7] case (radical cure in a small child who developed a hernia after an old psoas abscess) the point was not investigated. In the case dissected by Mr J Hutchinson, jun ,[8] no sac was discovered, but he suggests that the elasticity of the peritoneum together with its loose attachment in this region might allow of some protrusion through the opening with intra abdominal strain, the peritoneum recoiling, with the reduction of the hernia to resume its normal position. I am of opinion that probably such may have been the case to some extent in my own patient. The protrusion of the fatty tissue and colon would doubtless account for a large bulk of the tumour seen on external examination, but I think that a residue would still remain unaccounted for The fibrous bands crossing the depths of the triangle are also worthy of note. Dr Hume, in his case of strangulation attributes the constricting agency to similar structures However, his case did not absolutely correspond to the anatomical site of Petit's triangle, so the parallel may not be insisted on too closely

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[5] Mastin Annals of Surgery, 1890
[6] Brit Med Jour , 1889 vol ii , p 73
[7] Loc cit
[8] Brit Med Jour 1889 vol. ii , p. 71

Vaccination Fees —At the meeting of the Hambledon (Surrey) board of guardians held on Sept, 4th the vaccination committee recommended that fresh contracts should be made for public vaccinators and that the fees should be modified in accordance with the following scale— namely, that a fee of 2*s* 6*d* be paid for the revaccination of all persons at boarding schools, hotels, boarding houses, and all similar public institutions and places of business The clerk said that many of the people who were vaccinated at their homes might well go to the surgery to be vaccinated for 2*s* 6*d* The recommendation was adopted The clerk suggested that the scale should be submitted to the public vaccinators for their observations before sending to the Local Government Board. This course was adopted

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Reviews and Notices of Books.

Diseases of the Intestines By John C Hemmeter, M D , Philos D , Professor in the Medical Department of the University of Maryland , Consultant to the University Hospital and Director of the Clinical Laboratory In Two Volumes Volume I With many Original Illustrations London Rebman, Limited. Pp 742. Price 50*s* (complete work)

This work promises to be one of the most complete monographs on diseases of the intestines yet published. The first volume is concerned with the anatomy and physiology of the intestines, the chief bacteria which infect the tract, methods of diagnosis, therapy and materia medica of intestinal diseases, the symptomatology of these affections, and chapters on intestinal indigestion, enteritis, dysentery, ulcers of the intestine, and intestinal neoplasms Three chapters of the work have been written by associate professors in the University of Maryland. These deal principally with the more scientific, as apart from the clinical, aspect of the subject.

The section on the Anatomy and Histology of the Intestines is from the pen of J Holmes Smith, M.D , associate professor of anatomy The illustrations accompanying this part of the book are excellent and include those of many dissections which greatly help to explain the letterpress The physiology of the intestines is well described and the chapter on the Utilisation of Food in the Stomach or Intestines of the Healthy Man and under Abnormal Conditions is well worthy of perusal

Dr Hemmeter's views on gastric digestion will require further corroboration before they are generally accepted He believes that the digestive and absorptive capacity of the stomach has been much overrated. He claims that the stomach is nothing more than a reservoir to receive the food and practically to transmit it to the intestine, and that the digestive and absorptive processes which occur in the stomach itself are so insignificant that they may be practically disregarded However, he does not give full details of his reasons for arriving at the above conclusion, since the present volume is concerned with the intestines and not with the stomach

The chapter on Intestinal Bacteria is written by W R. Stokes, M.D , associate professor of pathology and bacteriology in the University of Maryland The author has performed his task admirably and has produced an interesting account of the principal micro organisms which are known to be present under varying conditions in the intestine. Dr Stokes evidently has a thorough knowledge of his subject and is able to express his views in very explicit terms His account of the bacillus coli communis is very clear and accurate and contains a full summary of all that is at present known with regard to this organism.

Chapter IX. is written by Dr H. Adler and is entitled, "Diagnostic Significance of Examination of Fæces and Urine." The macroscopic, microscopic, and chemical examinations of the stools are carefully described. Attention is drawn to the importance of examining the fæces in cases of faulty digestion, so that according to the nature of food matters undigested there may follow a proper selection and preparation of the diet. This point is only too frequently neglected and the digestive organs are loaded with materials of which they cannot make proper use, thus increasing rather than diminishing the digestive troubles from which the patient may be suffering

Turning to the portion of the volume dealing with diet we find much that is interesting After a discussion on the principles of dietetic treatment Dr Hemmeter proceeds to give general rules as to the diet which should be employed in certain forms of intestinal affections, such as dyspepsia (intestinal indigestion) and habitual constipation. The diet tables which are given will be found most useful for reference. They are full and accurate and may be followed with confidence.

The portion of the work dealing with the actual diseases of the intestine is headed, Intestinal Clinic. " Some of the terms will seem strange and perhaps objectional to English readers—such as " obstipation" as a synonym of constipation. The word coprostasis," too is not often seen in English text-books. Setting aside these trivial exceptions we have formed a very high opinion of the value of the work from a practical point of view Diarrhœa, constipation colic, meteorism, intestinal indigestion, and enteritis are all affections met with every day in the course of practice which give *great discomfort to the patient, rendering life most miserable*, yet they are conditions to which speaking generally sufficient attention is not directed by the teachers at the medical schools, and in most text-books they are dismissed very briefly Dr Hemmeter's remarks on the above conditions should therefore prove of considerable value to practitioners His classification, founded mainly on etiology is useful in arriving at a diagnosis and subsequently in coming to a conclusion as to the form of treatment most likely to prove successful in any individual case.

The chapter on Dysentery contains a full account of that disease brought fully up to date. The author insists on drinking water being the most prolific cause of the disease. He discusses at length the various investigations which have been made as to the causal relationship of the amœba coli to dysentery and is apparently in agreement with Kartulis as to its pathogenic value—namely that the amœba coli is the cause of dysentery with the exception of the dysenteries occurring in Cochin China. The illustrations of dysenteric ulceration are excellent. With regard to the treatment of dysentery Dr Hemmeter speaks highly of lavage of the colon, but limits the use of drugs for irrigating purposes to *four substances—quinine*, tannin, *suspensions of bismuth*, and solutions of ichthyol. He advises that the strength of the quinine solution should be one part of quinine to 2500 of water and the strength of the tannin solution 0 5 per cent. The remarks on the use of ipecacuanha are rather surprising He states that his own experience of this drug in the treatment of dysentery as observed in the practice of southern colleagues and in 10 cases of acute epidemic dysentery at Bay View Hospital has led him to discard the drug entirely Kartulis, on the other hand, is of opinion that ipecacuanha has an almost specific influence upon the dysenteric process, but he admits that in severe cases and in amœbic dysentery it is ineffective. These views are conflicting but Dr Hemmeter is supported in his contention by Dr Osler who states that he has never seen the marked beneficial effect of treatment as described by Anglo-Indian surgeons.

The chapters on Ulcers of the Intestine and Intestinal Neoplasms are also very interesting and the illustrations are beautifully executed. We can congratulate Dr Hemmeter on having produced one of the best monographs of Diseases of the Intestines yet published.

Clinical Lectures on Surgical Subjects delivered in University College Hospital By CHRISTOPHER HEATH Past President of the Royal College of Surgeons of England, Emeritus Professor of Clinical Surgery in University College, London, and Consulting Surgeon to University College Hospital. Second Series. London J & A. Churchill. 1902. Pp 345. Price 6s

CLINICAL lectures have a definite function of their own. They are not intended to replace the systematic teaching which the student should obtain in the ordinary course of lectures on surgery, they are intended rather to supplement those systematic lectures—to fill up the lacunæ which are unavoidably left. When delivered by a great clinical teacher they are of inestimable value in the training of the surgeon yet those who have the opportunity of actually hearing them are but few in number and it is the next best thing to be able to read them. Every senior student of surgery and many of those engaged in practice will derive great benefit from perusing these very readable clinical lectures. They deal with many subjects, some so common as " ulcers of the leg " and fracture of the base of the skull", others are concerned with more recondite matters, such as the use of the distal ligature in the treatment of aneurysm," but every lecture is clear interesting and exact. The volume includes two of the Lane lectures delivered by Mr Heath in the *Cooper Medical College of San Francisco in 1897* and also the Hunterian Oration for 1897 Perhaps the most interesting chapter of the book is one to which we have already referred—namely the use of the distal ligature in the treatment of aneurysm, for this is a subject with which Mr Heath's name is closely associated, as he had much to do with the introduction of this method of treatment. It was originally introduced by James Wardrop in 1825 for innominate aneurysm, but Mr Heath's case in 1865 did much to advance the claims of the operation, although it was subsequently found that the aneurysm was aortic and not innominate. The benefit which resulted in that case naturally suggested the employment of ligature of the carotid and subclavian for aneurysm of the aorta itself and though the cases hitherto recorded are not very favourable the method certainly deserves consideration. The chapter gives a very good account of the history and the present position of this operation. We have nothing but praise for the whole book and to only one small slip in the volume would we draw attention. In the account of the points of difference between tetanus and strychnine poisoning it is stated that in the well known Rugeley poisoning case it was proved that whenever the unfortunate victim took any food which Palmer had prepared for him in half an hour he invariably got a fresh access of spasm." This is incorrect. The food that Palmer prepared always contained antimony and caused vomiting the strychnine was only given in pills

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Clinical Essays and Lectures By HOWARD MARSH F R.C.S Eng Surgeon to and late Lecturer on Surgery at, St Bartholomew's Hospital Consulting Surgeon to the Hospital for Sick Children President of the Clinical Society of London, and Honorary Member of the Medical Society State of New York. London J & A. Churchill. 1902. Pp. 303. Price 7s 6d

IN this volume Mr Howard Marsh has collected some papers and clinical lectures that have appeared in various periodical publications, and he has done well in issuing them in this form for they are of great interest and deserve reprinting There are 20 papers in all and it is difficult to say which is the most important. Perhaps, on the whole, the chapter on Senile Tuberculosis is the most valuable because it deals with a condition the very existence of which is ignored by many medical men. Yet, as Mr Marsh says the disease in its various manifestations is frequent rather than rare its early recognition is often difficult; indeed, it is apt to be overlooked by those who regard it as a mere pathological curiosity " The condition was first described in 1867 by Sir James Paget under the name of senile scrofula" yet at the present time in many text books the subject is not even mentioned Mr Marsh describes a number of cases which give a very clear clinical picture The treatment of senile tuberculosis of a joint is from the first to keep it a absolute rest, but it will unfortunately be seldom of much avail for the prognosis is bad. Another interesting chapter deals with the association of suppuration with malignant disease. The presence of suppuration in connexion with a swelling is very strong evidence against the presence of a malignant growth, but the author relates many cases in which this unusual complication occurred.

The paper on Displacements and Injuries of Muscles and Tendons is also very important Tendons are dislocated much more frequently than is usually imagined, and it is necessary that the surgeon should be well acquainted with this condition, for such cases often drift into the hands of bone-setters who by manipulation reduce the displacement. The same chapter deals with rupture of muscles and tendons from muscular contraction, and many interesting cases are related. Another section is devoted to "rare forms of bony ankylosis," and Mr Marsh shows that ankylosis occurs under many conditions in which it was formerly thought impossible, especially he relates cases which demonstrate that antecedent suppuration is not necessary for the occurrence of ankylosis In conclusion he points out that passive movements cannot prevent bony ankylosis, rather by maintaining irritation and promoting inflammatory exudation they are likely to hasten its appearance We have not space to mention in detail all the papers contained in this volume, but we cannot refrain from expressing our approval of the chapter headed the Etiology of Mistakes in Diagnosis Every surgeon makes mistakes, some of them preventable, others inevitable, but mistakes would be rarer if attention were paid to the points mentioned in this chapter The whole volume is full of interest and will well repay perusal.

A Treatise on the Acute Infectious Exanthemata By WILLIAM THOMAS CORLETT, M D, M R C P Lond. Illustrated. London Henry Kimpton. 1902. 392 pages Price 18*s*

THIS treatise on the acute infectious exanthemata presents the subject with which it deals in a thoroughly practical and efficient manner The difficulty usually experienced in writing satisfactory accounts of dermatological lesions, and more especially those which are peculiar to the infectious fevers, has been in the present instance surmounted by providing a number of coloured illustrations of the common and typical efflorescences. For the purpose of securing the best possible examples of the *dessinateur's* art in the production and reproduction of coloured illustrations the good offices of M Félix Meheux, who has rendered himself famous by his illustration of Chatelaine's admirable work on Diseases of the Skin, have been pressed into the service of the present work The illustrations themselves, with but few exceptions, have been reproduced from photographic negatives taken by the author 12 of them have been reproduced in colour, while 28 are half tone plates and two are engravings The study of these plates will necessarily lighten the task of differential diagnosis which to his confusion often confronts the young practitioner and may to a certain extent fill up a frequent hiatus in his medical equipment. Indeed, as the author admits in the preface, the present volume is the outcome of a similar need for such a work felt by himself "when young in the practice of medicine." The illustrations which constitute so important a feature of Dr Corlett's treatise present with realistic accuracy the delicate and minute shades of colour which characterise the various phases of the different eruptions. And among those which appeal to us as most satisfactory must be included one of varicella in a child which bears superficial resemblance to the rash of small-pox, while another which illustrates the eruption of measles in its typical distribution is equally satisfactory, and another in a distribution which resembles scarlet fever is highly instructive. Finally, we would mention a very beautifully finished illustration of the typical rash of German measles and enlargement of the posterior cervical lymphatic glands The coloured plates representing the small-pox eruption in the various stages of efflorescence strike us as less happy examples of artistic skill and accurate delineation. The individual pustules, as is, indeed, often the case with other photographic representations of skin lesions which are raised above the general plane, give a false impression of magnitude We have, perhaps, dwelt somewhat unduly on the subject of the illustrations, but it is far from our intention to imply that the subject of the text plays a less important part in the general scheme of the work—in fact, had the written portion of the book to rely on its own merits it would assuredly earn considerable success and would merit the attention of all those who are interested in the question of the acute specific fevers The subject of the exanthemata has been approached from the dermatological, rather than from the clinical, side. Nevertheless, the minute description of the pathological appearance has by no means monopolised the author's attention. Questions concerning the etiology, the prognosis, the diagnosis, and the treatment all receive due consideration. Indeed, in view of the fact that to each of the five specific exanthemata included in the scheme there is a practically uniform allocation of 80 pages it may readily be understood that each fever is very fully described Practitioners will find particularly useful the minute and accurate dermatological description of the different rashes with the differential points by which they may be distinguished, not only from one another, but also from other erythematous conditions of independent origin, such as are met with in the efflorescences due to drugs, insect bites, and syphilis Useful also for the same class of readers are the formulary for disinfection especially applicable to the exanthemata and the tables in the addendum which supply the chief features in the differential diagnosis of the various rashes described in the body of the text The treatment of the specific exanthemata, except as regards prophylaxis and the precautionary measures which are necessitated by their infectious nature, is considered in as few words as possible. In the treatment of scarlet fever we notice that he does not take up the illogical and paradoxical position often noticeable in works on this subject of enjoining a strict milk diet for the purpose of limiting the consumption of albumin. A milk diet has, indeed, its advantages, but not specifically for this reason In speaking of the advantages of excluding from the sick room all but the red rays of light in the treatment of small pox the author says that it is impossible to draw any definite conclusions from the few cases in which he has had personal experience of the method, but from the success already obtained by the chemical or active rays of the colour spectrum in the treatment of lupus vulgaris he is led to believe that much good may be accomplished by this method in the management of variola and from the favourable reports already given it is assuredly worthy of further trial. Not only as a book of reference, but as one which affords pleasant and interesting reading, we commend Dr Corlett's treatise to all those who are interested in the subject of the acute specific exanthemata.

LIBRARY TABLE

Phonographic Outlines of Medical Terms Third edition. Issued by the Society of Medical Phonographers, and published by Sir I Pitman and Sons, Limited, London, and G Pulman and Sons, Limited, London. 1902 Price 2*s* —The second edition of this useful book was published in 1898 The present edition contains, as did the previous one, outlines and contractions for about 3000 of the more common medical terms, and a list of similar words 100 new words have been added—e g , "adrenals," "arteriosus," "bilharzia," "biniodide," "hallux," "haversian," schizomycetes symbiotic, but others to be found in the Dictionary have been omitted. The chief alterations are the use of a half length *n* instead of the double length *n* to represent inter "intro," ' enter and the use of the upward *l* instead of the downward in the ' *lymph series. These innovations, no doubt, are* more orthodox though less facile, than those used in the second edition. A few phrases, such as every six hours " have been added , also a few general terms such as "medical officer of health summer session," and up to the time of admission." We think others might be added with advantage. ' Iodide, ' patella," antistreptococcic," antiseptic " "aorta ' calcify desquamation," 'medullary " ' sartorius ' and some others have been altered and no doubt, improved. In analgesia the hard *g* is now represented by *j* By the way phthisis is commenced with a *t* in Pitman s Dictionary owing we suppose, to the erroneous although common pronunciation of phthisis as tisis. We do *not notice 'abortifacient* in the list. Many of the outlines are most ingenious and the book should be welcomed by all medical phonographers —We have also received the *Phonographic Record* for September which contains a further instalment of Disinfection of the Hands," by Mr C. W Cathcart, F R.C.S Eng & Edin.

The Story of Animal Life. By B LINDSAY London George Newnes Limited. 1902. Pp. 208. Price 1*s* —This little book forms one volume of Newnes s Library of Useful Stories. It gives in a plain and simple manner the story of the ascent of animals from the protozoa to man. The last chapter gives an interesting account of ' How Zoologists do their Work."

A Pack of Poems By J L. LONGSTAFFE. London George Allen. 1902. Pp. 86. Price 1*s* net.—All hunting men will welcome Mr Longstaffe s poems. They are real poems with an indefinable kind of eighteenth-century flavour about them. Nor do they deal with fox hunting alone, but with other sports such as golf, and with charity—i.e. with the building of an orphanage. Even the non hunting reader is catered for by such poems as A Duet on Sonnets (from which we should say that Mr Longstaffe, as becomes one who loves the country knows his Theocritus) and A Song of Misery "

A Lady Nurse of the Times By FREDERICK JAMES GANT F R.C S. Eng London Elliot Stock. 1902. Pp. 50. Price 1*s*. net.—Mr Gant must be a veritable Sherlock Holmes in the nursing world. He i. always coming across nurses with a past, which past he dissects with merciless minuteness and puts together again in the form of a story We are glad to say however that Mr Gant informs us in his preface that the heroine of his latest story is dead so that she will not see her life s tragedy in cold print.

European Fungus Flora Agaricaceæ By GEORGE MASSEE, F L.S. London Duckworth and Co. 1902. Pp 274. Price 6*s* net.—This book is a very full catalogue of the agaricaceæ, written in purely technical language. All the agarics of Europe are included and the work will be found very useful to mycologists Altogether 2750 European species are described of which 1553 are British.

Aids to Practical Dispensing By C J S. THOMPSON London Baillière, Tindall and Cox. 1902 Pp. 92. Price 2*s* 6*d* —Practical dispensing as Mr Thompson confesses in his preface, cannot be learnt from a book. But a great many useful hints may be so given and Mr Thompson supplies not a few The chapter on Pill making is very good, but so far as regards medical men who supply their own medicines we fancy that few even if a dispenser is kept, now make their own pills. Mr Thompson s notes about incompatibles" and the dispensing of mixtures containing iron, quinine, and the well known pitfalls of a combination of potassium iodide and spirit of nitrous ether are accurate and striking In the next edition of his book we should advise him to correct the all too commonly found error in grammar—namely the writing "Aquae ad uncias octo or whatever the quantity may be.

Analytical Records

FROM

THE LANCET LABORATORY

MILK OF MAGNESIA

(THE CHARLES H PHILLIPS CHEMICAL CO., 14 HENRIETTA-STREET
COVENT GARDEN LONDON W C. AND 123 PEARL-STREET
NEW YORK, U S.A.)

ON analysis this preparation proves to be quite simple in composition. It consists of pure hydrated oxide of magnesium suspended in distilled water without the aid of the vehicles commonly employed in emulsions and without aromatics. It is quite uniform and the hydrate shows no tendency to separate. The preparation neutralises acids as speedily as does a clear solution of the alkalies, so that it serves as an efficient antacid with the advantage that no gas is produced as when a carbonate is used On mere evaporation the hydrate is obtained in a pure state and on ignition the oxide. The residue contains just a trace of carbonate. The amount of hydrate which we found was 6 13 per cent. which is equivalent to the amount stated to be present—namely 24 grains in each fluid ounce. The preparation serves as a mouth wash and possesses obvious advantages as an antacid. Of course, the salt of magnesia formed as the result of neutralising an acid has generally a slight laxative effect.

(1) CHOCOLATE WITH DEVONSHIRE CREAM; AND (2) VANILLA LUNCH CHOCOLATE.

(JOHN CLEAVE AND SON CREDITON DEVON)

1. In this preparation a comparatively large proportion of Devonshire cream has been combined with the chocolate with success and a very palatable and nutritious sweetmeat is the result. 2 The lunch chocolate is an excellent example of the employment of ingredients of high quality We have evidence before us showing that the choicest materials are used in the preparation of these sweetmeats and that they are prepared with a strict regard to cleanliness We have remarked before on the very great advances that have been made in the manufacture of confectionery care now being taken not only to select good and wholesome materials, but to manufacture them also under healthy environments.

THE WINJENNIA REMEDIES

(THE WINJENNIA PROPRIETARY LIMITED MELBOURNE AND SYDNEY;
W H. SMITH 47 ALDERMANBURY LONDON E.C)

We have received specimens of an ointment and a lotion which contain a powder described as a volcanic deposit to which certain curative effects are ascribed. The powder on analysis proved to contain chiefly the sulphates of iron and alumina, which are soluble in water while the insoluble portion contained silica associated with alumina and ferric oxide The ointment and lotion contained the soluble salts described. The lotion is said to be useful in the treatment of sores in cattle. The sulphates of iron and alumina possess, of course some germicidal power while they are astringent. It is conceivable, therefore, that their application in some cases would do good The "remedies," however, are clearly old-fashioned and crude.

OOWANA SOAP

(OOWANA, LIMITED, 205 VICTORIA STREET LONDON S W)

Our examination of this soap gave satisfactory results It is free from alkaline excess and irritants and is bland and soothing to the skin The soap is said to be made from edible fats and a fluid vegetable extract is added to it, an addition which is said to enhance the cleansing properties of the soap while contributing to its favourable action on the skin The soap is dark olive brown in colour and is agreeably scented

SCOTCH WHISKY (THE QUEEN'S BRAND)

(BEARDMORE AND CO, LONDON AND GLASGOW LONDON AGENTS, F H. AND F J GREEN, 2 GRESHAM BUILDINGS, LONDON, E C)

This spirit is described as a "small still Scotch malt whisky" The evidences of analysis and taste are in favour of the statement that it is both old and pure. The results of analysis were as follows alcohol, by weight 42 29 per cent, by volume 49 81 per cent, equal to proof spirit 87 29 per cent.; extractives, 0 29 per cent, mineral matter, 0 01 per cent., and total acidity reckoned as acetic acid, 0 024 per cent The flavour is mild and characteristic of genuine malt whisky Much of the whisky of the present day is featureless as regards flavour This whisky is practically free from acidity and sugary constituents It is without the bad physiological effects of crude spirit

DIGESTIVE PEA FLOUR

(THE DIGESTIVE FOOD CO MURRAY-STREET PAISLEY)

By a special mode of preparation this specimen of pea-flour has been reduced to an easily digestible state This is evident from the fact that it contains a larger proportion of soluble constituents than does raw pea flour We have obtained the following results on analysis moisture, 7 89 per cent, fat, 1 24 per cent, mineral matter, 2 61 per cent, proteids, 19 05 per cent., and carbohydrates, 69 21 per cent. The preparation contains 100 per cent. less moisture than dried peas do, a result probably obtained by cooking This reduction is important as it raises the proportion of carbohydrates as well as of proteids

SPECIAL DISINFECTANT SOAP

(HAROLD HFYDON AND CO, 118 WESTON STREET BERMONDSEY LONDON, S E)

As is not always the case with disinfectant soaps, the disinfectant agent used in this instance is of an agreeable character The smell of the soap suggests oxidised pine oil or oil of turpentine The soap basis is well prepared since it contains no alkaline excess and is free from foreign ingredients commonly added to soap The soap produces a free and pleasant lather without waste and has an agreeable effect upon the skin, imparting to it a delicate pine like smell Soap itself possesses some antiseptic value and in this instance this value is undoubtedly accentuated

(1) MOUTH WASHES AND (2) TOOTH POWDERS

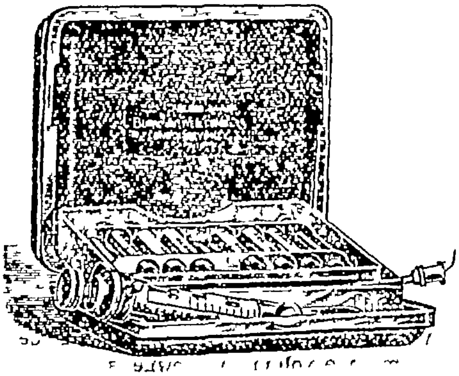
(MESSRS ROUSE AND CO 12, WIGMORE STREET, LONDON W)

The composition of the mouth washes and tooth powders, two of each of which have been submitted to us, is based on formulæ of well recognised value. They contain antiseptics and disinfectants adapted particularly for preserving an aseptic condition of the mouth The formulæ are said to be the outcome of suggestions made by dental authorities The washes and powders contain no injurious constituent and are pleasant as well as effective

New Inventions.

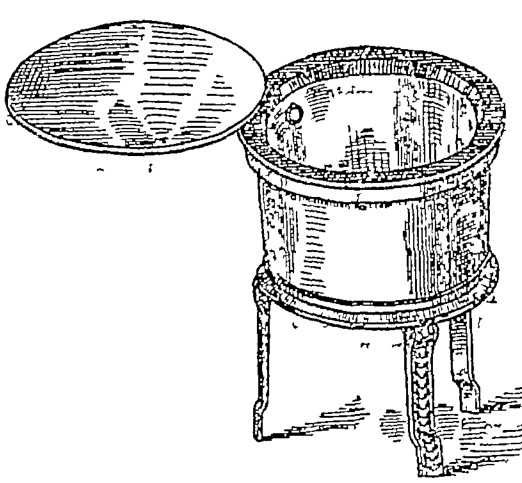
A NEWLY ARRANGED HYPODERMIC SYRINGE AND CASE

A NEWLY arranged case for hypodermic medication has been submitted to us by Messrs Burroughs and Wellcome The syringe itself is entirely made of glass and is (unlike many syringes with glass pistons) accurate and free from leakage. But we should always advise purchasers of such instruments to select their own, as the calibration of such small syringes and pistons is very difficult and often faulty, hence the pistons leak. This case is fitted with a moveable rack containing 12 tubes of tabloids, two needles, and an exploring needle The arrangement of the tubes is very ingenious and with a little practice quite simple, the rack swings on its short axis and is so arranged that no tube can fall out. The whole rack, needles, and syringe can be readily boiled after removing the tubes The outer case is very strongly and carefully made of "gun metal" with nickel plated rims



A PORTABLE COMMODE

Messrs Henry Cowley and Co, Limited, have submitted to us one of their portable commodes It is made of porcelain, provided with a wooden rim and a metal lid which are detachable, and is inclosed in a metal cover It fits on to a metal tripod stand. For purposes of carriage the stand can be inverted and the commode fits inside the legs The whole is then inclosed in a tin box of about the size of an ordinary bonnet box. In this country nowadays the sanitary arrangements of hotels and lodging houses are usually fairly satisfactory, but this is far from being the case in many places on the continent, and we should say that Messrs Cowley's invention would be of great use to ladies travelling abroad.



THE LANCET.

LONDON SATURDAY SEPTEMBER 13 1902.

The Election of a Direct Representative on the General Medical Council

FRIDAY September 5th, was the last day for the receipt of the nomination papers of candidates for the seat on the General Medical Council as a Direct Representative for England and Wales that is now vacant by the expiration of Sir VICTOR HORSLEY'S term of office. We understand that Mr JOSEPH SMITH of Chiswick, an ex president of the Association of Incorporated Medical Practitioners, will seek the suffrages of his fellow practitioners, but we cannot say that we think his proposed action an advisable or convenient one. Sir VICTOR HORSLEY has done good and fearless work upon the Council, and thoroughly deserves a further term of office. He has been one of the engineers of the new constitution of the British Medical Association and it is really important that he should be able to explain to the General Medical Council the views and working of the Association should occasion arise. He enjoys the confidence of a very large section of his constituency and his ability and energy are too conspicuous to be called in question even by those who do not see eye to eye with him upon all matters We are certain that if the principle of direct representation is to mean anything and if the voices of the Direct Representatives are to carry weight in the deliberations of the General Medical Council, contested elections should be avoided as much as possible. It seems impossible, while human nature is what it is, that any election for any post can be carried on between rival candidates without a certain amount of asperity being introduced into the relations between them If Mr SMITH persists in his ill advised intention to go to the poll whichever candidate proves to be the successful one will have a weak position. It is almost inconceivable that Mr SMITH should succeed against a man of Sir VICTOR HORSLEY'S tried ability and record of arduous service, and in the circumstances the profession will be right to resent having the inconvenience of an election thrust upon them.

It has been suggested by Mr GEORGE BROWN—at least we read his not very comprehensible letter in the *British Medical Journal* of August 30th as conveying this suggestion—that *the territorial principle of representation* demands the replacing of Sir VICTOR HORSLEY by some one not resident in London We would suggest to Mr BROWN that if he feels at all acutely the fact that London has no right to two Direct Representatives—and we are somewhat in sympathy with the view—he himself should resign and should allow a provincial medical man to succeed to a seat upon the Council without an election. An election is not wanted just now What is wanted is the rousing of the General Medical Council to a sense of the present position of the profession. We can conceive no clearer voice than Sir VICTOR HORSLEY'S for demonstrating the problems of medical politics to the Council and whoever obstructs his re-election stands in the way of medical progress. As is perfectly well known to all our readers we are frequently in disagreement with Sir VICTOR HORSLEY—a position which that gentleman's temperament probably compels him to view as foolish on our part, but while we make occasional reservations in our approval of his procedure as a medical politician we have no doubt whatever of the excellence of the work that he has done upon the General Medical Council. We trust that all our readers should this election be forced upon the profession, will register their votes for Sir VICTOR HORSLEY

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Obliterative Arteritis

THE constriction and closure of large arteries have been described by various observers, but the condition is rare Professor FRIEDLÄNDER in 1876 described a disease to which he applied the term "obliterative arteritis." The causes of the complaint are unknown but it is often accompanied by neuritis, and, like all anatomical modifications of the lumen of the arteries of the limbs which end gradually in occlusion, it may engender various premonitory symptoms long before it culminates in gangrene. According to Dr F W MOTT (writing in Professor CLIFFORD ALLBUTT'S "System of Medicine" vol. vi. p. 301) the main symptoms are pain in the limbs, intermittent cyanosis cramps, coldness and numbness—conditions which transitory at first, afterwards instal themselves permanently Sooner or later the pulse is no longer felt in the course of the arteries and the temperature of the part is lowered. Ecchymotic patches appear at one or several points chiefly at the extremity of the limb. Eschars arise and the gangrene, sometimes moist, sometimes dry spreads with more or less rapidity The lower limbs are affected more often than the upper but the symptoms may begin in the hands the affection is frequently but by no means necessarily symmetrical. Authorities are not altogether agreed upon even the pathological nature of obliterative arteritis and Dr MOTT states that it is not associated with any particular diathesis or with any acquired disease But the morbid anatomy of the condition, according to the same authority consists in thickening of the walls of the arteries due to cellular proliferation of the endarterium and hypertrophy of the middle and external coats there is also seen a development of vasa vasorum in the middle and external coats and inflammatory thickening of the small vessels leading to complete occlusion. The obliteration of the lumen of the artery may be due to thrombosis or to proliferating endarteritis.

In another column we publish details of a case presenting exceptional features of interest and reported by Dr J A. ARKWRIGHT The heading as given by the author is— "A Case of Hæmophilia in a Woman with Symptoms of Defective Circulation in the Legs and Threatened Gangrene of the Toe, Death with Cerebral Symptoms." The chief points of the case are as follows The patient was a woman, aged about 30 years at the time of her death, who at various periods of her life had manifested the symptoms of hæmophilia, especially on tooth extraction. Seven years before her death she had complained of aching pains in the lower limbs, which persisted for some weeks About a year before she died marked circulatory changes were noticed in the legs, the left limb being colder than the right and a variable purple mottling was present on the skin of the left below the knee In the winter the ends of the toes of the left foot became black and purple and gangrene threatened. This condition passed off with rest and elevation but later returned. Subsequently circulatory disturbances were observed in the upper limbs. Both legs then became mottled and pulsation could not be felt in certain of the arteries Spontaneous hæmorrhage occurred from the gums Arthritic symptoms resembling those so often associated with hæmophilia also occurred She died rather suddenly with symptoms of cerebral hæmorrhage As will be perceived, the symptoms occurring in this case present some similarity to those characteristic of obliterative arteritis Hæmophilia, as is well known, is far more common in males than in females, indeed, some authorities doubt its existence in women. In the case under consideration, however, the patient certainly seemed to be the subject of a hæmorrhagic diathesis, which is simply a synonym for hæmophilia. The tendency to bleed was shared by a brother in a slight degree, but this tendency could not be traced to a former generation The swelling and effusion of blood into the joint after a comparatively slight injury were also suggestive of hæmophilia The pain in the limbs, however, is not characteristic of this disease. Dr ARKWRIGHT remarks that the coldness and deficient blood supply to the lower limbs had some resemblance to Raynaud's disease, but rightly adds that the symptoms were too persistent and progressive and did not intermit with sufficient completeness to agree with the classical description of that disease, moreover, the symmetry was very imperfect. Further, exacerbations were generally excited by the use or dependent position of the legs and were not truly paroxysmal The symptoms observed in obliterative arteritis, especially in the early stages, also resemble those of Raynaud's disease, thus, before the obliteration of the vessels is complete there may be intermittent claudication in the limbs associated with cyanosis and coldness of the extremities

We are not aware whether the arteries in the brain have been found likewise degenerated in other cases which have been recorded, for if the cerebral arteries do partake in the degenerative process the mode of death would be accounted for—cerebral hæmorrhage due to diseased arteries The fact that Dr ARKWRIGHT'S patient was the subject of the hæmorrhagic diathesis would also raise the point as to whether a condition of hypoplasia of the vessels might have existed. The etiology of obliterative arteritis has not yet been fully worked out, but syphilis in some of the recorded cases appears to have been the principal factor Arterio-sclerosis, with or without syphilis, and strain, have also been ascribed as capable of producing obliteration of the vessels and in some extreme cases of this nature the arteries have been found converted into fibrous cords As we have already stated, well marked instances of obliterative arteritis are rare and, in fact, some writers deny that this special form of arteritis exists and maintain that Professor FRIEDLÄNDER and others have mistaken for it a thrombus replaced by connective tissue occurring in an artery affected with arterio sclerosis With pathological conditions of only occasional occurrence it is necessary to wait for further cases to be recorded before a definite conclusion can be arrived at Doubtless some cases of Raynaud's disease have been really instances of obliterative arteritis We have drawn attention to this condition after reading the case described by Dr ARKWRIGHT, which presents symptoms suggestive of the possibility of the presence of obliterative arteritis

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The London County Council and Inquests

THE annual report of the Chief Officer of the Public Control Department of the London County Council for 1901–1902 contains, among other matters, interesting statistics relating to the inquests held by coroners within the Council's sphere of activity and various deductions and recommendations based upon these which may be taken to be before the Council as embodying the views of its Public Control Committee The London County Council appoints the metropolitan coroners except in certain districts and in some localities where it does not appoint, as well as where it does, it pays their salaries, settles their districts, maintains their courts, and defrays the costs of their inquiries In the year under consideration notice of uncertified deaths was given to coroners in London, excluding the city, in 9832 cases, and in 7932 of these inquests were held, the cost for the year, including the salaries of coroners, being returned at a little over £32,000 This is a large sum of money, and it is clearly the duty of the London County Council to scrutinise its disbursements and to make sure that all money spent goes to the accomplishment of some useful object, but at the same time £32,000 is not a very large portion of the Council's total annual expenditure The holding of inquests in proper cases is a matter which closely affects the public health and safety and inconsiderable economy, if it results in the smallest diminution of efficiency, is to be deprecated.

We gather from the report before us that the public control department of the London County Council regards with disapproval an undoubted increase in the number of inquests held in London and in their cost which is to be observed during the past few years and that it suggests as a means to diminish their numbers the institution of preliminary inquiries of a nature not at present provided for by the law These inquiries, it suggests, should be made by specially appointed "medical investigators" who should inquire as to the causes of uncertified deaths, examine the body in all cases, and hold post-mortem examinations where necessary, reporting the result to the coroner, and afterwards giving evidence and acting as medical advisers to the coroners should the latter officials desire to hold formal inquests

When, if ever, these proposals are embodied in a Parliamentary Bill it will be time to deal with them in detail and, for example to point out that an official who not only appears as a witness but at the same time advises the presiding judge (himself frequently a medical man) upon medical matters is likely to be looked upon as an institution rather novel than desirable. Upon general grounds, however we would suggest to the County Council should it be considering the proposals of its public control offices, that the increased number of inquests *is not necessarily* a cause for dissatisfaction but is probably the result of the increased vigilance of its officers and of a growing feeling in favour of the prevention of avoidable mortality

The view submitted to the County Council upon this head appears from the following passage in the report It appears probable that a proportion of the inquests held was unnecessary as in no less than 3935 cases—almost precisely one half of the inquests held—the verdict of the jury was Death from natural causes. " We, on the other hand, hold the opinion that no such inference can be drawn from the figures and fact stated, believing as we do that if thousands of deaths take place in London as to which no medical man will certify it is for the public safety that all should recognise it as almost inevitable that deaths so uncertified will be followed by inquiry It is true that the creation of a medical investigator is suggested to the County Council as a means by which inquiries may be held without formal inquests but the essential merit of the inquest which at present has its admitted defects, lies in its publicity and its formality A medical investigator could only be a practitioner instructed to ascertain as far as possible the actual cause of death, to which his inquiry would be limited. Even in this he might be regarded as a person holding an inquisitorial position and one from whom information should be withheld it would not be right that he should play the part of a detective suggested by the novel and undesirable title of medical investigator " His inquiry moreover would be one of a more or less private nature and might be held without the advantage of the evidence of persons able to impart valuable information The inquest, on the other hand *is* publicly held and publicly reported so that public opinion is brought to bear upon the matters disclosed and so that those who have anything to say as to relevant facts may at any time learn that it is taking place and come forward to give evidence or may give information afterwards if *relevant facts have been suppressed. No inquiry* therefore by an ' investigator " medical or otherwise, can in any way take the place of a coroner's inquest and it does not seem to us that the medical investigator could properly do more than can now be done by a medical practitioner employed in the usual way by the coroner to hold a post mortem examination.

It is however submitted to the County Council in the report before us that the general practitioners who now usually make the post mortem examinations are rarely qualified by experience for the work and it may be that a proportion of the post mortems now made are of little value in determining the cause of death." The writer of the report having made this statement without adducing evidence in support of it goes on to suggest that a well qualified pathologist experienced in making post-mortem examinations should be employed in each district," and being fond as will have been seen, of airing speculative theories he adds There are probably many capable young pathologists attached to London hospitals who would be glad to undertake work of this nature at an all round fee of say one guinea per case on the understanding that a considerable number of cases would be referred to them

Among the further theories put forth in the text of the report as distinct from its statistics we observe the suggestion openly made that coroners multiply inquests because their salaries are based upon a scale proportionate to the number of inquests held and this is coupled with the recommendation that they should be paid regular salaries independent of the work done as a means to diminish the number of inquiries and the consequent expense to the Council That coroners should have fixed incomes may be very desirable, but we emphatically protest against the allegation that this should be done on the ground that they now increase their emoluments by corrupt methods With regard to the report as a whole, it contains interesting figures and statistics and perhaps the germs of useful alterations in the regulations governing the holding of coroners inquiries. It will, however we hope be long before the County Council is permitted to introduce innovations tending to diminish the number or the thoroughness of inquests, which whatever their defects may be, undoubtedly play a considerable part *in the safeguarding of life in the metropolis and indeed* throughout the country

Annotations.

Ne quid nimis."

DEATH OF SIR FREDERICK ABEL.

THE death of Sir Frederick Abel G C V O K C B removes undoubtedly our greatest authority on the chemistry of explosives. At the outset of his career he was quickly associated with research work into the physics and chemistry of gunpowder and other explosive agents. Indeed the transition from what may be called the gunpowder period in regard to explosives for military purposes to the nitro explosives period was due to Abel's brilliant researches while Professor of Chemistry at the Royal Military Academy and chemist to the War Department. Sir Frederick Abel cannot be said to be the founder of nitro-explosives but undoubtedly he was the first to recognise the value of applying nitro-explosives as the projecting force for guns. He studied very minutely the conditions under which the nitro-compounds could be adapted for the purpose Practically the results of his study of this application proved the death knell of gunpowder in favour of smokeless powder Abel's name will perhaps be best remembered by the public by his connexion with the cordite case. He was accused by Nobel of having acted in bad faith by as Nobel asserted having adopted a powder practically of the same composition as the one he had invented (ballastite) for the Government's exclusive use In other words Nobel claimed that cordite was a piracy of ballastite. It is almost fresh in our memory that Abel pointed out a very essential difference between the two which made the former safe and effective for ammunition while the latter was not trustworthy The circumstances of the case were that Abel was appointed by the Government to determine what powders existed which could be substituted with advantage for gunpowder and the reply of Abel and his colleague, Professor Dewar, was that at the time of their investigation there existed none. It cannot be gainsaid, however, that through this investigation Abel conceived in what respects nitro-powders were unsuitable and his subsequent research upon the subject resulted in an improved powder which fulfilled all the conditions required for an explosive for ordnance use Thus the charge of bad faith failed. Sir Frederick Abel's work, however, was not confined to the practical study of explosives He was appointed to inquire into the safe storage of petroleum oil and at the present time regulations exist as to the sale, storage, and use of petroleum oil which owe their origin to the results of Abel's inquiry Amongst other things he invented a flash point apparatus for the testing of oil, an apparatus which is officially recognised at the present time Sir Frederick Abel devoted himself also to the investigation of other branches of science, such as, for example, to the improved manufacture of iron and steel, especially in their relation to the requirements of war material He was, again, an eager student of pure science and communicated a number of papers chiefly to the Chemical Society and the Royal Society embodying scientific research. Sir Frederick Abel during his career occupied the offices of President of the Chemical Society, of the Institute of Chemistry, of the Society of Chemical Industry, and of the British Association The death of Sir Frederick Abel will be a melancholy fact to his colleague, Professor Dewar, as having taken place on the eve of his presidency of the British Association this week at Belfast. Sir Frederick Abel proved a faithful servant to the Government and his place as official adviser to the War Department will be hard to fill.

THE MEDICAL LANGUAGE OF ST LUKE

THE recently announced death of the Rev William Kirk Hobart, rector of Killanny, co Louth, removes from the not too numerous experts in Greek medical literature one of the ablest and most accomplished of the band—the author of the treatise, familiar to theologian and philologist alike, entitled "The Medical Language of St Luke a Proof from Internal Evidence that the Gospel according to St. Luke and the Acts of the Apostles were written by the Same Person and that the Writer was a Medical Man." Appropriately dedicated to that eminently Biblical scholar, the present Primate of Ireland, Dr Hobart's work was published 20 years ago, welcomed by THE LANCET at the time in an extended review, and is now secure in an honoured place in the *apparatus criticus* of the evangelist whose "Gospel" Renan has called the "loveliest book in all literature," and whose "Acts" is pronounced by Professor W M Ramsay to be redolent of "genius, skill, and sympathetic historical insight" No doubt, as we indicated in our critical notice,[1] Dr Hobart is, on occasion the victim of his own enthusiasm, apt to find in St. Luke's phraseology an exclusively medical idiom when there is evidence to show that the word, or words, cited had passed from professional into general currency Dr Plummer, Master of University College, Durham, in his very scholarly and able commentary on the Gospel, supplies cogent proof of this, while cordially admitting the value of Dr Hobart's labours Another defect of the treatise is the preference given to Kühn's uncritical recension of the Greek medical writers (Leipsic, 1821–30) over the far sounder texts of Hippocrates as constituted by Littré (Paris, 1839–61) and by Ermerins (Utrecht, 1859–65), to say nothing of the still more correct edition now in course of publication by Kühlewein in Teubner's "Bibliotheca Scriptorum Græcorum et Romanorum." Aretaeus, moreover, appears to be known to Dr Hobart only in the superseded text of Kühn and not in that of the standard edition executed with masterly skill for the Sydenham Society by Dr Francis Adams of Banchory (London, 1856) These defects, we repeat, detract from the merit of Dr Hobart's treatise, but when every allowance is made for them that treatise remains a monument of labour almost "Benedictine" in its assiduity and of learning and acumen well worthy of its sacrosanct theme Its publication by the press of Dublin University, of which its author was a distinguished graduate, does honour to that seat of learning, but for whose liberality it would probably never have seen the light. Dr Hobart, indeed, conveys as much in his preface, while his comparatively premature death calls for a renewal on our part of the tribute paid 20 years ago to his ample vindication of the third Gospel and of the Acts of the Apostles as incontestably the work of the "Beloved Physician"

PTOMAINE POISONING

A SERIOUS epidemic of food poisoning has occurred in Derby and naturally a good deal of alarm is felt It is roughly estimated that the number of cases has been 150 Fortunately, the type of disease has not been, in Derby at least, very severe and with one or two exceptions all the persons attacked have recovered or are progressing favourably At Taunton, however, the death has occurred with symptoms of ptomaine poisoning of a man, aged 75 years The deceased returned home on the evening of Sept 8th from Derby, bringing with him a pork pie purchased there He, his wife, and a servant all ate of it and the following day all three were taken ill, the man dying at night The source of the poisoning is suspected to lie in certain pork pies purchased from one of the best-known pork butchers in Derby This theory is also supported by the fact that a visitor to Derby brought back with her to her home in London a pork pie from the same shop All the persons who partook of the pie suffered with the characteristic symptoms of ptomaine poisoning Samples of the suspected food have been sent to Dr Delépine for analysis. As in the case of similar epidemics the symptoms have not occurred as the result of eating meat actually "putrefied"—that is, of meat the smell of which would at once give rise to suspicion. It is known from actual experiment that the most toxic products of putrefaction are present in the earlier and not in the later stages of the process.

GASTRECTOMY

RECURRENCE after removal of a malignant growth from the stomach may occur either locally in the gastric wall or in the lymphatic glands Mikulicz has laid much stress on the frequency of local recurrence and points out that a sufficient portion of the stomach is usually not removed. In our present issue appears a paper by Mr G A. Syme of Melbourne on a successful case of gastrectomy for malignant disease, in which he advocates removal of nearly the whole of the stomach for gastric carcinoma, for, he maintains, if operation is advisable at all gastrectomy is indicated, since, as the presence of the stomach is not essential for digestion, the more complete its removal the greater the probability of immunity from recurrence, while the increase in the risk is not proportional to the amount removed. Mr Syme considers it wise for ease in operation to leave a small portion of healthy stomach There is much to be said for this view, for at present an ordinary pylorectomy for a malignant growth is only too frequently followed by a return of the disease in the stomach, showing that too little of that viscus has been removed. In some points a gastrectomy is an easier operation than a pylorectomy, for it is less difficult to anastomose the duodenum to the cardiac end of the stomach than to join it to the middle of the organ where the calibre is much greater. Naturally the more of the stomach removed the greater is the shock, but there is no exact proportion between these variants and the shortening of the operation due to the increased facility of performance will of itself diminish the amount of shock. For statistical purposes it is desirable to distinguish between complete gastrectomies and almost complete gastrectomies; in the former no portion of the stomach wall is left behind, the œsophagus being united to the intestine. In almost complete gastrectomies some part of the cardiac end of the stomach is retained, it may be only a few lines in breadth or it may be one or two inches. *This distinction is necessary* or confusion will arise. Up to the present only about a dozen complete gastrectomies have been performed, but there have been many cases in which more than three-fourths of the stomach have been removed. Mr Syme's suggestion that we should remove the greater part of the stomach in all operable cases of gastric malignant disease is well worthy of and will doubtlessly receive, the careful consideration of surgeons in all parts of the world.

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[1] THE LANCET, June 9th 1883 p 1002

THE CONTAMINATION OF ICE-CREAM

THE making of ice-cream, carried on so frequently by poor Italians in our large towns no doubt requires supervision. A cheap ice seems to be an irresistible temptation to town children even when there is but little regard for cleanliness in the seller and his surroundings. Two Italians were summoned recently by the sanitary committee of the corporation of Manchester for omitting to take proper precautions for the protection of the ice cream which they made from infection or contamination and were fined respectively 10*s.* 6*d.* and 21*s.* and costs. Two other Italians were at the same time similarly fined for making ice-cream in a yard in which there was an inlet or opening to a drain being an act likely to expose such ice-cream to infection or contamination.' Such cases as these are often occurring and will do so as long as the providers of this luxury make it in all sorts of dirty unfit places, which they will continue to do whilst there is a paying demand for ice-cream. But a movement has been begun by the principal makers to provide a building where it can be made under cleanly and sanitary conditions. It is very desirable that this should be carried out.

THE FORENSIC IMPORTANCE OF DISTINGUISHING BETWEEN THE CONTENTS OF THE SMALL AND LARGE INTESTINE.

THE forensic importance which a minute point in physiology may assume is well illustrated by a case related in the *New York Medical Journal* of July 26th by Professor Austin Flint. A prostitute went to a room in a disreputable hotel about midnight with a man who disappeared in the night and was never discovered. In the morning she was found strangled and mutilated. A man who occupied the opposite room in the hotel and was seen to enter it about 1 A.M. and to leave it about 5 A.M. was charged with the crime. The theory of the prosecution was that he entered the room of the deceased after her companion had left. On his shirt and stockings, on the bed ticking floor and door of his room, on a knife found in his room, and on the floor between his room and the woman's room mammalian blood was found. On matter taken from under the prisoner's long finger nails bilirubin, tyrosin, cholesterin, triple phosphates columnar epithelium, eggs of round worms starch granules, and partially digested muscular tissue and vegetable matters were found. Before Professor Flint was employed in the case the experts thought that these substances came *from* the large intestine. They understood that a piece of intestine cut out by the murderer was from the large intestine. Though assured of this Professor Flint insisted that the substances came from the small intestine. On referring to the record of the necropsy he found that a portion of the lower part of the small intestine had been cut out and that the large intestine was uninjured. He based his opinion mainly on the presence of tyrosin and bilirubin. In the large intestine the tyrosin would be changed into indol and the bilirubin into stercobilin or hydrobilirubin. This reasoning applies only to normal digestion, in some forms of diarrhœa and in Asiatic cholera tyrosin may be found in the fæces similarly in certain pathological conditions bilirubin may be found in the fæces. The forensic importance of the point arose *from* the defence assuming that fæcal matter (i.e. contents of the large intestine) might be found under the finger nails of persons of grossly uncleanly habits. Of course no such explanation could apply to substances found only in the small intestine. The prisoner was convicted of murder of the second degree.

BACCELLI'S TRIBUTE TO VIRCHOW

AMONG the many Immortelles laid on Rudolph Virchow's tomb by his European contemporaries, that of Dr Guido Baccelli, Minister of Agriculture in the Italian Government, may be taken to express the feeling of Italy not only in the medical profession but among nature students throughout the kingdom. We translate it textually as given in the telegram despatched by His Excellency to Professor Posner of the Berlin University. Wherever the whole world over science and *freedom* integrity and character are held dear the highest honour will be paid to the memory of Rudolph Virchow. A light and ornament of our friend Germany he was for more than half a century the master acclaimed by all masters, in the domain of medical culture. For us Italians he was ever the tender friend, unforgetting and unforgotten. I think I see him still at Berlin on the day of his apotheosis as he sat in the august assembly on a chair enwreathed in laurel, concealing from himself with the sweet serenity of a great soul the triumph he had earned, so as to leave his heart free to its loving sense of gratitude. I beg you, my dear Posner to convey to his family to his colleagues to his friends our deep fraternal sorrow—sorrow tempered only by the words of Tacitus *Non est lugenda mors quam immortalitas consequatur*

VENOUS THROMBOSIS IN PNEUMONIA

THOUGH many cases of venous thrombosis in typhoid fever and influenza have been recorded this complication appears to have been seldom observed in pneumonia. In an important paper published in the *Johns Hopkins Hospital Bulletin* for June, Dr Walter R. Steiner states that he could collect only 39 cases of thrombosis in pneumonia. In 27 out of 32 cases the thrombosis occurred during convalescence in one case on the day of the crisis and in four cases during the course of the disease. The lower limbs were always affected. As in typhoid fever and other infections the left femoral vein was usually involved. Dr Steiner relates three cases of thrombosis which occurred in a series of about 600 cases of pneumonia in the Johns Hopkins Hospital. Case 1.—A negro, aged 21 years was admitted on Jan. 9th 1899 the fifth day of an attack of double pneumonia. The crisis occurred on the ninth day. Seven days later when resolution was progressing slowly the temperature suddenly rose and there occurred a chill and prune juice sputum." No further involvement of the lungs could be detected. The temperature remained elevated for five days. Four days after its fall thrombosis of the right popliteal vein and œdema of the foot and leg ensued. The temperature rose to 100·8° and there was pain in the leg, especially in the calf. Under a lead and opium lotion the pain was relieved and the swelling was reduced. Case 2.—A man, aged 63 years, a heavy drinker, was admitted on Feb. 1st, 1901, the eleventh day of an attack of pneumonia of the right upper and middle lobes. A systolic murmur was heard at the apex. Three days later the varicose veins of the right leg began to be painful, especially above the knee, where they were red, firm, and tender. Two days later the right internal saphenous vein was visible and cord like on palpation. He gradually sank and died. At the necropsy thrombosis of the right internal saphenous vein was found. Case 3.—A negro, aged 22 years, a hard drinker, was admitted on Jan. 4th, 1902, the fifth day of an attack of pneumonia of the lower left lobe. Resolution was slow and the temperature reached normal on Jan. 21st. Six days later there was pain in the right leg. In the popliteal space was a tender, cord like swelling of the size of the little finger. It could be traced down to nearly the lower third of the leg. Recovery followed and he was discharged on March 4th with the popliteal vein no longer palpable.

A DEAR PISTOL.

WE have frequently pointed out that a licence is required for the carrying of a revolver as in the case of other "guns," and have suggested that if it were possible to enforce the law in this respect some small check might be placed on the free handling of firearms by boys and others, although, of course, more effective legal facilities are required if the evil is to be satisfactorily dealt with. At the police-court at Stratford a youth was recently summoned by Mr. Hodges, a vigilant Excise officer, who saw him show a revolver to a friend and at once asked him if he had a licence to carry it. The conscience-stricken youth, who of course had no licence, promptly proceeded to the post-office and bought one, taking what was no doubt a prudent course in order, if possible, to propitiate the bench by complying with the law as far as lay in his power, though in a somewhat belated fashion. This took place on July 25th and as such licences run from August 1st in any given year the defendant's licence only lasted for five days and the Excise for once had the best of it. It was stated in court that he had broken up his revolver—no doubt in disgust at the expense in which it had involved him—and he was only fined the nominal sum of 2s. 6d. with costs. It must be remembered, when we congratulate Mr. Hodges on his effective action, that it was merely by accident that he saw the revolver exhibited in public and was able to take out the summons, and that any man within his own home and the "curtilage" thereof may keep a pistol without having to pay for a licence and without anybody troubling about it until he shoots himself or somebody else.

FINAL PROGRAMME OF THE SIXTH INTERNATIONAL CONGRESS OF CLIMATOLOGY.

THE final programme of the Sixth International Congress of Hydrology, Climatology, and Geology has now been issued and it offers a very attractive series of excursions at a comparatively moderate cost. On Monday morning, Sept. 29th, the opening ceremony will take place at the town hall of Grenoble, to be followed by a visit to the monuments of that most picturesque city. In the afternoon the sections will meet at the School of Medicine and there will be a banquet at the town-hall in the evening. In the afternoon of the following day there is to be an excursion to Uriage and on Wednesday afternoon to Allevard. The sections will meet in the morning of those days, but the whole of Thursday is to be devoted to visiting the plateau of Petites Roches, the climatic station in the mountain of the Chartreuse, and the valley of Graisivaudan. Another party will go to Villard-de Lans and the climatic station of Vercors. The discussions are to be resumed on the Friday morning and continued all day. On Saturday also there will be two sittings, and the business of the Congress will then be concluded; but on Sunday, Oct. 5th, there is to be a great excursion to the Grande Chartreuse and a visit to the convent, and the members will sleep at Aix-le-Bains. On Monday, the 6th, they will visit Aix les Bains, the lake of the Bourget, and the Revard climatic station; the members will then part company. The whole of these excursions, including meals, will not cost more than £2, and those members whose names were inscribed before Sept. 10th will obtain a 50 per cent. reduction on the French railway fares to Grenoble. The scientific discussions to be held will be in accordance with the programme published in these columns on July 19th last. The subscription for membership is 20 francs, which should be forwarded to the general secretary, Dr. Fernand Berlioz, à l'Ecole de Médecine, Grenoble, Isère, France.

CHOLERA IN EGYPT.

THROUGHOUT Egypt during the week ending August 25th there were 2010 cases of cholera and 1520 deaths. At Cairo during that period 188 cases of cholera, with 164 deaths, were registered, as compared with 150 cases and 143 deaths during the previous week. The disease has spread to a great extent throughout both Upper and Lower Egypt during the week ended August 25th, notice having been received during this period of 144 new places which have become infected. Owing to this rapid extension of the epidemic the Director General of the Sanitary Department does not anticipate any marked improvement for some weeks to come. Dr. Ibrahim Eff. Hafiz, late sanitary inspector of Tala District (Menoufieh), contracted cholera during the execution of his duties and died on August 17th.

EDOARDO PORRO—IN MEMORIAM.

"BEFORE the next issue of THE LANCET," writes an Italian correspondent, under date Florence, Sept. 8th, "Salsomaggiore will have paid an impressive tribute to the Senator Edoardo Porro whom the 'Stazione Balnearia' has to thank for much of the organisation and development under which it has become known to the profession. There will be a 'Congresso di Ginecologia,' attended by distinguished obstetricians from both sides of the Atlantic and on the 11th a bust of Porro will be unveiled, the spokesman on the occasion being the Hon. Agostino Berenini, member of the Italian legislature. Among other speakers will be Professor Bertazzoli, lecturer on obstetrics in the Milanese Hospital, in whose hands the 'Sectio Cæsarea Salubrior Instituta' has had a success hardly inferior to that of the master."

PRESERVATIVES IN MILK.

TWO cases where preservatives had been used in milk were brought up at the Leigh (Lancashire) police court recently. In one of them Dr. Campbell Browne, the county analyst, found eight grains of boric acid to the pint of milk. Dr. J. King, the medical officer of health of Leigh, said that this was absolutely dangerous to an infant, and if it continued to take such milk it would be slowly poisoned; he also stated that a "preservative" even in small quantities retarded digestion. For the defence it was stated that "farmers had to sell their milk, and it went sour in summer much sooner than in winter," two very clear "glimpses of the obvious." It was urged that the farmers relying on the statement that such preservatives were harmless bought and used them without having the slightest idea that they were doing wrong As *these were the first cases of the kind brought before them* the magistrates took a lenient view and only ordered that the defendants should pay costs. The corporation of Leigh was complimented by the chairman of the magistrates for bringing these cases into court and he said that farmers should not be led away by plausible advertisements. It is to be feared that the standard of education attained by the average working farmer is as yet scarcely sufficient for his guidance in such matters.

THE DISTRIBUTION OF PLAGUE

A TELEGRAM from the Governor of Mauritius to the Colonial Office states that during the week ending August 28th there were 4 fatal cases of plague in the colony As regards Egypt, the weekly return issued by the Director General of the Sanitary Department states that from August 18th to the 24th there were at Alexandria 2 fresh cases and 3 deaths. The cases remaining under treatment were 8 in number all of them at Alexandria As regards Hong Kong a telegram from the Governor (received at the Colonial Office on Sept 9th) states that for the week ending Sept. 6th there occurred 1 fatal case of plague

THE PREVENTION OF SPITTING

WITH reference to the prevention of spitting in public—a subject with which we dealt in an annotation in our last issue—it may be of use to county councillors having the health and cleanliness of their localities at heart if we refer them to previous issues of THE LANCET[1] and call their attention to the action taken by certain Welsh county councils in this matter Under the Local Government Act of 1888 county councils are given the power to make by laws for the good rule and government of their county and a by law with reference to spitting has not only been drafted in the counties referred to by one of our Wales and Western Counties correspondents but has also been submitted to the Home Office for approval and sanction The proposed by law was as follows A person shall not spit on the floor of any public carriage or of any church, chapel public hall, waiting room, schoolroom, theatre, or shop, whether admission thereto be obtained upon payment or not." For the infringement of this by law a maximum penalty of £5 is provided The Home Secretary clearly did not think the by law *ultra vires* so far as the powers given to county councils are concerned, but he declined to approve of it as affecting churches chapels schools and shops Its application is thus to be limited to public carriages public waiting rooms public halls, and places of public entertainment, while the walls or sides of the places in question, as well as the floors, are not to be spat upon. It will be observed that no attempt has been made to include public highways or public houses, the by law dealing only with places where its enforcement is clearly within the bounds of possibility Even in the limited number of places enumerated above the principle upon which the Home Office sanctions the application of the by law is not quite clear but it would seem to be implied that certain places are more under private control than others and should be privately regulated. And in any case a conviction might be followed by an appeal as to whether the by law was a good by law under the Act notwithstanding the sanction of the Home Secretary As it stands however the existence of such a regulation in any locality even though with a limited application, should tend to call attention to the fact that promiscuous spitting without regard for others is at all times and in all places unnecessary, disgusting and insanitary

THE PREVALENCE OF SMALL-POX.

THE following figures show the number of cases admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned. On Sunday Sept. 7th, there was 1 fresh case, on Monday the 8th there were 4 fresh cases on Tuesday the 9th there were no fresh cases and on Wednesday the 10th, there were no fresh cases.

PULMONARY CONSUMPTION AMONG MINERS ON THE RAND

THE publication in THE LANCET of June 14th, p. 1677 of a paper on Gold Miners Phthisis in the Transvaal by Dr Thomas Oliver of Newcastle-upon-Tyne is receiving the attention of the authorities in South Africa which the important question deserves. It is announced from Johannesburg that a Government commission is to be formed which will probably be composed of State engineers doctors, mine managers miners and an explosives expert" to inquire into the causes of phthisis among miners The respirator it is stated is being submitted to practical tests and important information is being obtained. It is worthy of note that the appearance in our pages of the article alluded to at once attracted the attention of the *Mining Journal* one of the most important trade journals in this country and which for a few weeks in succession devoted considerable space to the discussion of the malady As far back as Nov 23rd, 1901 there appeared in the *Mining Journal* a letter on Rock Drill Miners, by Mr Nicholas Trestrail, C E Redruth who said It is surprising to see the number of men returning from foreign mines who in a comparatively short time continuously working rock drills are reduced from strong healthy individuals first to mere shadows and then death. Happily there is now the prospect of something being done for the Transvaal miners In our issue of Sept. 6th, p. 707 we published a letter entitled 'Gold Miners Phthisis, sent by Dr G A. Turner acting assistant medical officer of health for the medical officer of health of the Transvaal requesting medical men when reporting a case of death from this disease to notify the same to the public health department of the Transvaal and to add if possible the name of the mine where the deceased was employed As it is understood there are still some cases of gold miners consumption in the mining districts of *Northumberland* the *South African Government might* possibly receive some assistance from the north of England.

THE STUDY OF MENTAL FATIGUE IN SCHOOL WORK.

WE have received from Dr Giuseppo Biller of Bologna a monograph of much interest giving in detail the results of his investigations on an hour's work done by the children of public school The object of the inquiry was to study the amount of mental fatigue in a day's work and in the cycle of the year among boys and girls of an average age of 11½ years. The mental test used was the average correctness of arithmetical sums in division set in examination papers for an hour's work at the beginning and end of the school day and at the commencement and termination of the scholastic year The conclusions arrived at were that the quantity of work produced during each successive quarter of an hour affords no rule but becomes more inaccurate in the afternoon work is both less in quantity and worse than in the morning At the end of the school year work was always more in quantity but worse in kind. Mental fatigue in children has often been the subject of investigation and presents problems of interest, if the method employed in ascertaining the facts afforded a certain index of cortical exhaustion results might be obtained of great value in scientific education. Investigators mostly employ examination papers in arithmetic as tests, but the working-out of sums on paper requires work done in the brain and sight impressions with accurate *direction of the eyes* in looking at the figures, as well as expression of mental processes by the fingers in writing Some kind of control experiments are desirable to show what amount of inaccuracy in results may be due to the eyes and hand. An error in the written answer may depend upon not looking at the right figure, or writing down the wrong figure, or upon the mental processes in the cortex cerebri where impressions from sight of the figures should interact with impressions retained as to the arithmetical processes previously learned Inaccuracy appears often to depend upon retinal fatigue or irregular eye movements not under control. It would be a matter of interest, and might lead to more exact knowledge of the pathology of mental fatigue, if tests were employed in "mental arithmetic" where an auditory impression is followed in the brain by a mental process without necessitating accurate eye fixation so essential in working sums on paper The difficulty of investigating mental fatigue arises chiefly from the want of a quantitative standard of mental work, the correctness or value of the result is no necessary indication of the amount of nerve energy expended Superabundant spontaneous thoughts may cause delayed expression and mental confusion which is very exhausting

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[1] THE LANCET March 22nd (p. 831) and June 28th 1902 (p. 1852)

BEFORE the revising barrister at Holborn on Sept. 8th Mr Waterson, on behalf of the President and Council of the Royal College of Surgeons of England, asked that their names should be reinstated in the lists He said that they had to his knowledge been included in the lists since 1892 and they were entitled under their charter to be there. Henry VIII. granted a charter to the "Masters and Governors of the Mystery and Commonalty of Barbers and Surgeons," and in 1800 George III. granted another Charter to the "College of Surgeons of London." This last retained all the old privileges of the original charter, including the franchise as freemen of the City of London and the suburbs The Franchise Act of 1832 retained those privileges of voting and the present claim was made under the Act. Mr Strickland said that he would give his decision after consulting the Acts of Parliament

OUR readers will be sorry to learn that Dr Enrico Bottini, professor of operative surgery in the University of Pavia, has been struck down by intracranial hæmorrhage, the right half of the body being completely paralysed At the last consultation held by his medical colleagues in attendance a slight improvement in the speech was found, while the mind had regained its clearness Dr Bottini's contributions to THE LANCET on Angioma Treated by the Galvano cautery are still remembered and cited, particularly abroad

WE are informed that Mr John Croft, F R.C S Eng, has resigned his appointment as one of the two medical officers of the National Provident Institution, a position which he has held for the last 18 years in association with Dr T Henry Green. We understand that the directors do not propose to fill the vacancy by the appointment of another surgeon in the place of Mr Croft but to select a member of the medical branch of the profession.

M DE SZELL, the Hungarian Premier, who is also Home Minister, has just issued a decree forbidding anyone except doctors of medicine to practise massage.

Looking Back.

FROM

THE LANCET, *SATURDAY, SEPT 11*, 1824

FOREIGN DEPARTMENT

ANALYSIS OF FOREIGN MEDICAL JOURNALS.

ARCHIVES GENERALES.—JULY

Case of a Tape worm found in the Bladder, presented to the Royal Academy of Medicine at Paris, by M JULIA FONTANELLE

This case appears to us the more extraordinary, since in all our researches we have not been able to find a similar one It fell under the notice of Dr DARBON, celebrated for the various experiments which he made at the Hotél Dieu and La Charité for the expulsion of tænia. Before him several physicians had recognised the existence of round worms in the kidnies and the bladder GERON[*] has published a case of a woman passing three round worms by the urethra. TULPIUS[†] makes mention of a worm being passed with the urine, which was round, long, and red as blood. AMBRIOSE PARÉ[‡] says, that LOUIS DURET voided similar ones after a long illness PANZANI saw a clergyman fifty years of age, who suffered for four years constant pain in that part of the bladder which corresponded to the centre of the sacrum The different symptoms appeared to announce the presence of stone in the bladder, when there came away with the urine two lumbricales, after which the pain left him DUCERF,[*] CHOPPART,[†] DUMERIL,[‡] STROMAIER,[§] MOUBLET,[‖] and others have published similar observations. There is a curious fact recorded[¶] of a stone being formed in the bladder, having a worm for its nucleus. It is very probable that since the lumbricales are sometimes found in the bladder, the tænia may also exist in it, and the case communicated to the Academy by M FONTANELLE proves it. In this case several yards of tape worm were voided by a gentleman fifty-six years of age, his chief symptom was an insupportable pain at the verge of the anus, which left him after the worm was voided

Statement of Broussais' opinions

By M GOUPIL.

This is the seventh article which has appeared in this work, on the same subject. BROUSSAIS is the author of a work entitled *Histoire des Phlegmasies Chroniques* which contains much valuable information, conducts a periodical publication, the *Annales de la Médecine Physiologique*, and is the supposed author of a catechism of physiological medicine, written in a familiar style, being in the form of dialogues between a *savant* and a young physician, and this contains a succinct statement of the new medical doctrine, *as it is styled.* Opposed to this doctrine are several eminent men, who are, at present, carrying on a severe paper war with BROUSSAIS and his followers M. BROUSSAIS thinks that he sees gastro-enteritis in every disease, and consequently carries the anti phlogistic plan to an excess, thus laying himself open to the attacks of his enemies, who really withhold from him the merit which he deserves We shall take an opportunity of giving, at some future time, an account of the new medical doctrine

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[*] Journal de Médecine 1789
[†] Observat Med lib 2 cap 4
[‡] Lib 20
[*] Mallatia verminosa della vesica
[†] Journal de Médecine 1803
[‡] Maladies des voies urinaires.
[§] Mentioned by JULES CLOQUET in his work on the anatomy of intestinal worms
[‖] Gregor Horstie, opp tom. 2.
[¶] Ephemerides de curieux de la nature.

HOSPITAL SATURDAY.—The recent Hospital Saturday collection at Ilfracombe has resulted in nearly £250 being raised for the local medical institution.—In Haslemere, Surrey, Sept 6th was observed as Hospital Saturday, and by the collections a total of £26 was realised, which, after deducting 13*s* 6*d* for expenses, is to be distributed as follows Haslemere Cottage Hospital, £10 12*s* 6*d*, Surrey Convalescent Home, Seaford, £10 10*s*, and Royal Surrey County Hospital, Guildford, £4 4*s*

THE ELECTION OF A DIRECT REPRESENTATIVE TO THE GENERAL MEDICAL COUNCIL.

The following are the election addresses of Sir Victor Horsley and of Mr Joseph Smith —

SIR VICTOR HORSLEY'S ADDRESS.

To the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen —On the eve of the expiration of my term of office as one of your representatives on the General Medical Council I beg to offer myself for re-election.

After my first attendance at the Council I instituted a system of reporting to you at intervals the transaction of business in the Council

I need not, therefore, again recount the work accomplished during the past five years, but I may justly congratulate you on an improvement in the attitude of the Council towards the profession, and in its recognition if tardy *that reform and amendment of the Medical Acts is a* pressing necessity

My object in standing for re-election as a member of the Council is to further as much as I can the progress of those legislative changes which are not only under present social conditions essential to the welfare of the practitioner but are, in fact, also necessary to provide adequately for the work of the Council itself and to render its educational decisions properly effective.

I am obliged to you for the confidence you have reposed in me and will endeavour, if you re-elect me to fulfil as far as possible what I conceive to be the duties of your representative.

Cavendish-square, W Sept. 7th — Victor Horsley

MR. J SMITH'S ADDRESS.

To the Medical Practitioners of England and Wales.

Ladies and Gentlemen —On several occasions during the past six months I have been asked whether I would allow myself to be nominated as a candidate for the seat on the General Medical Council which shortly becomes vacant. I hesitated to give consent as I fully anticipated that some well known general practitioner in the north of England would have been nominated in order to assert the principle of Topographical Representation of which so much was heard during the election last year when Dr Woodcock of Manchester was a candidate In that case I should have stood aside altogether

Within the last few days several of my colleagues on the Central Council of the Incorporated Medical Practitioners Association have urged it upon me as a duty to offer myself as a candidate in order to give general practitioners an opportunity of declaring by their votes whether they are desirous that the seats given to the profession by Parliament, in response to the oft-repeated appeals of general practitioners, should like those granted to the corporations and universities be handed over to consultants. When the privilege of voting for members of the General Medical Council was first granted to us in 1886 the late Sir Andrew Clark, in a letter published in the medical journals said that the interests of consultants were already more than adequately represented and that it was natural and proper that general practitioners should elect as their representatives genuine working members of their own body " If he added, this principle of election be disregarded, it would seem at least to me that the fight had been fought and the battle won in vain."

Fellow Practitioners, to support and if possible with your help once for all to establish, the principle so forcibly laid down by the late Sir Andrew Clark, and, I may add subsequently endorsed by Sir Victor Horsley and other eminent consultants I have consented to be nominated. Of the 31 members of the Council there were only three general practitioners—viz. Messrs Brown and Jackson for England and Dr Bruce for Scotland. How much longer is this one-sided representation to exist?

With regard to my views on medical politics generally I am in *entire agreement* with my friends and colleagues on the Central Council of the Incorporated Medical Practitioners Association, Messrs George Brown and George Jackson (your present representatives on the General Medical Council) and if you do me the honour of electing me as your representative it will be my constant endeavour to work in harmony with them The voting papers will be issued in a few days and I regret very much that the short time which will elapse before you will be called upon to record your votes prevents me from placing my views through the post more fully before each elector I trust, however that the cause I represent, that of the general practitioner will be sufficient to induce every medical practitioner who reads this address to use his utmost endeavours to secure my return at the head of the poll

I remain, ladies and gentlemen,
Your obedient servant

Joseph Smith M.R.C.S. Eng L.M. L.S.A. Lond.
D P H Cantab.
Late President of the Incorporated Medical Practitioners Association
President of the Society of Members of the Royal College of Surgeons of England &c.

Bedford Park Chiswick Sept. 4th, 1902.

ASYLUM REPORTS

Hertfordshire County Asylum (Annual Report for 1901) —The average number of patients resident during the year was 528 comprising 229 males and 299 females The admissions during the year amounted to 125, of which number 74 were males and 51 females. Of these 124 were first admissions. Dr A. Norman Boycott the medical superintendent, states in his report that in only 42 cases among the patients admitted was the insanity the first attack and of less than three months average duration, and that in 57 cases the average duration of insanity on admission was over 12 months. These facts together with the advanced age of many of the patients, show that the type of insanity of the new cases was not very favourable as regards recovery " Among the admissions were 11 patients over 70 years of age. The number of patients discharged as recovered during the year amounted to 17 or 3·2 per cent. of the average number resident. The deaths during the year amounted to 33—viz., 20 males and 13 females or 6·02 per cent as calculated on the same basis The average age of the patients at death was 58·4 years. Of the deaths two were due to senile decay three each to bronchitis and Bright's disease, four each to colitis and organic brain disease five each to pulmonary tuberculosis and general paralysis of the insane and the rest to other causes No deaths were due to accident or violence and no inquests were held. Post mortem examinations were made in 31 cases The general health of the institution has been satisfactory During August and September there was an outbreak of colitis chiefly affecting old and feeble patient. No other disease of an infectious nature has occurred Owing to the epidemic of small-pox in London and also to the occurrence of cases in the neighbourhood of the asylum it was considered necessary in November to stop the visiting of patients by their friends. There have been no serious casualties during the year The Commissioners in Lunacy state in their report that the wards were bright clean, and cheerful that the dormitories were fresh and clean that the patients were neatly dressed and orderly in behaviour and that the medical case-books were intelligently and well kept. The committee of management states in its report that the main asylum buildings were completed during the year and that the wards were now occupied throughout the institution. An application was made to the Local Government Board for a loan of £2000 for the carrying out of the painting and papering of the asylum. The heating and lighting arrangements have worked well. A scheme for the disposal of the sewage has been prepared and application made to the Local Government Board for a loan of £2450 to carry out the said scheme The maintenance rate for patients per week was 14s. per head.

Obituary.

PROFESSOR RUDOLPH LUDWIG KARL VIRCHOW

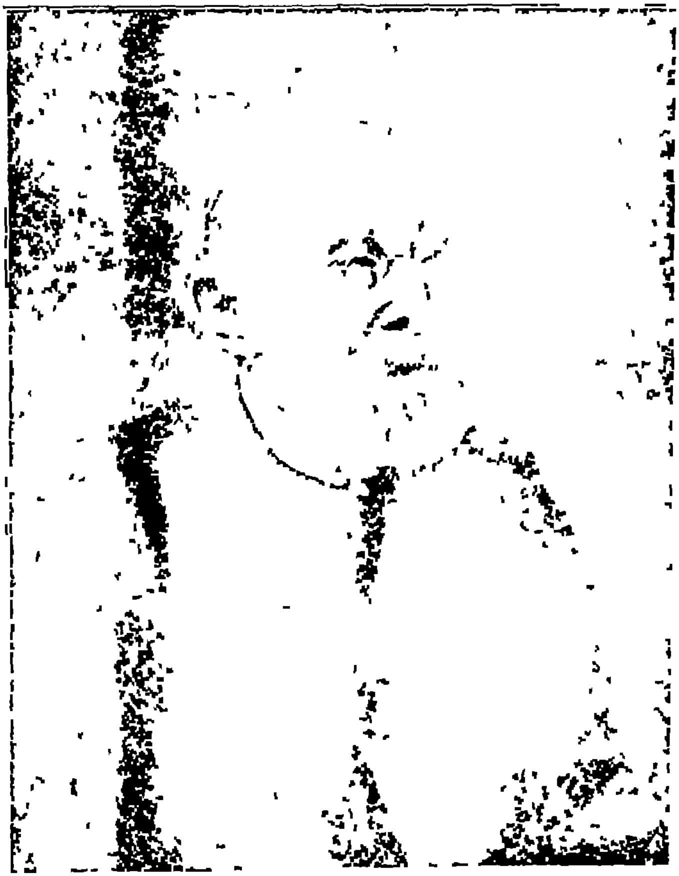
GERMANY and with her the entire scientific world, mourns the loss of Professor Rudolph Virchow who passed away on Friday last (Sept 5th, 1902) in the eighty-first year of his age. As a man of science he was world famous, and justly so even if his reputation depended on his "Cellular Pathology" alone, for by this epoch-making work, indebted though he was, in part at least, to the researches of previous observers, such as Schwann and his former teacher, Müller, he rescued the science of treatment from the stigma of empiricism and established it firmly upon the basis of a scientific appreciation of ultimate causes. As a democratic politician he represented to his countrymen the very spirit of progress and social reform, and as such his name will remain a cherished memory. So strenuous was his advocacy of his principles and so uncompromising was his language in the opposition to what he considered retrograde measures as to provoke a challenge from Count von Bismarck on the occasion of the defeat of the Government on a navy vote—a challenge which he happily possessed the courage to decline.

Although over 80 years of age Professor Virchow was in the habit of jumping on and off the tram cars whilst they were in motion and on the occasion of the accident, which occurred to him on Jan. 5th, he slipped on getting down and fell heavily in the road. He lost consciousness for a certain time but on recovering was enabled to give his name and address to a policeman by whom he was removed to his house. Professor Körte of the Urban Hospital was called in and found that Professor Virchow had fractured the neck of his femur. There was a great amount of shock present and for the first few days after the accident a fatal issue was expected, but Professor Virchow's constitution proved to be so excellent that he was soon in a fair way to recovery. Although advised to abstain from all mental work he was not a very tractable patient, and it is reported that he took so much interest in his own case that he declared that no osseous union would take place and that skiagrams which were taken proved the correctness of his opinion. After a time, however, he was able to get about on crutches and early in May he was removed to Teplitz with a view to try the effects of the hot springs which exist there. He improved so rapidly that after a few weeks' stay he was able to go to Hartzburg. A very inclement summer, however, prevented him from taking due advantage of the mountain air. He was nearly always compelled to keep his rooms and by and by symptoms of bodily and mental debility supervened. He became more and more apathetic, slept for the greater part of the day, and was unable to leave his chair. About three weeks ago his friends decided to take him home and although the journey from Hartzburg to Berlin takes only four hours it had a very bad effect upon him. He became unconscious and never really recovered from the coma, but expired on the afternoon of Sept. 5th. The news was received with the deepest sorrow by every class of the population of Berlin, and the Municipal Council, to which Professor Virchow had belonged since he went to live in Berlin, held an extraordinary meeting and decided that the funeral should be of a public character.

Rudolph Ludwig Karl Virchow was born on Oct. 13th, 1821, at the small town of Schivelbein, near Stettin, in Farther Pomerania. Of his early years there is but scant record; he appears to have received his education in the gymnasium at Cöslin, where he distinguished himself by his linguistic abilities. In addition to his knowledge of Latin, Greek, English, and French he was a good Hebrew scholar and selected that language as an optional subject for his *Arbiturienten* examination at the age of 18 years. He entered at the Friedrich Wilhelm Institut, a training college for army surgeons now known as the Kaiser Wilhelm Academie, in 1839, where during the next five years he studied under, amongst others Müller, Dieffenbach, and Caspar. In 1843 he proceeded to the degree of *Unterarzt* (Berlin University), presenting for his inaugural dissertation a thesis entitled, "De Rheumate Praesertim Corneæ." Although the students of the Friedrich Wilhelm Institut received their education on the condition of serving in the army, Virchow, during his career there, showed so much skill and intelligence that by order of the General Staff Surgeon he was released from active service and was given the place of assistant at the Charité Hospital. Selecting the scientific rather than the practical side of his profession he obtained the following year the post of prosector of anatomy to the Charité Hospital, acting as assistant to Robert Froriep whom he eventually succeeded in 1846. Early in 1847 he became external lecturer in pathology at the University of Berlin, and shortly afterwards founded the well-known *Archiv für Pathologische Anatomie und Physiologie, und für Klinische Medicin* in collaboration with Benno Reinhardt. From the time of his colleague's death in 1852 onwards he continued to edit the journal alone and enjoyed the satisfaction of celebrating its jubilee, together with that of himself as a teacher, at a banquet held in the Kaiserhof in December, 1897.

In 1848 an incident occurred which would have proved the undoing of a weaker man. Selected to accompany the medical officer entrusted with the investigation of a severe epidemic of relapsing fever (*hunger typhus*) in Silesia, the actual investigation and the preparation of the report thereon devolved upon Virchow and these duties were carried out in the masterly style characteristic of the man. In his "Mittheilungen uber die in Oberschlesien herrschende Typhus epidemie" he denounced the evils from which the disease resulted, demanded extensive reforms, and concluded by stating that nothing short of the extension of the benefits of civilisation to one and a half million living souls would successfully cope with the epidemic. Such reflections upon the ineptitude of the then administration, coupled with the fact that Virchow on his return had allied himself with the ultra Radical party and had founded in association with Leubuscher a medico political journal, *Die Medicinische Reforme* (a paper that ceased to exist when Virchow was appointed to Würzburg), were amply sufficient to ensure his dismissal from all his professional posts in Berlin. His fame as a pathologist had, however, already spread beyond the confines of the capital and the University of Würzburg at once seized the opportunity and offered Virchow the professorship of pathology and the directorship of the newly founded Pathological Institute. These posts were accepted and for the next seven years Virchow devoted himself almost completely to research work, contributing many valuable memoirs to the pages of his *Archives* and founding a school of workers and thinkers the results of whose observations cannot be too fully appreciated. In 1855 he commenced the publication of his best-known work, "Die Cellularpathologie in ihrer Begrundung auf Physiologische und Pathologische Gewebelehre," propounding therein, as the basis of his theories, the now familiar dictum, "*Omnis cellula e cellulâ*."

On the death of Professor Hemsbach the Faculty of the University of Berlin petitioned the Minister of Public Instruction to offer a chair of pathology to Virchow, and in spite of strong and bitter political opposition the appeal was successful and Virchow returned to Berlin. He accepted his appointment on the condition that a pathological institute should be founded, and the Government agreed to his wishes. Soon after his return to Berlin the first complete edition of his "Die Cellular Pathologie" appeared in 1858. His great work on new growths, unfortunately never completed, also dates from this period. Under his direction the pathological department, formerly the dissecting room, of the Charité Hospital became a model for similar institutions. With indefatigable zeal he collected specimens of pathological conditions and arranged and classified them till he had got together a collection only to be equalled by the Hunterian Museum in London. One of his greatest satisfactions was when two years ago, on the occasion of the rebuilding of the Charité Hospital, he was able to open the Pathological Museum where his collection had finally found adequate room and was therefore made accessible to students and to the public. Besides this pathological museum he had made a large anthropological collection of his own, consisting mainly of crania of the different human races. Notwithstanding his manifold occupations he delivered his lectures regularly, and his assistants were only allowed to replace him for the practical work in microscopic anatomy and in making dissections. His lectures were attended not only by students but by medical men from every part of the world. He was not an orator in the usual sense of the word, his voice was weak and his



PROFESSOR RUDOLPH LUDWIG KARL VIRCHOW.

speech was simple and without that power of carrying away an audience which is so common among French speakers but when he was once upon the platform of the lecture room everybody felt that the little man with the sharp grey eyes was one to be listened to with the utmost attention After a few years spent in quiet work Virchow again entered public life as a member of the Berlin Municipal Council with which body he was connected as an active member for a period of over 40 years. In this capacity his powers of organisation and his conception of the duties of the State with regard to the well being of the people are evidenced by the establishment of the hospitals of Moabit and Friedrichshain and the lunatic asylums of Dalldorf and Lichtenberg His greatest work, however in practical hygiene was concerned with the introduction of drainage and in the erection of sewage-farms, hygienic improvements which he was enabled to carry out despite the opposition and the want of judgment displayed by a great part of the population and even by the authorities. Some doubts were expressed whether the soil of Berlin and its neighbourhood were fitted for a system of sewerage and a sewage farm Experience, however has shown that Virchow's genius was right in insisting upon it, as since the establishment of the system Berlin has become one of the healthiest towns on the continent enteric fever scarcely ever prevailing Virchow's hygienic work is closely connected with his political career. He was, as we have already stated, early elected a member of the Municipal Council and this position enabled him to carry out in a practical manner what he had found by theoretical and statistical studies to be the best for the health of the town. In 1862 he took his seat in the Prussian Diet and by sheer ability was soon recognised as the leader of the Radical party This position he resigned however, in 1878 and in 1880 he became a deputy of the Imperial Reichsrath As leader of the Opposition he did yeoman service for his country though his frequent conflicts with the Government prevented any of those decorations which are occasionally bestowed even upon scientific men falling to his lot

In 1866 his untiring energy found another outlet in the organisation of the ambulance service for the army both in that campaign and in the *succeeding one of* 1870–71. *Pathology* and politics, however were insufficient to fill the life of this remarkable man. He was President of the German Geographical Society and the Society of Anthropology and Ethnology (of which he was one of the founders) and of many others. Archæology and Egyptology also claimed place in his multitudinous interests and it may truly be said that in whatever branch of science he worked he became an acknowledged authority Honours of all kinds were showered upon him. In 1874 he became a member of the Royal *Academy of Science of Berlin. On the occasion of the* centenary of the Institut de France Virchow was made a Commander of the Legion of Honour and in the following year he became a Foreign Associate of the French Academy of Sciences. In 1893 Virchow visited England and delivered the Croonian Lecture of the Royal Society, a full report of which will be found in THE LANCET of March 18th 1893, p. 671, it was delivered in English, the subject being The Position of Pathology among the Biological Sciences.' The discourse, which shortly showed the steps by which Virchow had *felt himself able to give utterance to his famous* dictum, *Omnis cellula e cellula* was a masterly exposition of the progress of pathology from the time of Harvey Some six months previously the Royal Society had honoured both itself and Virchow by awarding him the Copley medal a distinction of which he himself said ' Its significance far exceeds the distinctions which the changing favour of political powers is accustomed to bestow " It was awarded for his investigations in Pathology Pathological Anatomy and Prehistoric Archæology

He visited London again in 1898 and gave the Huxley Lecture at the Charing Cross Medical School on the Recent Advances in Science and their bearing on Medicine and Surgery a lecture that impressed his hearers with the fact that advancing years had not blunted either his keen enthusiasm or his comprehensive grasp of detail. The lecture was delivered on Oct. 3rd and on the 5th Virchow was entertained at dinner at the Hotel Métropole by the members of the medical profession of Great Britain and Ireland. Lord Lister presided but Sir John Simon, Sir James Paget, and Sir Thomas Grainger Stewart were unavoidably absent. Of these three Sir John Simon alone remains to us the other two having passed away It was upon this occasion that Sir Samuel Wilks, the President of the Royal College of Physicians of London, said that he remembered the time somewhere about 40 years before when he was beginning to study the subjects which Professor Virchow had so advantageously taken up. He and his contemporaries were groping their way in the dark when a light came upon them suddenly from afar—a light which illuminated everything and penetrated into the interior and gave them a new insight into physiology and pathology Virchow came to generalise like another Newton and gave them the Principia of medical science.

With advancing years every occasion was taken of expressing to the *Altmeister* the affection and appreciation of contemporaries and pupils alike. Thus in 1891 his seventieth birthday was celebrated and a gold medal was presented to him by his Emperor in recognition of the immense services which he had rendered to science in 1893, the fiftieth anniversary of his doctorate and again in 1897 the jubilees of his first teaching appointment and of the foundation of the *Archives* were made the subjects of sincere and hearty rejoicings whilst on the occasion of his eightieth birthday—only last year—delegates from practically all the civilised countries of the world assembled in Berlin to do him honour

In the space at our disposal it is utterly impossible to attempt anything like a list of Virchow's contributions to scientific literature or of the various honours of which he was the recipient Suffice it to say that his active work ceased only with his death—the world's appreciation of his worth remains.

We hope next week to refer to the influence of Virchow as a pathologist upon that science which he has made his own, but we may say here that by his researches into the nature and causes of death he has let into the secret chambers of life a certain amount of light. It is to the patient work of men like Virchow and Pasteur among the dead and of Lister Ehrlich and Van t Hof among the living that we may apply the words of Crookes In old Egyptian days a well known inscription was carved over the portal of the temple of Isis I am whatever hath been is, or ever will be and my veil no man hath yet lifted Not thus do modern seekers after truth confront nature—the word that stands for the baffling mysteries of the universe. Steadily unflinchingly we strive to pierce the inmost heart of nature, from what she is to reconstruct what she has been and to prophesy what she yet shall be. Veil after veil we have lifted, and her face grows more beautiful, august, and wonderful with every barrier that is withdrawn.

On Tuesday Sept. 9th, the body of Virchow was laid to rest in the cemetery of St. Matthew The first portion of the burial service was said in the Rathhaus where the remains had lain overnight. The hall was draped in mourning and over the platform for the speakers hung a crucifix The Prussian Ministers of Education and of Finance were present together with Professor Mommsen Professor Harnack, and Professor von Bergmann. Professor Waldeyer and others delivered orations and the procession which was over a mile long then started on its journey to the cemetery

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DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced —*Dr Pasternatski, Professor of Internal* Medicine in the Military Medical Academy St. Petersburg — Dr von Tappeiner the Nestor of the profession at Meran, at the age of 86 years He was an authority on anthropology and botany with special reference of course to the Tyrol.—Dr Luis Rodriguez Seoane, Professor of Therapeutics in Santiago.—Dr. Paul Plosz, Professor of Medical Chemistry in the University of Budapest at the age of 57 years. He published a Hungarian translation of Hoppe-Seyler's Physiological Chemistry having been his pupil —Dr A. von *Rommert, Honorary* Body Physician to the Czar and Inspector General of the Medical Department of the Russian Army

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DEVON AND CORNWALL SANATORIUM FOR CONSUMPTION.—The sanatorium committee of the Devon and Cornwall Branch of the National Association for the Prevention of Consumption and other *Forms* of Tuberculosis announces that £4967 have been received towards the purchase of the Didworthy estate on Dartmoor which the committee has acquired and is fitting out as an open-air sanatorium for consumptive patients

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD FOR THE YEAR 1900-1901[1]

THIRD AND CONCLUDING NOTICE.[2]

IN the second notice of this report mention was made of some curious points which are to be found embedded in the vaccination statistics, and attention was called to the more important special inspections which were undertaken in various parts of the country to determine the sanitary condition of places which had suffered from visitations of preventable disease or in which obvious defects in sanitary administration had been brought to the notice of the Local Government Board

The possibility that the plague might be readily introduced into many parts of England and Wales and the knowledge previously acquired by the Board that in many ports the sanitary administration was defective and that there was a risk that incoming ships might not always be examined with due care led the Board to cause a general survey to be made of the chief ports and riparian districts

It is beyond doubt that these surveys have produced the most beneficial results. The visits were made in the years 1897-98-99 and 1900 Dr Theodore Thomson's report (Appendix A, No 20) shows that 40 port sanitary districts, 14 urban riparian districts, and three rural riparian districts were examined during these years. During the "cholera survey" which was made in 1893 and 1894 60 ports, 31 urban riparian districts, and six rural riparian districts were examined. A classification has been made of the results of the reports, the places visited being arranged under three headings (1) good or satisfactory, (2) fair or moderate, and (3) lax, *unsatisfactory*, or bad In the case of the examinations made as to the condition of vessels coming into port the ports and riparian authorities have also been classified into three divisions according to their efficiency or their lack of efficiency It will be seen from the table given below that there has been a *distinct* general improvement in the condition of the ports between the dates of the "cholera survey" (1893-94) and of "plague survey" (1897-1900)

Table showing in the Case of 50 (identical) Districts Visited in the Course of the Plague and the Cholera Surveys respectively the Manner in which Sanitary Affairs were Conducted by the Local Authorities

Quality of administration	Plague survey Number of places	Cholera survey Number of places
Class I, Good ..	21	15
Class II Indifferent	13	14
Class III, Bad ..	16	21
"Extent and quality of inspection of vessels coming into port.	—	—
Class I Good	18	14
Class II Indifferent	16	14
Class III Bad	16	22

The most important places in which improvements have taken place are the River Blyth *port sanitary* district, Dartmouth, Southampton, Workington, and Great Yarmouth. The state of Portsmouth is still unsatisfactory, that of Newhaven is very unsatisfactory, the state of Dover and of Holyhead is bad. The large amount of passenger traffic from the Continent to Dover and Newhaven renders the maladministration of these places a matter of serious concern

The summary of the history of the *progress* and diffusion of the plague in 1900 (Appendix A, 18) is a continuation of that which was contained in the annual *report* for 1899 The two reports together form a valuable digest, but the absence of references to the original sources of information certainly seriously detract *from* its use as a work of reference—a matter for especial regret in view of the enormous amount of labour which must have been bestowed on its production. In addition to this summary Dr R. Bruce Low has drawn up a memorandum on cases of plague and "suspected plague" in England and Wales during the year 1900 and on the precautionary measures adopted to prevent the importation and spread of the disease This report cannot fail to be of use to the future historian of plague, but it would serve no useful purpose to recapitulate in this place the information on a subject which was fully dealt with at the time in the columns of THE LANCET It may not, however, be out of place to say that the efficiency and energy displayed by the medical officers of the Local Government Board form a very pleasing contrast to the lack of those qualities lately shown in other departments of the State

The reports on the auxiliary scientific examinations contained in Appendix B are of great interest and some of them are likely to be of practical benefit to the community at large Appendix B, No 1, is a report on the behaviour of specific microbes in relation with cereal products, by Dr E Klein and Dr A C Houston The report is illustrated by a number of well produced plates The results are of a reassuring character Wheat, flour, oatmeal, and ground rice were the substances with which experiments were made, the bacilli of typhoid fever and of diphtheria and the vibrio of cholera were the microbes of which the behaviour was watched The result was briefly that in no single instance was there observed any tendency on the part of any of these microbes to multiply in the medium to which they were added

Appendix B, No 2, is a report on the bacteriological analysis of various foodstuffs by Dr Klein The substances which were subjected to "bacterioscopic" analysis in search of specific microbes were milk, butter, margarine, tinned substances, and other varieties of preserved food On the whole the results of these experiments will prove comforting to those who eat such things as tinned salmon, tinned potted ham, German sausages, and black puddings. It is rather to be feared, however, that those who have a partiality for delicacies of this description rarely heed the reports of scientific investigations.

The third inquiry in which Dr Klein was engaged (Appendix B, No 7) had regard to the infection of mussels and cockles with the typhoid bacillus and with Koch's cholera vibrio The results of the laboratory experiments on these questions are somewhat disquieting It appears that Koch's vibrio flourishes and probably increases in the substance of the oyster The typhoid bacillus is also able to support existence in the bodies of mussels and of cockles It is true that boiling water kills the microbes as well as the bivalves but Dr Klein has collected evidence to the effect that they are sometimes eaten raw, and he denies what he calls the "validity of the cooking" to which they are customarily submitted. He has performed experiments in imitation of the form of cooking to which he takes exception, which it seems consists in pouring water on a heap of the bivalves The boiling water, he found, was readily cooled by coming in contact with the upper layers of a basin of mussels and those in the lower layers still contained living typhoid bacilli. The very obvious lesson is, that those who eat mussels and cockles should ensure that they are sterilised by heat It may possibly be worth while to add that there is a general consensus of opinion on the part of those who eat mussels near some of the places from which they come that they are unfit for food at certain seasons of the year and they are, in fact, not then eaten at these places Whether this opinion is or is not well founded there is, of course, no doubt that all the ill-effects due to the eating of mussels are by no means to be ascribed to typhoid fever That question, however, is not the one in which Dr Klein was concerned, and it may be hoped that the results of his work will cause an improvement to be effected in the cooking of mussels Possibly the Local Government Board will issue a memorandum to peripatetic mussel merchants insisting on the necessity for the adequacy of the method of cooking to be adopted,[3] otherwise it seems likely that Dr Klein's investigations will have little practical result. Of the other reports one by Dr M. H. Gordon on the Bacteriology of Scarlet Fever (Appendix B, No 3) gives the result of his further researches into this subject

In reference to this investigation it may be well to recall the fact that the last report issued by the medical officer of the Local Government Board contained the account of investigations into the bacteriology of scarlet fever which had previously been made by Dr Gordon. A summary of the conclusions at which he arrived has already been given in The Lancet [4] It may be stated briefly that they supported *the view that the streptococcus scarlatinæ is the specialised* and essential agent of the specific infection known as scarlet fever In a footnote to his report Mr W H Power stated *with his usual scientific caution that the question as to how* far the streptococcus scarlatinæ merited the epithet specific" was a matter for future investigation to decide and that for the present the term was better avoided. As a result of his further studies Dr Gordon is led to infer that the more grave manifestations of scarlet fever are due to more than one cause. He believes that ' the infectious malady scarlatina," is due to the agency of streptococcus scarlatinæ and that ' the dangerous phases of the disease frequently result from the invasion of the tissues and of the blood of the patient by the streptococcus pyogenes These two organisms have been put to the most severe biological tests. Each of them," says Mr Power derived in turn from a variety of sources has been passed through the bodies of a series of rodents and very generally with the result that when recovered from the tissues of the last rodent of the series the particular streptococcus has been found to have retained its biological individuality altogether unimpaired. Mr Power believes that as a result of the whole series of Dr Gordon s investigations there is hope that in future indications for the satisfactory treatment of scarlet fever may be obtained by means of bacterial differentiation. It is to be hoped that this sanguine view may prove correct but, be this as it may, Dr Gordon s paper is worthy of study and of consideration.

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[1] Thirtieth Annual Report of the Local Government Board, 1900-1 Supplement containing the Report of the Medical Officer for 1900-1 London: Eyre and Spottiswoode. 1902. (Cd 747 Price 6s)

[2] The first and second notices were published in THE LANCET of August 23rd (p 548) and Sept 6th (p 695) 1902.

[3] Dr Klein could doubtless draw up a set of regulations to ensure proper cooking

A series of experiments of still greater practical importance was undertaken with a view to elucidate the etiology of enteric fever and the biology of the soil. Of the problems on which information was sought the first was What are the precise conditions which in a surface soil otherwise favourable to the multiplication of the typhoid bacillus determine its prompt extinction when placed therein in competition with the bacteria natural to the soil? On this question Dr Sidney Martin, F R.S. made a series of experiments (Appendix B, No 5) in continuation of his previous researches on the question The chief results which he had hitherto obtained have been published as appendices to the report of the medical officer of the Local Government Board and they may be briefly summarised as follows (1) In certain virgin soils the typhoid bacillus neither grows nor lives, (2) after cultivation these soils become capable when sterilised" of maintaining the typhoid bacillus for a limited time (3) cultivated soils—that is to say soils containing organic matter— when sterilised support the bacillus for a long period and the bacilli spread through the soil (4) unsterilised cultivated soil—or in plain language, ordinary garden soil—is inimical to the bacilli, the micro-organism cannot be obtained from such soil after 12 days or so. As a result of his further studies Dr Martin finds that the typhoid bacillus requires nitrogenous food. When proteids are present in the soil they are very slowly exhausted and they enable the bacillus to live for a considerable time. Some of the bacteria which live in the soil he believes, cause the disappearance of the typhoid bacillus. Dr Martin is of opinion that it ought not to be inferred that the putrefactive bacteria cause the death of the typhoid bacilli by destroying the nitrogenous matter and so exhausting the nutrient medium, or to use more simple language, by starving them out. Experiments have shown very definitely " he says, that the products of putrefaction soluble in alcohol are very powerful agents in inhibiting the growth and in destroying the vitality of the typhoid bacillus " The bacillus, he maintains is destroyed by the products of the putrefactive bacteria which exist in most cultivated soils. The chief and practical point which is taught by these investigations is that the typhoid bacillus has usually only a short life in the soil.

Another question on which Mr Power thought that inquiry should be made was as to how far the hostility exhibited in the laboratory by surface-soil microbes towards the typhoid bacillus is under the natural condition of the open country extended to other microbes of intestinal derivation to such microbes, for instance as are found in far greater number in sewage than is the typhoid bacillus and which under the conditions of open country experiment are much more readily identified and estimated in bulk than is the enteric fever microbe. The clear way in which Mr Power propounds definite problems for his scientific staff to solve must have, and indeed has already produced a most salutary effect on the usefulness of the work of the department by directing it in the course most likely to be useful. Dr Houston who was *entrusted with this investigation as a result of his elaborate* experiments has come to the conclusion that the bacteria of the soil taken as a class readily gain the mastery over the sewage bacteria (Appendix B. No. 4). In regard to the bacillus coli of typical character he found that it survived only a short time in the soil. But this microbe occurs in atypical forms or as Mr Power, using a well known botanical expression, happily names them, ' varieties. ' These varieties of the bacillus coli appeared to become extinct but on several occasions a distinct increase in their number took place and during this time of increased vitality typical" forms of the microbe were again present. On one occasion it appears that they were found on the fifty sixth day and on another as late as the eightieth day after the bacilli were put into the soil

A third question on which definite knowledge was wanted was What in a given locality the soil of which has long been habitually fouled by excremental matter and wherein enteric fever is endemic, is the result, as far as the bacterial quality of the deep soil water of conflict in the upper layers of the soil between micro-organisms proper to the soil and intestinal bacteria with which such soil has been fouled? An investigation in order to elucidate this question was made by Dr Houston at Chichester which is a city in which as Mr Power truly observes, the conditions of soil fouling could be considered to answer the required purpose. Dr Houston examined water from 14 wells the majority of which were situated in those parts of the city which are considered to be endemic typhoid fever areas 30 samples of well water were tested in regard to their chemical purity the presence and relative abundance of the bacteria capable of producing gas in gelatin shake-culture of the bacillus coli of the bacillus typhosus of spores of bacillus enteritidis and of streptococci. The results of chemical examination were not such as to give rise to suspicion of organic pollution on the contrary they indicated somewhat exceptional purity ' The number of microbes found was small Coli like microbes were found in 22 out of the 30 wells. The typhoid bacillus was not detected

The length of a statement of the final conclusions ' of a scientific paper is usually inversely proportioned to their importance. The results of the surface soil on intestinal bacteria have been briefly stated. The investigations on the water of Chichester Dr Houston suggests amongst other final conclusions, may lend some support to the tentative hypothesis that soil plays some part in fostering and localising enteric fever" in Chichester Mr Power it may be observed does not adopt that hypothesis nor does he suggest the view that the eight final conclusions given in the report exactly answer the one somewhat exhaustive question which he propounded Dr Houston deserves the greatest credit for the laborious investigation which he has carried out, but it must be admitted that the insanitary condition of Chichester requires further study

The last of the reports (Appendix B, No. 8) of this series, which is by Dr J S Haldane is a preliminary note on the use of carbonic oxide in destroying rats on shipboard This investigation was undertaken in view of the fact that rats on board ships arriving from plague-infected places were not unlikely to become sources of danger in this country The way in which to exterminate such rats within a short space of time and without injuring the cargo of the vessel was a problem of some difficulty Carbonic oxide was the gas chosen by Mr Power for the experiments and this for two chief reasons In the first place it was evident that it could be introduced into a vessel before the cargo was broken " or moved, and therefore before the escape of any rats could be effected In the second place as it was already known that the gas stupefies rats without alarming them it appeared therefore unlikely that any of them would attempt to jump overboard when they were submitted to the fumes additional advantages offered by the gas were the absence of smell and the fact that the ship's fittings and cargo would not be damaged by it. The use of carbonic oxide for the disinfection of ships is indeed by no means a new one, for it has long been the practice to kill the rats which infest the holds of empty ships by lighting a charcoal fire and closing the hatches The first point which Dr Haldane had to settle was the method by which the carbonic oxide should be obtained Having rejected the use of coal gas and water gas because of the danger of explosion, he adopted the use of a gas called "producer" which consists chiefly of nitrogen and carbonic oxide "Producer," is obtained by blowing air through a deep bed of incandescent coke or anthracite contained in a specially devised furnace[5] The gas is purified to eliminate the smoke and the sulphuretted hydrogen which are formed in the process of manufacture This is necessary because the latter gas would injure paint, tarnish metal work, and injure certain cargoes. Experiments with the gas generated on a barge and introduced through the window of a house-boat speedily caused the death of rats contained in cages which had been placed in various parts of the boat. Diagrams of the apparatus used for the manufacture and for the purification of the gas are given in the report, which, as Mr Power says, clearly shows that the method pursued was wholly satisfactory "so far as an empty vessel of small size is concerned" An investigation is now being made to determine whether it is equally efficient in the case of vessels in which the cargoes are intact.

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[4] The Lancet June 22nd 1901 p 1779

THE TRANSACTIONS OF THE BRITISH CONGRESS ON TUBERCULOSIS, 1901[1]

(Concluded from page 700)

WE come now to the consideration of the proceedings in the

SECTION OF PATHOLOGY

There is an impression left after reading the proceedings of this Section that much of the study of tuberculosis has left the human body and branched into the paths of biology, morphology, and animal pathology Including the discussion on tuberculin three days out of four were employed in this direction Dr Moeller gave a most succinct and lucid sketch of the bacilli that stain like tubercle and recounted the cultural and disease producing characters of nine bacilli other than the bacillus tuberculosis. Some of these may come to resemble their precursor even in both respects, but it is reassuring to discover that time and temperature of a culture growth remain a good test of the tubercle bacillus, that the microscope can unravel pseudo tuberculosis, and that none can vie in malignancy with the bacillus of tubercle. The profound and numerous investigations of Dr Moeller are those not only of a pathologist but of an experienced clinician It is of value to learn from him that while the bacillus will continue to hold its high place in diagnosis we must be on our guard in deducing tubercle from but one or two bacilli in the sputa or in the urine, for, in gangrenous lung particularly, the butter bacillus may be found and the smegma bacillus might lead to false suggestion of urogenital tuberculosis

An English bacteriologist, Dr W Bulloch, has closely studied the acid fast bacilli and his contribution to the discussion travelled fully over the ground of vegetable morphology, recounting the investigations of those who have studied the departure of the bacillus from the true bacillus form into the filamentous form and further into the actinomycotic form, the variation in cultivating media from a serum medium up to acclimatisation of the organism to a luxuriant growth on proteid free media, and the meaning of the staining properties first shown by Ehrlich. This last is shown to be due to a body of the nature of wax which constitutes 43 per cent. by weight of dried bacilli

Mr Harold Swithinbank showed in the museum the results of many years' work in growing these acid fast bacilli on a medium of constant composition The approximation of character after many generations naturally tempts the onlooker to think that their identity may be proved Neither Dr Moeller nor Dr Bulloch has seen any evidence of transmutation from one form to another, from saprophyte to parasite Nor did this great issue receive elucidation It is to be hoped that Mr Swithinbank's cultures will go through tests for their infectivity, whatever the result it would pave the way for further investigations

A paper on the Infectivity of the Milk of Tuberculous Cows, the Bacteriological Diagnosis, and the Practical Value of Tuberculin for the Extirpation of Tuberculosis among Cattle, read by Dr Lydia Rabinowitsch,[2] must have brought home to her audience the practical issues of acid fast bacilli. The microscope alone is untrustworthy, Kühnau having found that from 20 to 25 per cent of the cases examined showed acid fast bacilli, not tubercle bacilli. Dr Rabinowitsch tested infectivity by the intra peritoneal injection of guinea-pigs, in her opinion the only and safest proof of tubercle. Many and tedious experiments were made and the Section was informed of the great difficulties of pronouncing upon the presence of tuberculosis of the udder and of the presence of infectivity when diagnosed, the inference being made that the tuberculin test was the sole quick and sure method. Dr Ravenel stated that this was done in Philadelphia for "notified milk," at least two tuberculin tests during the year being depended upon to keep the milk good Professor Bang commented on the fact that tuberculin would not show whether the disease was of the udder or elsewhere Professor Adami recounted instances where tuberculosis was experimentally produced by the inoculation of centrifugalised milk from cows in which no definite tuberculosis of the udder was present Professor D J Hamilton suggested that evidence of a calf being infected without disease of the udder being present would be much to the point. The facts or arguments brought forward at the Congress must certainly receive due consideration by a medical officer of health before he brings his evidence about milk into a court of law, and he will no doubt desire fair evidence of tuberculous mammitis and will not be content with the presence in the milk of a few acid fast bacilli only

It was an admirable arrangement of the Section to devote a day to morbid anatomy and histology—"The Varieties of Tuberculosis"—and still more so to invite Professor Benda to open the discussion

Professor Benda's paper was replete with facts of pathological anatomy precisely worked out and arranged He absolutely abstained from any divergence into paths of speculation. Immobility, slow growth, and severe reaction are the fundamental properties of the bacillus The spread was traced by Koch essentially to the wandering cells but all paths available are made use of. Where masses of tubercle most commonly occur, in the lung and kidney, the epithelial canals play the most important rôle and they may play such part even when infection is conveyed by the blood stream primarily The mode of spread was fully described, the small bronchi are the most important parts affected, expiration and inspiration are equally agents of spread, but infection does not follow everywhere seeing how many bacilli pass through the larynx before tubercle occurs there In the kidney the spread is less in the convoluted tubules which are soon blocked, checking progress The spread is greater in the medullary portion, where affection of the straight and collecting tubes marks the site of mischief, when the gland ducts are deluged spread can occur above and below If a muscular tube like the ureter is blocked antiperistalsis will occur and this accounts for the unusual occurrence of a spread of disease from the bladder upwards. Professor Benda accounts the lymphatic system a less frequent means of spread He describes in the intestines the leucocytes carrying bacilli to the lymph ducts and glands, the blocking of ducts, the sure termination of infection, by the gland at least, unless the glands become infected themselves throughout, then bacilli appear beyond them and the thoracic duct, and finally the blood stream can be infected The greatest interest attaches to his description of the blood stream as an agent of spread In 1894 owing to improved histological methods of studying the structure of the walls of the blood vessels, their participation in tuberculosis was early shown by Rieder Professor Benda then saw tubercle of vessels for the first time and since he has been astonished at the amount he can discover The small vessels if affected are quickly blocked It was to the larger arteries and veins, by a tuberculous focus upon their wall, that Weigert first traced back with complete explanation the spread of a general infection. Professor Benda shows further that by tuberculous metastasis in the intima an infection of the vessel wall results. This may be primary or engrafted on an already damaged intima; it may occur upon the thrombi of an atheromatous aorta An enormous outbreak may arise in tuberculosis of the cardiac valves. Infection is not a necessary sequence of tuberculosis of the intima of large vessels fibrinous coagulum may effectually seal it. It is to be regretted that no translation of this paper is given, not even is the translated epitome reproduced.

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[5] The exact composition of the gas was found to be carbonic oxide, 27 61 hydrogen 4 18 carbonic acid 3 75 sulphuretted hydrogen, 0·07 nitrogen, 64 39.

[1] Transactions of the British Congress on Tuberculosis for the Prevention of Consumption London July 22nd to 26th 1901 Vols i to iv Edited by the Honorary Secretary General London: William Clowes and Sons, Limited 1902.

[2] THE LANCET, Sept. 28th, 1901, p 838

Professor R. Muir pointed out at the end of the discussion that a broad view had been taken and the mode of entrance and the distribution of the bacilli formed the main exposition of the subject. From our knowledge of those points there issued clinical light the absence of a tuberculous lesion from the intestine does not mean that bacilli have not entered through the mucous membrane, nor does a pulmonary lesion indicate that the lesion was produced by inhalation. Several speakers upon this latter point gave evidence how in children especially the bacilli often spread from the glands of the lung into the lung substance and the pulmonary infection was thereby a secondary one.

Professor W Osler valued highly Professor Benda s observation that in acute miliary tuberculosis an enormous number of bacilli growing directly into tuberculous endarteritis can be a cause of profound toxæmia so this profound local toxæmia and not the mass of tubercles will adequately account for so-called typhoid forms of acute miliary tuberculosis.

Professor Hamilton gave a reflective review of the seat of election of tubercle bacilli, their rapidity of absorption and degrees of virulence. The most prominent path of distribution was considered to be the lymphatics. The general diffusion of the disease was held to depend upon the rapidity of absorption by the blood vessels such absorption being conceived to occur where the abundance of the bacilli overwhelms the phagocytic resistance of the blood. The relative frequency of lymphatic channels as the path of diffusion was explained by the relatively low resistance offered by the lymphatic phagocytes compared to those of the blood stream. The proclivity of lymphatic glands bone marrow and spleen for tubercles, it was suggested, might be explained by the mechanism of the circulation in these cases affording a simple winnowing action; at the same time it was pointed out that, while such action in the capillaries of the liver arrested particulate foreign matter that organ was remarkably free from tubercle. The immunity so frequent in the pericardium when neighbouring serous membranes may be severely affected suggested that the pericardial serum was detrimental to the bacilli Professor Hamilton supported the general impression that the absorbents can pass on bacilli from the mucous membrane without that structure becoming itself tuberculous

Dr S H. Habershon s large experience of the post-mortem manifestations of phthisis was valuable but his researches were of necessity less fully analysed than the researches of previous speakers. His impressions differed from theirs in finding spread of tubercle by the epithelium rare, and primary invasion by the intestinal mucous membrane common in phthisis. He observed that when the gangrene occurs in tuberculosis of the lung syphilis is a usual concomitant.

Professor Osler agreed with the previous speaker as to the lesion of tracheal and bronchial glands being a forerunner of general tuberculous pleurisy Professor Benda had shown that the simple relation of proximity to the thoracic duct accounted for this lesion being often followed by acute general tuberculosis A paper upon this subject by Dr P Haushalter and Dr A. Fruhinholz will be seen (p. 339) where they recount its occurrence in 95 per cent. of necropsies of miliary tuberculosis in children. They find the tubercle more developed and deeper seated here than in any other part, which confirms the explanation of Professor Benda. These writers deem it proof of the importance of aerial contagion in children—a conclusion formulated also by Dr G F Still two years ago upon similar evidence

Professor E. J McWeeney referred to the mode of origin of tubercle in the epididymis the question of the bacillus being sometimes incapable of demonstration from an incapacity to be stained and the fact that tubercle bacilli can circulate in the blood in considerable numbers without producing miliary tuberculosis—all problems awaiting full solution. The last, Professor Adami explained depended upon the power of the endothelial cells of the liver to destroy bacteria.

In Professor Benda s reply he said that he had never seen primary tonsillar and very rarely primary intestinal tuberculosis. He did not regard phthisis ab hæmoptoë as spreading by absorption of the bacilli from the ulcers that led to hæmorrhage, but looked upon it as simple epithelial spread by inspiratory movement. Upon the question of bacilli penetrating an intact mucous membrane he was guarded remarking how lesions of the mucous membrane may heal perfectly Tubercle of the epididymis he considered not primary but a metastasis

But few papers were read in the Section of Pathology and one only upon human histology— Excretion Tuberculosis of the Kidney From Professor Hamilton s address it would be gathered that, in the selection of his material by eliminating specimens with giant cells, Dr Hugh Walsham has probably selected cases of primary epithelial spread we cannot therefore say that his descriptions refer to the usual course of spread of disease in the kidney in cases of miliary tuberculosis.

PAPERS ON ETIOLOGY

The transactions of the Section of Medicine consist largely (one-third or more) of papers upon a variety of subjects. It is easy to say that these are of unequal value but difficult in most cases to say of what value. For many novel measures have received strong advocacy which at the Congress did not obtain full opportunity of receiving criticism accordingly it seems better to us to criticise rather than to review much of this matter

There are papers in which the dominant note is the view taken of the importance of some one factor in the etiology of phthisis.

Dr Denison brings again to our notice under the term devitalised air toxæmia" the re breathed air of MacCormac he recounted remarkable evidence in the few cases acquiring phthisis on the highlands of Colorado of their regular association with very bad ventilation

Dr Angiulli and Dr Bernheim remind us of the history of the hypophosphites. These agents had their use explained by the supposed occurrence of phosphaturia in phthisis. The same reasoning seems to be employed by Dr Angiulli in his experience of seven cases treated by phosphate of calcium ($CaH_4[PhO_4]_2H_2O$) and by Dr S Bernheim who by injecting three grammes of phosphate of creasote every other day or giving larger doses of phosphoric acid induced a hyperacid condition of the system, as does according to him the sanatorium treatment. Professor Stokvis in 1880 commenced his report upon the elimination of phosphoric acid by the urine in pulmonary phthisis by saying L'élimination de l'acide phosphorique par les urines dans la phtisie pulmonaire n a rien de caractéristique ni au point de vue du diagnostic ni à celui de la pathogenèse." The recent analyses of Goodbody and Bardswell On Metabolism in Phthisis confirm Professor Stokvis whose conclusion we may also quote Dégager la science d erreurs n est pas une œuvre stérile et dans la science comme dans le monde il vaut mieux se savoir pauvre que se croire riche."

Alteration of the respiratory exchange is claimed to be a main antecedent condition by Dr Robin and Dr Binet who for 26 years have noted increased consumption of oxygen and increased production of carbonic acid in those threatened or affected with phthisis. Of the former the descendants of consumptives they find that 13 out of 20 are thus predisposed to infection This seems too inclusive. Of the latter they find that the traditional treatment by arsenic and cod liver oil removes the abnormal condition. On the other hand Professor Cervello in setting forth the virtues of igazol (formic aldehyde, chloral hydrate terpine and iodoform combined—proportions and dose not given) sees in the increased absorption of oxygen and increased excretion of carbonic acid the best evidence of its value and this seems to be a contradictory comment upon the views of Dr Robin and Dr Binet

Dr T N Kelynack performed useful work in studying the relation of alcoholism to tuberculosis He discussed three possible views (1) alcoholism is antagonistic (2) bears no special relationship or (3) definitely predisposes to tuberculosis Valuable references were given and though unable to find substantial evidence he found much expression of alcoholic influence. Dr Kelynack might add Part II Supplement 55th Annual Report of the Registrar General p xci to his references. The inn servant with his abominable sleeping accommodation and heavy phthisis death rate, strikes us as less to the point than the slight excess above the mean to be seen in the meat-fed butcher

Dr Mignon mentioned the danger of the spread of tuberculosis in cases of insufficient nasal permeability, and recommended instruction of the public to breathe solely by the nose.

HEREDITY

Dr J E Squire informed the Congress that from 8 to 9 per cent. of tuberculous subjects inherit consumption A second series of observations expressed a similar difference between the offspring of consumptive and of non consumptive parents developing the disease

Dr Maxon King pressed the view of how great an amount of immunity is really inherited, especially when the risk of infection is also considered, and he quoted Dr Squire's figures as supporting his view In cases of phthisical parentage Dr King found the duration of the disease to be four years to three years, in these cases he did not give the ages of the groups We remember that an investigation 20 years ago found that the consumptive inheritance showed itself at an earlier age, which would not be quite compatible with increased resistance We are clearly informed that the parents may have been evidently tuberculous before or after the birth of the patient. We believe that while history shows great decline in the death rate from phthisis during the last half century it shows none in the preceding century and a half, in which case natural selection and inherited immunity must not be called upon by Dr Maxon King to explain the decline.

Dr Ernest Mosny mentioned also immunity as well as predisposition. So long is the catalogue of ills in "l'hérédo-dystrophie paratuberculeuse" that we require to feel the reassurance of actuarial calculation as given by Dr Squire. We must presume that Dr Papillon's abstract on "the hereditary arthritic forms of tuberculosis" has been badly translated, as the term "pretubercular" constantly recurs.

REGIONAL TUBERCULOSIS.

Among the most instructive papers is a series dealing with particular regions of the body We may call attention to a monograph upon Tuberculosis of the Eye by Dr Allen T Haight, supplemented by 250 references In this good work from the other side of the Atlantic we are reminded of similar work from Professor Ravenel, whose broad investigations into bovine and human bacilli supplied the Pathological Section with most timely information running somewhat counter to the surprising declarations of Professor Koch. America is further well represented in Dr H. Newton Heineman's article upon Tuberculosis of the Heart. This should be read in association with the discussion upon Professor Benda's address

Tubercle of the larynx has been minutely investigated in its association with pregnancy by Dr Kuttner His deductions are thus stated —

> 1 In women, whose recovery is hopeless, tubercular laryngitis can only be treated by the usual local remedies or by performing tracheotomy 2. In women whose general health is favourable one may so long as the affection of the larynx is insignificant (a little redness or slight ulceration) pursue an expectant plan. So soon as symptoms of infiltration show themselves or the disease extends and becomes diffuse one should acquaint the patient with the danger of her condition, and after obtaining her consent should perform tracheotomy as soon as possible and if this does not act favourably in a few days, should induce premature labour

Dr StClair Thomson described the principles of treatment, expressing clearly the difficulties of early diagnosis, also the limitations and disadvantages of one prevalent form of local treatment—the lactic acid treatment. Among his recommendations are the following —

> The most rational principle is to attempt to make an early diagnosis of the disease while in an incipient stage. Any persistent or suspicious laryngeal catarrh should be treated seriously on even a presumptive diagnosis Once diagnosed the patient should be treated on the principles laid down in the modern method of sanatorium treatment. Symptomatic treatment should be directed to any irritative catarrhal or obstructive condition of the air passages In addition, silence should be enjoined the disuse of the voice being proportionate to the degree in which the focus of infiltration approaches or interferes with the arytenoid joint

Dr Clado described a retro malleolar tuberculosis and a partial tuberculosis of the Fallopian tube.

DIAGNOSIS.

Chief in diagnostic methods stands the application of the Roentgen rays Dr Béclère describes his careful refinements of technique, Dr Hugh Walsham the advantages of the use of the photographic plate, and Dr Bonnet Leon and Dr Espina y Capo their wide experience These observers emphasise the importance of noting diminished movement of the affected side of the chest, this is sooner detected in watching the rise and fall of the diaphragm by the Roentgen rays, it would be inferred, than it is by ordinary observation Dr Leon notes that 1 or 2 per cent. of early cases may not be recognised by this method, while 5 per cent cannot otherwise be detected

In tuberculous pleurisy Dr Widal and Dr Ravant declare that a new membrane prevents endothelial desquamation and diagnosis is afforded by the absence of these cells from the fluid.

The well known work of Dr Arloing and Dr Courmont on serum diagnosis, is set forth in 20 pages of technique and results They find that 88 per cent. of those clinically phthisical give a positive reaction, Dr P Horton-Smith and Mr. H. W Armit (upon consideration of 29 cases) give the figure as 72 per cent.

Dr Lydia Rabinowitsch, with Professor Beck, found that agglutination often proved positive when there was no trace of tuberculosis and that incipient tuberculosis often gave a negative result. Even Dr Arloing and Dr Courmont found a positive reaction in 26 per cent of subjects apparently healthy, so although Professor Buard attaches a high value to it we should be afraid to let it influence greatly our clinical judgment

Mr J C R Braine-Hartnell sends from his sanatorium a scientific contribution upon rectal temperature He shows the frequent disagreement of evidence gained from thermometers in the mouth and the rectum respectively The reason for this he cannot explain, but he is convinced of the importance of rectal temperature as the more trustworthy indicator for treatment.

TREATMENT—DIETETIC

Dr Noel Bardswell's *résumé* of his work with Dr Goodbody and Mr Chapman has already been referred to It gave the proof that high feeding can become a prejudicial over feeding and supplied data of the highest value

Dr F W Forbes Ross has for a long time worked with meat-juice diet He finds ready peptonisation and prompt absorption and considers that it throws little stress upon the digestive organs, further he finds it as beneficial cooked as raw Our *confrères* from France were kind enough to provide papers with full details of their most recent researches into this diet which has been recently reintroduced there by Richet and Héricourt. Dr Josias and Dr J Ch. Roux give particulars of 16 cases Dr Cornil and Dr Chantemesse report the effect of this diet upon dogs which, it is not surprising to see, become better nourished upon a given weight of raw meat than upon the same cooked They find that besides the extra nutrition there is evidence of anti tuberculous qualities in raw meat. Dr Baradat has been employing meat-juice among his many investigations He finds, like Dr Forbes Ross, that it is as valuable cooked as raw He tells us that from one and a half to three pounds of raw meat daily are required, Dr Forbes Ross names one pound. Of the value of this diet there is no doubt, it was in use for phthisis in 1874 The results reported do not appear remarkable, but where, as is so often the case, treatment of the digestive organs is necessary, this aid may well be remembered

GENERAL TREATMENT

Papers upon treatment are remarkable for novelty, in most cases their authors in commending their treatments are unable to furnish a sufficiently long experience to impress the reader with their values. Novelty is a feature of the high frequency electrical current treatment by Dr J A. Rivière and Mr Chisholm Williams A triad of papers commend some modification of the old treatment by static electricity, whereby at the same time as the electrical discharge occurs antiseptic substances are by its aid to be transfused It is evident that besides psychical influence a great stimulating effect follows these modes of treatment, not only local but general The demonstration of the treatment of lupus by Finsen's method and by the x rays which Dr J H. Sequeira and Dr Dore gave at the Congress showed the high value of those ethereal vibrations, and it is reasonable to expect that real value underlies the high frequency current treatment, but more evidence than is given here is required before we can see what share in recovery this agency has had.

Mr A. H. Buck described seven cases of external tuberculosis which were much benefited after the administration of urea, 30 grains three times a day The analyses of urea excreted seem futile unless a constant diet is given Dr Bardswell has told us that the over fed patient may excrete 900 grains a day

Formic aldehyde is the drug most often reported upon by contributors of papers. Many are the modes of its administration—transfusion through the skin by electric current (the method of Francisque Crôtte) intravenous injection by Dr R. Maguire vaporisation at high temperatures and inhalation by Dr D J A. Chowry Muthu, and vaporisation at ordinary temperature by Dr W R. Huggard. The advantages claimed by the authors of these different methods are as yet unsupported by sufficient evidence to advocate the general use of any of them. A severe test seems to be the disappearance of bacilli from the sputum, and while this was found in 40 per cent of slight cases undergoing sanatorium treatment only in Britain Dr Maguire speaks of their disappearance in 18 out of 20 cases (90 per cent) This he considers due to germicidal action. One part in 40 000 is known to inhibit the lactic acid bacillus in milk, but not to kill it, and when we see that Dr Maguire states that the strength of the solution of formic aldehyde in the blood is 1 in 50 000 we must doubt its efficacy as a germicide until it has been shown to be more fatal to the tubercle bacillus after the further dilution which it undergoes before reaching it. We think that this disappearance of bacilli in 90 per cent. of cases is not explained Dr Huggard s paper includes the results of a wide and well analysed experience in the treatment of phthisis and will be valued by the practitioner

Mr Colin Campbell has long worked at washing out the lung by the air tubes with antiseptics. He demonstrated at the Congress his method of injecting glycerine and 3·5 cubic centimetres of izal which will render tubercle bacilli in sputum innocuous when of a strength of 1 in 125 of the mixture.

Dr F Barbary reports upon treatment by the subcutaneous injection of cacodylate of guaiacol. Dr W Ewart contributes a preliminary note upon the intravenous injection of protargol. Dr J Hobbs gave six patients persulphate of soda, one ounce a day and has commended it for treating anorexia in the tuberculous Dr Breuillard describes the effect of a combined suction, friction traction and pressure on the skin by an apparatus for pneumatic massage. Cases must be judiciously selected The effects are relief of cough, fuller respirations, and augmented appetite. Dr Breuillard claims great facility in the employment of his method by any practitioner

Many speakers and readers of papers endorsed the opinion of Professor Clifford Allbutt that sanatoriums should now carry out clinical investigation it is hard to see how otherwise an opinion can be formed of the merits of a new treatment where selection of cases will always be the main factor in results. Professor Allbutt considered that this was a duty which the sanatoriums owed to themselves lest they should sink in a slough of routine The National Society for the Prevention of Consumption and other Forms of Tuberculosis which inaugurated this successful Congress, was suggested as a possible pivot about which the sanatoriums might rotate, mutually communicating knowledge and paths of research. The society would do well to consider whether its influence for good would not be more productive in this direction than in any other

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VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8496 births and 4543 deaths were registered during the week ending Sept. 6th. The annual rate of mortality in these towns, which had been 14 4 and 15 2 per 1000 in the two preceding weeks further rose to 15 9 per 1000 last week. In London the death rate was 16 8 per 1000 while it averaged 15 5 in the 75 other large towns. The lowest death rates in these towns were 5 5 in Hornsey 5 7 in Reading 7 5 in Handsworth, 7 6 in Bournemouth, 7 7 in King s Norton 8 2 in Smethwick, 8 8 in West Hartlepool, and 8 9 in Derby the highest rates were 19 9 in Plymouth, 20 0 in Salford, 20 4 in Birkenhead, 20 6 in St. Helens, 21 2 in West Ham, 24 4 in Portsmouth and 24 9 in Burnley The 4543 deaths in these towns last week included 895 which were referred to the principal infectious diseases, against 641, 638, and 743 in the three preceding weeks of these 895 deaths 567 resulted from diarrhœa, 84 from whooping cough 83 from measles 57 from scarlet fever 50 from "fever" (principally enteric) 49 from diphtheria, and five from small pox. No death from any of these diseases was registered last week in Burton-on Trent, Handsworth Smethwick Warrington Bury or York while they caused the highest death rates in Croydon West Ham, Portsmouth Plymouth Bootle, St. Helens and Wigan The greatest proportional mortality from measles occurred in Bristol, Walsall Newcastle-on Tyne and Cardiff from scarlet fever in Wallsall and Tynemouth from diphtheria in Hanley and Burnley from whooping-cough in Portsmouth, Barrow in Furness and Hull, from fever in West Ham, and from diarrhœa in Croydon West Ham, Portsmouth Plymouth, Bootle, St. Helens Wigan, and Preston. Two fatal cases of small pox were registered in London and one each in Croydon Bolton, and Swansea but not one in any other of the 76 large towns. The number of small pox cases under treatment in the Metropolitan Asylums hospitals which had been 170 128, and 109 at the end of the three preceding weeks. further decreased to 95 at the end of last week 12 new cases were admitted during the week, against 24 18, and 11 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital which had been 2595 2623, and 2651 on the three preceding Saturdays had further risen to 2713 on Saturday Sept. 6th 333 new cases were admitted during the week, against 303, 296, and 295 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 159 130, and 139 in the three preceding weeks decreased again to 123 last week and were 16 below the corrected average number The causes of 55 or 1 2 per cent. of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Bristol Leicester Nottingham Manchester Salford, Leeds, and in 45 other smaller towns the largest proportions of uncertified deaths were registered in Northampton Ipswich, Liverpool, Bootle and Middlesbrough

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had been 15 7 14 4 and 14 0 per 1000 in the three preceding weeks, further declined to 13 9 per 1000 during the week ending Sept 6th and was 2 0 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 5 3 in Leith and 10 6 in Dundee and in Greenock, to 13 5 in Aberdeen and in Paisley and 16 5 in Glasgow The 448 deaths in these towns included 31 which resulted from diarrhœa, eight from whooping-cough six from measles, six from fever two from diphtheria, and one from scarlet fever In all, 54 deaths were referred to these principal infectious diseases last week, against 64 52, and 45 in the three preceding weeks. These 54 death were equal to an annual rate of 1 7 per 1000 which was 1 4 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 23, 22, and 14 in the three preceding weeks rose again last week to 31 of which 20 occurred in Glasgow five in Dundee and four in Edinburgh. The deaths from whooping cough which had been 14 and 17 in the two preceding weeks declined again to eight last week and included four in Glasgow two in Aberdeen and two in Perth The fatal cases of measles which had been nine five and four in the three preceding weeks rose again last week to six of which two were registered in Glasgow two in Edinburgh and two in Paisley The deaths from "fever" which had been two and four in the two preceding week further increased to six last week and included four in Glasgow and two in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns which had been 73, 63 and 54 in the three preceding weeks rose again last week to 61, and were slightly in excess of the number recorded in the corresponding period of last year The causes of 14 or more than 3 per cent of the deaths registered in these eight towns were not certified.

HEALTH OF DUBLIN

The death rate in Dublin, which had been 19 5 and 20 8 per 1000 in the two preceding weeks further rose to

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING AUGUST, 1902.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES											Deaths from all causes	Death rate per 1000 living.	Deaths of infants under one year to 1000 births
		Small pox	Scarlet fever	Diphtheria *	Typhus fever	Enteric fever	Other continued fevers	Puerperal fever	Erysipelas	Cholera.	Total	Annual rate per 1000 persons living	Small pox	Measles	Scarlet fever	Diphtheria.*	Whooping cough.	Typhus fever	Enteric fever	Other continued fevers	Diarrhœa	Total	Annual rate per 1000 persons living			
LONDON	4,579,107	85	1358	774	—	287	9	21	469	—	3003	8·5	14	108	52	65	144	—	43	—	477	903	2·6	5019	14·3	147
West Districts																										
Paddington	145,107	1	18	11	—	8	—	1	10	—	49	4·4				2	1	—	3	—	16	22	2·0	130	11·7	133
Kensington	177,605	2	19	10		5	—	1	17	—	54	4·0	—	1	1	1	4	—	1	—	16	24	1·8	175	12·8	168
Hammersmith	114,210	2	20	13	—	—	1	1	15	—	52	5·9	1	4	1	—	1	—	1	—	7	15	1·7	103	11·8	100
Fulham	143 102	1	67	27	—	6	—	—	16	—	117	10·7	—		1	3	7		1	—	34	55	5·0	177	16·1	197
Chelsea	74,018	—	20	12	—	4	—	—	4	—	40	7·0	—	1	—	—	—	—	—	—	9	10	1·8	71	12·5	159
City of Westminster ...	180 800	—	41	25	—	5	—	—	10	—	81	5·8	—	4	1	—	2	—	1	—	13	21	1·5	168	12·1	142
North Districts																										
St. Marylebone	132,069	1	41	16	—	10	—	1	14	—	83	8·2	—	1	—	1	—		3	—	13	18	1·8	149	14·7	111
Hampstead	83,743	—	9	2	—	5	—	—	4	—	20	3·1	—	—	—	—	—	—	—	—	1	1	0·2	41	6·4	46
St Pancras	235,596	—	94	58	—	19	—	2	17	—	190	10·5	—	9	5	8	13	—	3	—	11	49	2·7	287	15·9	145
Islington ...	337,268	7	109	49	—	18	—	3	34	—	220	8·5	3	—	2	6	12	—	4	—	19	46	1·8	307	11·9	126
Stoke Newington	51 700	—	9	4	—	4	—	—	3	—	20	5·0	—	—	—	—	—	—	—	—	—	—	—	41	10·3	43
Hackney	221,926	—	63	60	—	19	2	1	20	—	165	9·7	—	1	1	2	6	—	4	—	14	28	1·6	177	10·4	97
Central Districts																										
Holborn	58 535	1	23	14	—	1	—	—	5	—	44	9·8	—	3	—	1	—	—	—	—	2	6	1·3	65	14·5	85
Finsbury	100 487	8	30	19	—	4	1	—	15	—	77	10·0	3	6	4	1	6	—	—	—	21	41	5·3	165	20·1	204
City of London ...	25,598	4	3	8	—	—	1	—	—	—	16	8·1	—	—	—	1	—	—	—	—	—	1	0·5	24	12·2	—
East Districts																										
Shoreditch	117,980	3	27	18		16	—	—	20	—	84	9·3	—	11	1	—	7	—	1	—	37	57	6·3	195	21·5	272
Bethnal Green ...	129 889	17	64	18		13	—	1	21	—	134	13·4	2	1	3	1	5	—	—	—	9	21	2·1	159	16·0	145
Stepney ...	300 551	9	112	80	—	32	—	1	46	—	280	12·1	—	9	3	5	11	—	2	—	54	84	3·6	430	18·7	179
Poplar	169,214	3	47	26	—	26	—	—	19	—	121	9·3	—	5	2	2	8	—	1	—	24	42	3·2	221	17·0	184
South Districts																										
Southwark	206,825	—	99	45	—	19	—	2	40	—	205	12·9	—	13	10	3	18	—	1	—	33	78	4·9	321	20·2	206
Bermondsey ...	130 218	3	44	29	—	11	—	—	12	—	99	9·9	2	8	1	4	4	—	1	—	12	32	3·2	185	18·5	170
Lambeth	305 102	12	76	50	—	15	3	2	31	—	189	8·1	1	2	4	4	14	—	6	—	44	75	3·2	342	14·6	126
Battersea	171,401	5	42	23	—	8	—	1	19	—	98	7·5	1	4	4	2	5	—	1	—	22	39	3·0	185	14·1	159
Wandsworth	241,810	—	51	48	—	8	—	2	19	—	128	6·9	1	4	—	6	3	—	1	—	12	27	1·5	197	10·6	109
Camberwell	262,775	—	89	44	—	9	—	—	26	—	168	8·3	—	11	4	6	6		3	—	21	50	2·5	274	13·6	153
Deptford ...	111 577	2	51	19	—	3	—	—	7	—	82	9·6	—	—	1	2	3	—	—	—	16	22	2·6	122	14·3	132
Greenwich	98 013	2	39	8	—	4	—	—	8	—	61	8·1	—	—	1	2	1		1	—	9	14	1·9	97	12·9	156
Lewisham ...	132 432	1	37	25	—	4	—	—	10	—	77	7·6	—	1	2	3	3	—	—	—	6	15	1·5	113	11·1	109
Woolwich	119 556	1	14	13	—	6	1	2	7	—	44	4·8	—	—	—	—	4	—	4	—	2	10	1·1	108	11·8	74
Port of London ...	—	—	—	—	—	5	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

23 7 per 1000 during the week ending Sept. 6th. During the past four weeks the death rate has averaged 20 6 per 1000 the rates during the same period being 15 7 in London and 14 3 in Edinburgh The 165 deaths of persons belonging to Dublin registered during the week under notice included 28 which were referred to the principal infectious diseases, against 23 and 24 in the two preceding weeks, of these 10 resulted from measles, 10 from diarrhœa, three from scarlet fever three from " fever " and two from diphtheria, but not one from either small pox or whooping cough. These 28 deaths were equal to an annual rate of 3 9 per 1000, the death rates last week from the same diseases being 3 8 in London and 1 5 in Edinburgh. The fatal cases of measles, which had been 20 16, and 11 in the three preceding weeks, further declined last week to 10 The deaths from diarrhœa, which had been three and seven in the two preceding weeks, further rose to 10 last week. The mortality from both scarlet fever and " fever slightly exceeded that recorded in the preceding week The 165 deaths in Dublin last week included 34 of children under one year of age and 28 of persons aged upwards of 60 years the deaths of infants considerably exceeded the number in the preceding week, while those of elderly persons showed no variation. 11 inquest cases and four deaths from violence were registered, and 61, or more than one-third, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent. of the deaths registered in Dublin were not certified.

VITAL STATISTICS OF LONDON DURING AUGUST 1902.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it *appears that the number of persons reported to be suffering* from one or other of the nine diseases specified in the table was equal to an annual rate of 8 5 per 1000 of the population, estimated at 4 579,107 persons in the middle of the year. In the three preceding months the rates had been 10 3, 10 0 and 9 4 per 1000 respectively The rates were considerably below the average in Paddington, Kensington Hampstead Stoke Newington, and Woolwich while *they showed the largest excess in Fulham, St.* Pancras, Bethnal Green, Stepney and Southwark. The prevalence of small pox which had been declining during the five preceding months, showed a further marked decrease during August this disease was proportionally most prevalent in the City of London, and in Finsbury Bethnal Green Lambeth, and Battersea. The Metropolitan Asylums hospitals contained 109 small pox patients at the end of last month against 1274 837 and 305 at the end of the three preceding months the weekly admissions averaged 19, against 260 145 and 45 in the three preceding months. The prevalence of scarlet fever during the month under notice showed a slight decline from that recorded in the preceding month, among the various metropolitan boroughs this disease showed the highest proportional prevalence in Fulham, St. Pancras, Bethnal Green Southwark, Deptford, and Greenwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals, which had been 2222, 2439 and 2515 at the end of the three preceding months, had further risen to 2815 at the end of August the weekly admissions averaged 292, against 274 251 and 323 in the three preceding months. Diphtheria was considerably less prevalent during August than in the preceding month the greatest *proportional prevalence of this disease was recorded in the* City of London and in St. Pancras, Hackney Holborn Stepney and Bermondsey There were 1013 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 960 975 and 1003 at the end of the three preceding months the weekly admissions averaged 145 against 146 152, and 165 in the three preceding months. The prevalence of enteric *fever last month showed a marked decline from that* recorded in the preceding month among the various metropolitan boroughs this disease was proportionally most prevalent in Shoreditch Bethnal Green, Stepney Poplar Southwark, and Bermondsey The number of enteric fever patients in the Metropolitan Asylums hospitals which had been 127 195, and 239 at the end of the three preceding months had declined again to 281 at the end of August the weekly admissions averaged 38, against 19 33, and 49 in the three preceding months. The greatest proportional prevalence of erysipelas was recorded in Finsbury Shoreditch, Bethnal Green, Stepney and Southwark. The 21 cases of puerperal fever notified during the month included three in Islington, and two each in St. Pancras, Southwark, Lambeth, Wandsworth and Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the various boroughs in which the deceased persons had previously resided. During the four weeks ending August 30th the deaths of 5019 persons belonging to London were registered, equal to an annual rate of 14 3 per 1000 against 15 9 13 9 and 13 8 per 1000 in the three preceding months The lowest death rates last month in the various metropolitan boroughs were 6·4 in Hampstead 10 3 in Stoke Newington 10 4 in Hackney 10 6 in Wandsworth, 11 1 in Lewisham, and 11 7 in Paddington the highest rates were 17 0 in Poplar 18 5 in Bermondsey 18 7 in Stepney 20 1 in Finsbury 20 2 in Southwark, and 21 5 in Shoreditch. The 5019 deaths from all causes included 903 which were referred to the principal infectious diseases of these 14 resulted from small pox, 108 from measles, 52 from scarlet fever 65 from diphtheria, 144 from whooping-cough, 43 from enteric fever and 477 from diarrhœa. No death from any of these diseases was recorded last month in Stoke Newington while the lowest proportional mortality from these causes occurred in the City of London Hampstead, Holborn, and Woolwich and the highest mortality in Fulham Finsbury Shoreditch Stepney and Southwark. The 14 fatal cases of small pox were seven above the average number in the corresponding periods of the 10 preceding years, three cases belonged to Islington, three to Finsbury two to Bethnal Green and two to Bermondsey The 108 deaths from measles were 36 below the corrected average number among the various metropolitan boroughs this disease was proportionally most fatal in Fulham Holborn Finsbury Shoreditch Southwark and Bermondsey The 52 fatal cases of scarlet fever showed a decline of 18 from the average number in the corresponding periods of the 10 preceding years, the greatest proportional mortality from this disease was recorded in St. Pancras, Finsbury Bethnal Green Southwark, and Battersea The 65 deaths from diphtheria were 85 below the corrected average number among the various metropolitan boroughs this disease was proportionally most fatal in Fulham St. Pancras, Bermondsey Wandsworth Greenwich and Lewisham The 144 deaths from whooping-cough showed an excess of 30 over the average number in the corresponding periods of the 10 preceding years the greatest proportional mortality from this disease occurred in Fulham St. Pancras, Finsbury Shoreditch Southwark, and Lambeth The 43 fatal cases of enteric fever almost corresponded with the corrected average number, among the various metropolitan boroughs this disease was proportionally most fatal in Paddington St Marylebone Hackney Lambeth, and Woolwich The 477 deaths from diarrhœa were less than one-half of the average number in the corresponding periods of the 10 preceding years; the highest death rates from this disease were recorded in Fulham, Finsbury Shoreditch Stepney and Southwark. In conclusion it may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 46 per cent. *below the average.*

Infant mortality in London during August measured by the proportion of deaths of children under one year of age to registered births was equal to 147 per 1000 No death at this age was registered in the City of London Among the various metropolitan boroughs the lowest rates of infant mortality were recorded in Hammersmith, Hampstead Stoke Newington Hackney Holborn and Woolwich and the highest rates in Fulham, Finsbury, Shoreditch, Stepney Poplar and Southwark.

THE SERVICES

Royal Navy Medical Service.

Fleet Surgeon Theodore Julian Preston has been placed on the retired list, with permission to assume the rank of Deputy Inspector-General of Hospital and Fleet

The following appointment are notified —Fleet Surgeons

J Dudley to the *Impregnable* and A. McKinley to the *Wildfire* and for service in Sheerness Dockyard Staff Surgeons J W O Underhill to the *Camperdown*, H Elliott to the *Lion*, and B C E F Gunn to the *Severn* Surgeons R. T Gilmour to the *Cæsar*, H E Fryer to R. M. Infirmary, Portsmouth, G M Eastment to the *Redbreast*, and E F Ellis to the *Gleaner*

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel D L. Irvine has embarked for India. Major F S Le Quesne, V C, and Major L. R. Colledge have been posted for duty to the Western District Captain A. H Morris has been posted to the Bombay Command for duty Captain A. O B Wroughton has been instructed to join the Woolwich District for duty Lieutenant-Colonel H. H Stokes, retired, has been selected for appointment to the medical charge at Oxford, vice Major R. C Lever Lieutenant George H. Usmar resigns his commission Temporary Lieutenant M Taylor is granted the temporary rank of Captain whilst employed in South Africa.

IMPERIAL YEOMANRY (IN SOUTH AFRICA)

5th Battalion Temporary Captain P Davidson, D S O, Medical Officer, relinquishes his commission and is granted the honorary rank of Captain in the Army, with permission to wear the uniform of the corps Dated July 12th, 1901.

VOLUNTEER CORPS

Royal Garrison Artillery (*Volunteers*) 1st Banff Surgeon Captain F W Grant to be Surgeon Major

Rifle 6th Volunteer Battalion the Royal Scots (Lothian Regiment) Surgeon Captain J Cameron to be Surgeon-Major (dated Sept. 6th, 1902) 2nd Volunteer Battalion the Northumberland Fusiliers Major R S White to be Lieutenant-Colonel, and to command under paragraph 55A Volunteer Regulations (dated Sept. 6th, 1902), Frederick Newman Grinling to be Surgeon Lieutenant (dated Sept 6th, 1902) 1st Volunteer Battalion the Leicestershire Regiment Surgeon Captain W P Peake is borne as Supernumerary whilst serving with the Bearer Company of the Leicester and Lincoln Volunteer Infantry Brigade (dated Sept 6th, 1902) 3rd Volunteer Battalion the Royal Welsh Fusiliers The undermentioned Surgeon Captains to be Surgeon-Majors — R. A. Prichard (dated Sept 6th, 1902) and W J Morris (dated Sept 6th, 1902)

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY

Harwich Surgeon Lieutenant F E A. Webb, from 3rd (Cambridgeshire) Volunteer Battalion the Suffolk Regiment, to be Surgeon Captain Dated July 14th, 1902.

SURGEON GENERAL SIR W D WILSON, K C M G

Surgeon General Sir W D Wilson, who has arrived from South Africa, is, we understand, to take up the appointment of Principal Medical Officer in Ireland. We have more than once had occasion to refer to the valuable services which this officer has rendered throughout the long and arduous campaign in South Africa—services which have, by the way, received very scant and inadequate recognition in the official despatches published at the end of the war It is difficult to conceive a more responsible post than that which fell to the lot of Surgeon General Wilson to occupy, he was unremitting in his work and he did it most conscientiously and well and often under very trying circumstances He had earned for himself a high character as an excellent all round medical officer and very capable surgeon before he was nominated to conduct what turned out to be the biggest piece of medical administration on record as far as this country is concerned In South Africa he had to encounter and overcome great and unexpected difficulties arising out of epidemic sickness attributable to purely military causes, such as loss of big convoys, the enemy's occupation of the waterworks near Bloemfontein, the failure of transport, and other occurrences which are well known and over which he had really no control. There is one thing, however, upon which, in a self seeking and advertising age, he may fairly be congratulated—namely, on his having throughout maintained a dignified reserve and being content to go on manfully doing his duty to the end, leaving the facts and results to speak for themselves

THE ARMY MEDICAL STAFF COLLEGE.

A commencement has been made in carrying out the War Office scheme for the special training in future of candidates for the Royal Army Medical Corps in London instead of at Netley as heretofore. The recently formed Army Medical Staff College has begun its first session in the metropolis The work of the college is now being conducted at the building of the Royal College of Physicians of London and Royal College of Surgeons of England on the Thames Embankment Lieutenant-Colonel H E R. James, commandant of the depôt and training school of the Royal Army Medical Corps at Aldershot, who has been selected for commandant and director of studies in the new college, and the officers undergoing instruction, are being accommodated at the Hotel Belgravia, Victoria street, by War Office arrangement From all we hear this should prove satisfactory as a temporary measure Those quartered at the Hotel Belgravia are called upon to pay a daily contribution, fixed at a reasonable rate, out of their daily pay and allowances towards their accommodation and messing Their time will be pretty fully occupied during the day with their studies at the college, but they will have an hour's interval for luncheon and be expected to dine together in the evening at the hotel where messing has been provided for them

OUR RECRUITING DEPÔTS

Readers of THE LANCET scarcely need to be reminded that we have repeatedly called attention to the unsatisfactory position and character of the buildings usually provided as barracks for recruiting purposes Instead of being clean, commodious, cheerful, and attractive looking buildings, occupying good and prominent positions in our cities, they are commonly quite the reverse and are calculated to act rather as deterrents than as incentives to enlistment in the army We are glad to notice that this subject has recently called forth a communication from "A Recruiting Officer" to the *Times* What we should like to see, and what we feel sure it would well repay the Government in the long run to provide, would be something in the nature of a soldiers' institute—a good, cheerful-looking, well appointed building in a suitable position instead of being hidden away in some back street The building should be well lighted, of neat and cleanly appearance, and provided with good waiting rooms, offices, and lavatories, and be capable, in short, of acting as an attractive advertisement of the army as a career offering inducements worthy of attention and consideration on the part of those starting in life and seeking employment

PRESENTATION TO MR. E H. WORTH, M.R.C S ENG, L R.C P LOND, L S A.

At St Thomas's Hospital on August 20th Civil Surgeon Erskine H. Worth, on his return from South Africa, was handed an inlaid repeating travelling clock forwarded by the colonel and officers of the Sherwood Foresters (1st Derbyshire Regiment), now stationed in Pretoria. The presentation was in recognition of the unflagging energy and ability displayed by him while on medical duty with the regiment during a period of its most active service in the Transvaal. Civil Surgeon Worth was in South Africa for two years and a quarter He was attached first to the 7th Brigade Field Hospital at Ladysmith and accompanied General Buller's force as far as Lydenburg, at which place he was transferred to the Gordon Highlanders From there in turn he served at Pretoria and Johannesburgh, and was in medical charge for a time at Krugersdorp where he joined the 1st Derbyshire Regiment and accompanied them for several months in their treks under Colonel Kekewich, he having special care of the Boer women and children Finally, he saw active service in Cape Colony with the Yeomanry

A NEW PATTERN AMBULANCE WAGON

It will be remembered that as the result of experience in the late South African campaign the present pattern ambulance wagon proved to be unsuitable and a failure The topographical features of the country and the conditions under which the war had to be conducted were no doubt quite exceptional, but the present wagon has long been regarded by many people as too heavy and complicated and as being capable in some other respects also of great improvement. We learn from a Woolwich correspondent to the *Army and Navy Gazette* that in consequence of the Government having invited designs for a new army ambulance wagon of light construction several private firms and the Royal Carriage Department, Woolwich Arsenal, have entered into competition The latest arsenal ambulance as designed is larger than the wagon now in use. It weighs

32 cwt. will accommodate six wounded soldiers and is furnished with india rubber tyres and curtains.

THE SOUTH AFRICAN ARMY AND ITS CASUALTIES.

From a War Office return recently published we learn that from first to last the number of officers and men sent out to or raised in South Africa nearly reached the very large total of 450 000 The garrison in South Africa prior to the outbreak of the war numbered 12,546 and from its commencement on Oct. 11th 1899 to May 31st last there were in addition 435,889 so that a total of 448,435 altogether were engaged in the military operations Although the exact number of deaths to May 31st, 1902, is uncertain the losses in killed in action and the deaths from wounds, disease, and accidental injuries amounted to 21,942 (officers and men). Altogether 22,829 were wounded, including those who died from their wounds, and on the cessation of hostilities there were 291 officers and 9422 men in hospital in South Africa.

Correspondence.

"Audi alteram partem."

SOME RECENT CHICANERY IN SCIENCE

To the Editors of THE LANCET

SIRS,—I have carefully studied the paper on the Life-history of Filaria Bancrofti and Filaria Immitis by Dr L. W Sambon in your issue of August 16th, p 422, and should like to say that I for one fully concur in his criticism of the work which Professor G B. Grassi and Dr G Noè claim to have done in connexion with *filaria Bancrofti* and *filaria immitis* The experiments said by these authors to have been made by them with a view to infect dogs by the bites of mosquitoes previously infected by the latter parasite were, on their own showing badly designed and performed without due safeguards against error and were evidently rushed through and reported in haste, probably in order to forestall other observers. The observation to the effect that a number of filariated mosquitoes lost all their filariæ after a single feeding on a dog is so improbable as to suggest that it is entirely apocryphal and as Dr Sambon clearly proves, the rest of the work is equally worthless as a proof of the inoculation hypothesis of filariasis—an honour which the authors have had the assurance to claim for it.

Very little examination, however suffices to show that the work is not a serious effort of science, but only an attempt to peg out a fresh claim for priority by or on behalf of Professor Grassi. One notes at once that he adopts in his new enterprise precisely the same devices as he used previously in connexion with the mosquito theory of malaria. The moment Dr Low's work was published he hastily issued with Dr. Noè a preliminary note" in which he began by implying (but without giving details) that he himself had independently made the same discovery—a thing which I have reasons for disbelieving and then proceeded to depreciate Dr Low's work by inventing imaginary faults in it—an artifice which he consistently adopts in regard to my own work. Having thus shifted the merit of the inoculation hypothesis of filariasis to his own credit, he permits his pupil, Dr Noè, to draft the entire subject into his account by saying that the Italian discovery now at last enables us to place the prophylaxis of filariasis upon a solid basis " Needless to say neither he nor his pupil has ever made a single new observation on filariasis while, even as regards *filaria immitis* of dogs, the mode of propagation was discovered, not by them, but by Calandruccio guided by Manson's previous work. And now when the actual experiments which we were told would support this extravagant claim are published they turn out to be worth nothing at all.

I have long had a very familiar acquaintance with a certain order of Italian literature on cognate subjects and may take the present opportunity to warn others against accepting too readily as some appear to do the claims of priority or even many of the observations contained therein. Whenever a new discovery is announced the authors of these works are pretty sure to attempt to obtain the principal credit of it by publishing hasty preliminary notes" suggesting that they had already made it, followed by endless monographs disparaging their predecessors, distorting the whole history of the discovery and recording observations which turn out to be for the most part either easy confirmatory work or else entirely wrong Take for instance the whole history of our knowledge of malaria—the invention of the bacillus malariæ by Crudeli and Klebs the efforts of Marchiafava, Celli and Bignami upon Laveran's discovery (so well exposed by him in his Traité du Paludisme, ' p. 42) the *amœba guttula* of Grassi and his colleagues, the 'proof" of the mosquito theory of malaria by Bignami, and the discovery' of the '*anopheles malariferi*" by the epidemiological studies of Grassi to name only a few and by no means the worst examples. The very peculiar methods adopted by Grassi, especially for securing scientific distinction for himself have already been publicly commented upon by Parona[1] Calandruccio,[2] and myself,[3] and are now ably scrutinised by Dr Sambon. The skill, subtlety, and audacity of the chicanery employed in the efforts referred to deceive easily the cursory reader but really the more careful student is beginning to be somewhat sceptical when he sees the announcement of a new 'Italian discovery I refer of course, only to this particular school of Italian writers.

It is a question how to deal with such efforts In my humble opinion science is too great a thing to be made a field for tricks like those of a pettifogging village attorney and we have every right to resent their introduction. Moreover absolute honesty is the first qualification in all scientific work and the man who attempts to deceive his readers on questions of priority can hardly complain if we refuse to believe in his researches—a person who will deceive in one respect will deceive in another Others may do as they please, but for my own part (as I have already publicly stated) I fear I cannot do myself the honour of including the labours of Professor G B Grassi in any future writings of my own and I think that science will not lose much if the papers by him and Dr. Noè on filariasis are similarly excluded from monographs on that subject.

I am, Sirs yours faithfully

Sept. 6th RONALD ROSS.

PS.—Two other instances of the same kind have just been brought to my notice. Early last year Nuttall published a note announcing the important observation that *anopheles* can exist where there is no malaria. Some time later Celli published similar observations but stated that Nuttall's work confirmed his—implying quite erroneously that Nuttall's observations were secondary to his Again in 1899 Grassi[4] published a note stating that he had found *piroplasma bigeminum* a parasite of cattle previously known to be inoculated by the bites of ticks in the salivary glands of those arthropods, and promising to publish the full account of the discovery later Needless to say the full account has never appeared. It will be interesting to note what happens when someone really does make the discovery

INSANITY AND LONG SEA VOYAGES

To the Editors of THE LANCET

SIRS,—At a period of the year when people in delicate health are already making their plans to escape from the drawbacks of an English winter and medical men are constantly being consulted as to the advisability of this or that course, a note of warning in respect to some cases may not be out of place. It is especially to those cases which exhibit a tendency to melancholia that I wish to refer—those who from worry bereavement or overwork, have become chronically run down and who at last seek in change and travel the necessary stimulus to enable them to weather the storm With such change is often beneficial but long sea voyages are quite a different matter To allow such patients to undertake unattended as is too often done long runs even on fast liners is a grave mistake. It is thought that the pleasant companionships and the *facilities for social intercourse* which are the most charming characteristics of life on board these floating hotels, combined with the exhilarating influence of the sea air and the uneventful restfulness of long days free from even an echo of the world's turmoil, cannot but prove beneficial to those whose nervous systems have been overwrought. All this is excellent in theory, but in practice it leads to anything but satisfactory results It is quite true that there are plenty of opportunities for pleasant companionship and amusements of all kinds, but only for those who care to seek them, there are few places where a man can isolate himself from his fellow creatures and be alone in a crowd so easily as on board ship And this is exactly what happens with a person suffering from mental depression or from *ennui*, he does not seek to mix with his fellow passengers, he has no inclination to do so and consequently he is ignored by them, he sits for hours together in his deck chair, incapable of concentrating his thoughts on a book, and simply brooding over his worries, supposed or real He has no opportunities for exercise, the decks are generally too crowded with chairs for that, he has not the ordinary little incidents of every day life on shore to rouse him, he has no theatres to go to where he can be amused without any effort on his own part, in a word, he cannot get away from himself Under these conditions it is easy to see how what was merely a tendency before will rapidly become confirmed melancholia He has nothing to look at but the eternal ring of blue sea of which the ship is the centre, he has no ears but for the noise of the swirl of the water against the ship's side, which to him soon becomes irritating, and the regular throb of the engines only beats a tune to his depressing thoughts What should be repose and quietude becomes an endless monotony, if he seeks refuge in sleep during the day his nights will in consequence be sleepless and after a week or 10 days of such a life his condition will be worse than when he started

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[1] Parona Sulla *Questione del Bothriocephalus latus* Gazzetta Medica Italiana Lombardia, 1887 1888 (three papers)

[2] Calandruccio Unicuique Suum Professor G B Grassi C Mariani et Cie., Rome

[3] Ross: La Scoperte del Professor G B Grassi sulla Malaria—Il Policlinico 1900 and 1901

[4] *Grassi*; Rendiconti della R Accademia dei Lincei 1899

But there is another factor which must not be lost sight of in connexion with these cases and that is the over stimulating effect of the saline breezes whose influence for good is so confidently looked forward to Their action, however, is purely physical and this constant physical stimulation coinciding with constant and increasing mental depression is apt to bring on, if the voyage is protracted, paroxysms of acute mania, and it is not infrequent to find on board ship among these patients very typical examples of what the French call *la folie à double forme*

In long voyages on sailing ships these dangers are increased tenfold and on no account should such patients be allowed to contemplate such a step The therapeutical value of sea voyages in many classes of diseases cannot be overrated, but where there is the least sign of incipient insanity in any of its forms or merely a condition with a remote possibility of such a contingency they should be most strongly deprecated. In any case the patient should never be allowed to travel alone or merely with an attendant of whom he cannot make a social companion, he should be with a friend or a member of his family and best of all with a party It should always be borne in mind that the ocean, with all its fascination, with all its healthful properties, has an element of world weariness about it which even hardened sailors experience and from which they only escape by the multifarious duties of their calling I am, Sirs, yours faithfully,

Sept 5th 1902 LOUIS VINTRAS, M.D Durh, B Sc Paris

INTESTINAL SAND

To the Editors of THE LANCET

SIRS,—With reference to Dr A Crombie's letter[1] commenting on that part of my note on "True" Intestinal Sand,[2] which related to his remarks during the discussion on the paper read by Sir Dyce Duckworth and Dr A. E Garrod at the Royal Medical and Chirurgical Society in 1901, I wish, in the first place, to thank Dr Crombie for dispelling the doubt I had as to the nature of his cases In his remarks on the above-quoted occasion he made no reference to the very important fact that the specimens had been subjected to a chemico-microscopical examination, and in the absence of such a statement I naturally concluded that the specimens had not been so examined

Might I suggest to Dr Crombie that he should publish an account of his cases? These cases of intestinal sand appear to be of such rarity that any contribution to our knowledge of the condition—especially when clinical facts can be supplemented by the results of analysis—cannot fail to be of much interest I note that Dr Crombie has quite recently had a case of pernicious anæmia in which small quantities of intestinal sand were detected It is to be hoped that in this case a complete analysis of the sand was made I infer that this was done, as Dr Crombie describes it as a case of "true" sand, and, of course, the differentiation from the false variety can only be made by analysis and microscopical examination

May I venture one comment on the case referred to in the last two sentences of Dr Crombie's letter? The patient therein referred to had, previously to consulting Dr Crombie, been "living an ordinary life on mixed diet," and Dr Crombie noted that no tinned Californian fruits had been eaten for the previous three months Mixed diet would in Calcutta include, in all probability, fresh plantains or bananas and might include figs It is well recognised now that these fruits may give rise to "false" intestinal sand as well as the pears which Dr Crombie excludes from the possibilities of his patient's dietary

In conclusion, it may be of interest to state that since the publication of my note on this subject I have been afforded, through the kindness of Major D M. Moir, I M.S, an opportunity of examining a specimen of intestinal sand which he received in 1892 from Dr Birch, then principal of the Calcutta Medical College I could not obtain any clinical facts in connexion with the specimen There were unfortunately only remaining a few grains of this specimen and so it was impossible to make a full quantitative analysis The results obtained were as follows moisture, 3 94 per cent, inorganic matter, 7 62, and organic matter, 88 44 The microscopical appearances were very similar to those obtained in the specimen of "true" sand already described by me In this case the percentage of *inorganic* matter (7 62) accords more nearly with the amount which has been previously found in specimens of "false" sand (generally from 2 to 3 per cent), but the microscopic appearances and the results of treatment with various reagents while the specimen was under the microscope correspond with those obtained in the case of "true" sand I am inclined, therefore, to regard this specimen as one of "true" sand with an unusually small proportion of inorganic constituents I am, Sirs, yours faithfully,

C H BEDFORD, D Sc M D Edin,
Major I M S Chemical Examiner to the Government of Bengal
Calcutta Medical College, August 19th, 1902

P S —In my paper above referred to the date of Professor Delépine's paper was misprinted 1900 It ought to have been 1890

THE LOW PHOSPHATES AND UREA IN THE URINE OF THE TUBERCULOUS

To the Editors of THE LANCET

SIRS,—In your issue of Sept 6th, p 656, I read with much interest Mr E G Clayton's valuable contribution on Some Observed Variations in the Phosphates and Urea of Urine Mr Clayton says "The unusually low phosphates and urea in the case of tuberculosis and in sample B, as well as the evident general correspondence of the preparations of both constituents in the varying conditions represented seem to be the points most worthy of remark." The analysis of urine in the case of tuberculosis of the bladder confirms my argument as to the value of pure urea in the treatment of tuberculosis In my papers on urea published in THE LANCET of March 9th (p 694) June 15th (p 1672), and Dec 7th (p 1567), 1901, I stated that the tuberculous are deficient in nitrogen and that urea given with abundance of animal food supplies this deficiency and is the best remedy that at present we possess. Further, "that tuberculosis bears an inverse ratio to the amount of proteid consumed—that is to say, the less animal food ingested the greater the number of tuberculoses, and *vice versâ*" "For years I have been struck with the low specific gravity and deficiency of solids in the urine of this class of patients"

I am, Sirs, yours faithfully,

Nottingham, Sept 8th 1902 H HARPER, M D R.U I.

WOMEN INSPECTORS OF THE LOCAL GOVERNMENT BOARD

To the Editors of THE LANCET

SIRS,—I am afraid that your Welsh correspondent has not devoted much study to the question of boarding out pauper children or he would be aware that there are *three* inspectors of boarding-out. These ladies were appointed to see that the committees did their work well, and if your correspondent will go through the reports of Miss Mason he will find that certain of the committees did it very badly—so badly that in some cases the Local Government Board refused to allow them to take any more children and in at least one case cancelled the order It is the committees that Miss Mason and her colleagues inspect and to gain that knowledge of the way they do it they have to visit a considerable number of the children boarded out *beyond the union*." The inspectors have nothing to do with children boarded out *within the union*, and when I state that while the children boarded out beyond the union number less than 1900 those boarded out within the union number upwards of 5600 it will be at once seen that *less* than a third of the children are even liable to be inspected by the officials of the Local Government Board. I am no advocate of women indecently usurping men s place in public administration, but I do think that girls boarded out, either singly or with societies or sisterhoods, should be inspected by women if only to prevent the recurrence of a scandal similar to the one that has just occurred in Lancashire.

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[1] THE LANCET August 2nd 1902 p 314

[2] THE LANCET July 26th 1902, p 215

I am Sirs yours faithfully
JNO MILSON RHODES, M D BRUX.

Didsbury Sept 8th 1902.

HAS ACUTE ANTERIOR POLIOMYELITIS BEEN UNUSUALLY PREVALENT DURING THIS SUMMER?

To the Editors of THE LANCET

SIRS —I see a letter in THE LANCET of Sept. 6th p 707 from Dr F E. Batten stating that in his experience acute anterior poliomyelitis has been unusually prevalent during the present summer In answer to his query I may say that I have been struck with the number of cases of this disease which I have met with during the past few weeks and I was therefore very interested to read the letter above referred to

I am, Sirs, yours faithfully
Cardiff Sept. 8th 1902. W MITCHELL STEVENS.

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT)

Another Threatened Plague Outbreak.—The Death rate in Madras City —Infant Mortality in Bombay and Calcutta

THE mortality from plague throughout India has been steadily rising during the past few weeks For the week ending August 9th the deaths were 2854 while for the past week (ending the 16th) they have risen in number to 3762. The rise has not been limited to one province but is almost general. The figures for the week are Bombay Presidency 2642, as against 2225 for the previous week Madras Presidency 145 as against 144 United Provinces 153, as against 29, Punjab 106, as against 23 Mysore 612, as against 392 Berar 34 as against 18 The only province which shows a decline is Bengal where there were only 10 deaths and in the city of Calcutta only nine deaths. Plague is gradually creeping nearer Simla Kasauli having had already 11 deaths. These increasing deaths taken in conjunction with a rise at the corresponding period last year are a sufficient indication of what we may expect, and now that the disease has extended to so many provinces its ravages are likely to be enormous Moreover it shows that the great Punjab inoculation scheme has hardly been taken in hand sufficiently early The medical officers are not all distributed—in fact, they have not all arrived in India—and the organisation of the work is far from complete. This inoculation scheme should give an opportunity for testing other fluids than that of Haffkine. While the advantages of this serum are unquestionable it is admittedly open to improvement and it possesses certain drawbacks The serum of the Berne Institute may be mentioned as deserving further trial as a curative agent

I have had from time to time to draw attention to the high death rate in Madras city During the past year it has been 55 5 per mille as against a mean of the previous five years of 40 9 It is said that the climatic conditions were unfavourable but the water supply was imperfect and the drainage defective and inadequate. What Madras wants is a bold scheme of improvement for opening up the congested portions of the city similar to the work now being carried out in Bombay The municipal finances are such that any great scheme cannot be entered upon without Government assistance and already they are under the burden of 30 lakhs for drainage. A better system for the registration of the causes of death is urgently called for Improvements in this direction have been made both in Bombay and in Calcutta. I hear that in Calcutta every death is inquired into and that from the history of the illness the district health officer is able to form an estimate of the probable cause of death Though admittedly imperfect this is vastly superior to dependence upon the mere statements registered at the burning ghauts or burial-grounds by the deceased s relatives Failing the certificate of a medical practitioner this seems the only possible means of obtaining anything like a probable estimate of the cause of death I doubt if anything so thorough as this is done anywhere else in India.

The 37 medical men who are coming out to India for plague work in the Punjab will be inoculated shortly after arrival in Bombay and they will be detained for a short instruction at the Research Laboratory before being sent forward for duty

The infant mortality in Bombay is apparently enormous For last year the rate of male infant mortality was 571 in 1000 of the births, and the female ratio was 589 The Government declines to accept the theory that the registration of births is defective. Very much the same high mortality prevails in Calcutta where the deaths of infants under one month have been found to be excessive But for this city the health officer considers the low birth rate recorded as due largely to deficient registration. The deaths of infants under one year were at the rate of 408 5 per 1000 births but the birth rate is only about 10 7 per 1000 of the population

August 23rd.

HOSPITAL ABUSE

(FROM OUR SPECIAL COMMISSIONER.)

The Leigh Medical Society and the Proposed New Hospital — United Action of the Medical Profession to Prevent the Creation of Conditions that lead to Abuse

THE proposal to build a hospital at Leigh was brought before the Ethical Section at the recent annual meeting of the British Medical Association The remarks made by Dr F E. Wynne a local practitioner were published at the time. He pointed out that there was no need for an outdoor patient department that it would compete unfairly with the practitioners of the district, and that its creation had been proposed so as to obtain subscriptions from the working class. The medical men concerned had protested but had been treated with scant courtesy and they had been threatened with the importation of an outside surgeon who would be encouraged to practise in opposition to them. It seemed to me a rather serious matter if a scheme for a hospital should even at its inception thus assume a hostile attitude towards the profession. Consequently I went to Leigh to inquire on the spot and to obtain fuller details Here I found that what is called Leigh is really an amalgamation of three districts, West Leigh Pennington and Bedford which together have according to the census of 1901 a population of 40 001 inhabitants It is a colliery and manufacturing district six miles from Wigan seven miles from Bolton, and 12 miles from Manchester But within two miles there is the district of Atherton with 16,211 inhabitants and at a distance of two and a half miles there is the town of Tyldesley with 15 000 inhabitants Adding these two figures to the population of Leigh we have some 71 000 persons for whom there is no hospital Apart from the ordinary cases that require hospital treatment severe colliery accidents occasionally occur and it is certainly a hardship to have to convey such patients all the way to Wigan or to Manchester for hospital treatment. The population of these places is growing Leigh is a convenient centre and if a hospital were built in this town it would certainly render considerable and welcome service Therefore when rather more than a year ago a movement was set on foot having for its purpose the building of a hospital it was widely approved by the members of the medical profession as well as by the other sections of the community A town s meeting was convoked which elected a large committee to promote the project. The mayor, members of the town council, all the clergy, and the medical men were appointed members of this committee.

It was not till this general committee had met a few times that differences began to arise. The general committee appointed an executive and only one medical man was selected to serve on this body. The executive proceeded to invite architects to submit plans for the proposed hospital and these were to comprise an out-patient department with a waiting-room large enough to hold more than 100 persons. Thereupon the Medical Society of Leigh made a formal protest and appointed a deputation to wait upon the hospital committee. The members of this deputation do not consider that they were well met; in fact, it seems as if they were treated rather rudely. In any case, the medical practitioners of Leigh were so far offended that they determined that they would have nothing more to do with the matter unless they were specifically invited to help. But now that some time has elapsed since these regrettable incidents occurred the matter is viewed in a calmer light and it is acknowledged that the medical men have been somewhat remiss in educating those with whom they had to deal. What is obvious to a medical practitioner is not necessarily understood by those who are outside the profession. Now that there has been time for explanations and friendly discussion the standpoint of the profession is much better understood, notably by the mayor, the secretary of the local coöperative society, who is a town councillor, and others. Undoubtedly, the Medical Society of Leigh ought from the very onset to have laid their case before the general public. Many misunderstandings would thus have been prevented and the members of the profession would not have been subjected to unjust aspersions. There are 15 or 16 local practitioners and, with one exception, they all belong to the Medical Society which was founded four years ago as a medical guild or union organised to deal with economic questions. The one exception will work with the Medical Society in regard to the hospital question and therefore it may be said that the local practitioners are unanimous. They do not object to the creation of a hospital but they maintain that an out-door patient department is not needed and would be very injurious to the profession. There is, for instance, a colliery in the neighbourhood where as many as 3000 men are employed. From time to time serious accidents occur in the pits and it is in view of such catastrophes that there is need for a hospital. But there are also ironworks, manufactories of agricultural implements, and some small industries. Here minor accidents occur consisting generally of injuries to the hand or the eye. The patients in such cases can easily walk to a practitioner's private surgery; no hospital is required for such slight accidents. The employers at these various firms sometimes pay a regular sum to local practitioners to attend any of their workmen who may be injured. Some of these practitioners receive £20 a year from several firms and would not be able to live if these payments were withdrawn. But if there were a hospital with an out-patient department these employers would probably subscribe to the hospital instead of paying a local practitioner, and would send their workmen to the out-patient department where they would be treated for nothing. Indeed, the employers could save money in this way while figuring as patrons of the local charity. On the other hand, the money which now enables several practitioners to make both ends meet would be swallowed up by the hospital.

In large centres where there is a great mass of poverty it may be necessary to have out-patient departments at some of the hospitals. At Leigh there is comparatively little poverty. There is little or no casual labour. The inhabitants for the most part are in regular employment. Drunkards and men with very large families may find it difficult to pay their way; but, as usual, the medical practitioners are constantly attending gratuitously on such cases. Therefore they maintain that there is absolutely no need for an out-patient department and this assertion is confirmed by the fact that there is as yet no medical charity whatsoever at Leigh. If the necessity for a medical charity has not yet been felt, why should such an institution be forced on to the community merely because there is need for surgical wards to meet emergencies when serious accidents occur? A serious case requiring indoor hospital treatment is a very different matter. Nevertheless, the plan for the hospital which has been adopted includes a large out-patient department. The only concession which as yet has been made to the medical profession is the abandonment of a proposal that the paid house surgeon of the hospital should visit patients in their homes. This, in any case, has been recognised as unfair competition, so that some advantage has already resulted from the united action of the members of the profession. The local practitioners are inclined to boycott the hospital unless the managers consent to limit very strictly the out patient department. It is true that as yet the exact meaning of the word "limit" has not been defined, but it is felt strongly that for small accidents and ordinary illnesses the great mass of the population can afford to pay at least minimum fees. On the other hand, where well-established cases occur for which such payments cannot be made the local practitioners are willing to treat such cases at their own surgeries gratuitously. Why, then should there be an out-patient department, where it will be almost impossible to prevent abuse, when the local practitioners are willing to attend necessitous cases gratuitously? Why increase the cost of building the hospital by adding an out-patient department and then augment its working expenses when all that is really needed will be supplied from the private surgeries of the local practitioners without involving the subscribing public in any cost whatsoever? But there are working men colliers on the hospital committee and they insist on the creation of an out patient department. On the other hand, would they so insist if they did not anticipate that such a department would be the means of obtaining for many cheaper medical attendance? It is this tendency which the local practitioners are in self defence bound to resist. Where charity is needed they will give it; where the patient can afford to pay they demand such payment. But the aim is to avoid full payment by means of penny subscriptions and, on the other hand, to disguise charity under the cover of these small donations. If the members of the profession hold out it is difficult to see how the hospital can be managed. A junior paid house surgeon cannot do all the work. A visiting staff selected from among the local practitioners must be formed but this will not be possible if these all refuse to serve.

One cause of the present difficulty is the precedent established by the hospitals of Wigan and Bolton. In both these towns there are out-patient departments to the hospitals and the workmen there are in the habit of subscribing to these hospitals, so the workmen of the Leigh district naturally imagined that they would be able to do the same in regard to the new hospital which it is proposed to build. But at Wigan and Bolton there are endowments and old-established charities which tie the hands of the managers. Nothing of the sort exists at Leigh. From the Wigan hospital eight tickets of recommendation are obtained for a guinea subscription and this is a proceeding that lends itself to much abuse. Reform is greatly needed in regard to this matter at Wigan. At Oldham only two tickets are given in exchange for a guinea subscription entitling the patient to one month's treatment. What has proved to be a cause of much abuse in the two nearest towns should serve as a warning rather than as a precedent to be followed.

After talking these matters over with several local practitioners I called on the secretary of the hospital committee to see what might be said on the other side. But the secretary energetically protested that he did not belong to any side and was earnestly endeavouring to be absolutely impartial. He thought that every practitioner in Leigh had a large free list and that it would be to their advantage if these non paying patients were transferred to the out-patient department of the hospital. All new comers to the district were besieged by these bad paying patients. Nor would it be altogether wise to send those who really could not pay to the Poor-law medical officer. The class that went to the parish medical officer would soon conceive that as they got medicine for nothing they might as well endeavour to get milk for nothing, and finally they would come down on the parish for permanent relief. The hospital outdoor patient department would draw off this class and would help to prevent pauperisation. But if such results were likely to be beneficent there certainly was a great danger of abuse. To prevent this it would be necessary to draw up very stringent rules and the secretary also thought a medical receiving committee should be formed so as to see that only worthy subjects for charity were admitted. The hospital, it was estimated, would cost about £13 000 and £9000 had already been promised. The land had been given to them by Lord Lilford and therefore there is every hope that the scheme will be carried out. They might get the foundations out this year and commence building next year There will be a pavilion of two storeys, with a ward for 15 beds on each floor The one will be the female the other the male, ward. Then there are the administrative buildings and the out-patient department, but the plan is so contrived that this latter could be left out altogether There is space remaining on the land for the building of more wards should the necessity arise, which judging from the present rate of increase in the population, is likely to be the case at a future date. It seems certain that the project to build a hospital will be realised, so that here there is a test case. There is, on the one hand the well established fact that hospital abuse exists on a large scale throughout the country On the other hand a certain number of medical unions have been formed to deal with this and other economic questions. The Medical Society of Leigh is especially favoured in having secured the unanimous support of all the local practitioners There could be therefore no better opportunity for the practical demonstration of the utility of such a medical union. It is to be hoped that the medical practitioners of Leigh will rise to the occasion and set an example that will be useful throughout the United Kingdom. They are not hampered by vested rights and established precedents. In respect to the question of hospital abuse they are treading on virgin soil and should therefore be able to establish a new precedent, to enforce the application of new principle and to realise much needed reforms

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Congress of the Sanitary Institute

THE arrangements made for the annual congress of the Sanitary Institute allow of the confident expectation that the meetings which are to begin to-day (Tuesday Sept. 9th) should be very successful. The Lord Mayor will welcome the members at the town hall after which he will preside at a public luncheon, and at 3 o clock he will open the Health Exhibition at St. James s Hall. At 8 o clock in the evening Earl Egerton of Tatton the President of the congress will give the inaugural address at Owens College. The active business is to begin to-morrow the 10th. Conferences will be held respectively by municipal representatives port sanitary authorities, medical officers of health, engineers and surveyors to county and other sanitary authorities, veterinary inspectors, and sanitary inspectors, and on the hygiene of school life. To-morrow afternoon there is to be a garden party at Tatton Park on the invitation of Earl Egerton of Tatton and the Duchess of Buckingham and Chandos and in the evening the lecture to the congress will be given by Dr W N Shaw his subject being The Treatment of Smoke a Sanitary Parallel. On the 11th there are to be meetings of sections—No. 1, which deals with Sanitary Science and Preventive Medicine, under the presidency of Sir J Crichton Browne No. 2, for subjects relating to Engineering and Architecture with Sir Alexander Binnie in the chair and No. 3, dealing with Physics Chemistry and Biology presided over by Professor Delépine. The meetings of the sections will be continued on the 12th and in the evening of that day Sir W J Collins will give a popular lecture on The Man *versus* the Germ Many visits and excursions have been arranged for the various clubs are throwing open their doors to members, and much hospitality will be shown Good no doubt, will be done by the gathering and the attention of a portion of the intelligent public may be drawn to some of the sanitary evils which still oppress us, but will it end chiefly in talk and not be followed by action? Will the lecture on the treatment of smoke be followed by its diminution to any appreciable extent? So long as so many evil deeds—from the point of view of sanitation—are winked at, if not expressly permitted they will be continued whilst it pays to do so by a large proportion of the offenders But the time has surely come when more stringent measures might be used without injury to the manufacturing interests. The appliances for smoke consumption have been greatly improved and have been found to save fuel and money but there still seems to be some prejudice against their use. Much, also may be gained by the more general use of gas-engines and of electric appliances. As regards personal and domestic hygiene one difficulty is to educate the most ignorant of the population, and perhaps some suggestions may be thrown out at the congress which will bear fruit

Lunatics in Workhouses.

An inquest was held about a fortnight ago on the body of a man who jumped through a window in the workhouse infirmary at Crumpsall. He was taken in custody for behaving in an extraordinary manner" at the Victoria Station brought before the magistrates, acquitted of the charge of trespass, and ordered to the workhouse, but owing to some misunderstanding he was not put into the lunacy ward. The master of the workhouse stated that the medical officer did not think the man insane, but if he had done he would have had him transferred to the imbecile ward and he would have had him brought before the magistrates within 36 hours. In reply to the coroner the master also said that if he had received an order from the magistrates he would have put the man in the imbecile ward despite the medical officer's opinion. It was further stated that no written order was given by the magistrates and the only one received was from the relieving officer stating that the man appeared to be subject to delusions The case was adjourned for the evidence of the medical officer

Boys Camp at Southport

There is one manifestation of modern philanthropy which seems altogether good—namely that of taking poor children for a week or two in summer to the seaside or into the country Over 2000 city lads have lived in camp at Birkdale Southport since the season began in Whitsun week They are from the very poorest class and but for the Strangeways Refuge would have had no change from the courts and alleys in which they live. The camp is close to the sea. Most of the boys sleep in army tents, which are kept perfectly sweet and clean but a large wooden dormitory has been recently added. Workers among the poor report to the managers of the Refuge cases likely to be benefited by a week in camp. The candidates are medically examined before going Each working boy pays 2s. towards the week's expenses and each schoolboy 1s but in cases of extreme poverty this is not insisted on. The total cost of each lad s journey there and back and his stay in camp is 6s On reaching camp his clothes, often merely dirty rags, are changed for a strong suit provided by the managers The change from the confined slum to the spaciousness of the open beach is a revelation to most of the lads that carries with it something of pathos. One little fellow said I've never seen so much room out of doors before. And another looking at the sea for the first time said What a big cut," which is vernacular for canal his notion of water on a large scale being derived only from the canals of the city or perhaps from the Medlock and the Irwell They bathe every fine morning are drilled each day play to their hearts content, and are abundantly fed so that the pale, pinched looking undersized city children, telling of rapid and serious degeneration of race, go back wonderfully invigorated and browned The pity is that the stay is so short and that the return in most cases is to a closed insanitary slum At the end of the season the committee find themselves £75 in debt, but it is hoped that this will soon be cleared off and that a start will be made next year free from this burden.

Sept. 9th

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Winter Session of the Medical Faculty of University College, Liverpool by Sir Frederick Treves Bart K.C V O C B

THE inauguration of the winter session is looked forward to by the students of the Medical Faculty of University College, Liverpool, with the greatest interest as the occasion will be a memorable one in the annals of the Liverpool school. Sir Frederick Treves has kindly accepted the invitation of the Medical Faculty of the College to distribute the prizes to the successful students and to deliver the opening address on Friday Oct. 10th at 2 P.M. It has been arranged that the professorial staff and the former students of the college, wearing academic costume shall walk in procession from the college in Brownlow hill to the Philharmonic Hall where the ceremonies will take place. The hall is a spacious one and is capable of accommodating some 3000 persons. Special efforts have been made by the dean of the medical faculty to trace former students, many of whom have already received invitations to attend the ceremony If those who have not received invitations will convey to Dr T R. Bradshaw, 51, Rodney street, Liverpool, their desire to be present invitations will be forwarded to them The orchestra will be reserved for past and present studies Upon the termination of the proceedings at the Philharmonic Hall a procession on similar lines to the former one will be made to the Royal Infirmary, where Sir Frederick Treves will open the new operating theatres Tea will afterwards be provided in the corridors by Mr Edward Kewley, the genial chairman of the committee. The two new operating theatres at the Royal Infirmary have been erected through the generosity of an old and valued member of the committee and are equipped with all the most recent requirements of modern surgery The biennial dinner of the medical faculty of University College will take place in the evening of the same date at the Adelphi Hotel. Sir Frederick Treves will be present, together with other distinguished guests

Sept. 9th

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS)

The Census Returns for Glamorganshire

THE complete census returns, which have just been issued for the county of Glamorgan, give some very interesting figures with regard to the amount of overcrowding in the county and by a comparison with the returns for 1891 it is possible to ascertain to what extent the conditions found in 1901 differ from those existing 10 years earlier In the census report for 1891 it is proposed that tenements should be considered overcrowded when occupied by more than two persons to each room, and applying this standard among the tenements of less than five rooms in the whole county 8 per cent were overcrowded in 1901, while in 1891 the percentage was 12 In the county borough of Cardiff the overcrowding was reduced from 9 per cent in 1891 to 6 per cent in 1901 and in Swansea during the same period the reduction was from 12 per cent to 8 per cent In the urban districts of the county 9 per cent and in the rural districts 6 per cent of the tenements indicated were overcrowded in 1901 Except in Merthyr there is shown to be a marked decrease in the large urban districts during the 10 year period In Aberdare the percentage fell from 10 to seven, in Mountain Ash from 12 to eight, in Neath from 12 to 10, in Ogmore from 22 to 10, in Pontypridd from 14 to seven, and in the Rhondda valleys from 20 to 11 It would appear, therefore, that in all these towns the additional housing accommodation provided has much more than kept pace with the increase in population In Merthyr, on the other hand, in 1891 there was overcrowding in 15 per cent. of the tenements with four rooms or less and the same percentage prevailed in 1901 There is thus ample justification for the action of the Merthyr district council in erecting 100 workmen's houses which are now in course of being built and which will go far to lessen the overcrowding of cottages undoubtedly existing in the town In the rural districts, some of which, however, are rural only in name, the amount of overcrowding is not so great as it is in the colliery districts, though in only two—Gower and Llandaff—is the percentage less than that found in Cardiff, while in Neath rural district 10 per cent. of the small tenements are overcrowded, and in Cowbridge and Gelligaer rural districts the percentage is eight In 1901 there were 103,358 men and boys working in the Glamorganshire collieries, a number about equal to 30 per cent of the male population above 10 years of age, an increase of 3 per cent upon that recorded in 1891 In the Rhondda valleys and in Merthyr this percentage was 48 and 42 respectively Among the total number of colliers employed in the whole county only 1572, or about 1½ per cent were above 65 years of age, and it is of interest to record that in 1901 there were only 84 women stated to be working about the collieries, and these all above ground, while in 1891 there were 299, and in 1881 there were 429 so employed.

Madame Patti at Brecon.

Madame Adelina Patti (Baroness Cederström) gave a concert on Sept. 3rd on behalf of the Brecon County and Borough Infirmary The large covered market hall of the county town, holding about 2000 persons, was quite filled and Madame Patti was most generous with her encores to each of her four songs The members of the concert party, which included Mr Santley and Mr Wilhelm Ganz all gave their services, but all the other expenses were borne by Madame Patti, so that the infirmary, which was established in 1833 and contains 16 beds, will receive a welcome and substantial addition to its funds

Memorial to a Newport Medical Practitioner

It has been decided to erect a drinking fountain in Beechwood Park, Newport, Mon., in memory of Dr John F L Mullin who died in February last after practising in the town for over 10 years The cost of the memorial is being defrayed by a shilling subscription to which the working people of the town have largely contributed

Vaccination Questions

At the meeting of the St. Thomas (Exeter) board of guardians held on Sept 5th a letter was received from the Local Government Board stating that a vaccination officer could take proceedings without the direction of the guardians, whilst the giving of a notice before a visit of the public vaccinator was not necessary to a conviction. The vaccination committee, who had been considering the question of the vaccination fees, recommended that it was desirable to give a month's notice to terminate the contract to the public vaccinators for St. Thomas and Starcross respectively, and the guardians decided to take that course.—At the meeting of the Barnstaple board of guardians held on August 29th it was reported that 474 births were registered in the union during the six months ended December, 1901, and that during the same period 365 children were successfully vaccinated and 29 received certificates of exemption

Exmouth Cottage Hospital

The foundation stone of the Exmouth Cottage Hospital was laid on Sept. 3rd by Lady Gertrude Rolle The building will contain on the ground floor two main wards, measuring 30 feet by 20 feet, and providing accommodation for six patients each, in addition to which there will be special wards, a surgery, &c The estimated cost is about £4000, of which £3000 have already been raised.

Sept 8th

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

Sanitary Association of Scotland

THE annual congress of the Sanitary Association of Scotland has been held during the past week in the Beveridge Hall, Kirkcaldy, under the presidency of Professor John Glaister, M D In his opening address the President discussed the subject of public water supplies in urban and rural communities, dealing more particularly with the conditions necessary to secure a sufficiency of water and to avoid pollution from various possible sources of contamination. Dr T G Nasmyth, medical officer of health of Fifeshire, read a paper on the pollution of rivers He dealt particularly with modern methods of sewage purification as bearing on the condition of rivers and streams and criticised the clauses of the Rivers Prevention Pollution Act. This Act, he said, was so cumbrous and so expensive to put into operation that it had practically become a dead letter He advocated the erection of a separate commission or special department of the Local Government Board to be the supreme authority in dealing with the pollution and other questions affecting the views of the whole country In a paper on small pox hospitals Dr Alexander Johnston, physician superintendent of Ruchill Hospital, Glasgow, discussed the cost of these institutions to the community and argued that such expense would be unnecessary were vaccination and revaccination efficiently enforced. Quoting from recent experiences in Glasgow he showed that the small pox hospital in Glasgow in 1898–99, when not a single case was admitted, cost £1300 to maintain, whilst two years later, when 1700 patients were treated, the cost of maintenance rose to nearly £12,000 Dr Johnston also expressed the opinion that the hospital was a means of spreading infection among the surrounding population and urged that this, as well as the large item of expense, would have been avoided had the local authority power to enforce adequate prophylactic methods. In a discussion on milk supplies Professor Glaister argued against Koch's conclusions regarding the non transmission of bovine tuberculosis to man. His own observations led him to favour a directly opposite view. A question having been raised as to the employment by dairy keepers of servants suffering from various forms of tuberculosis Professor Glaister said he had no doubt that such conduct could be effectively dealt with by a court of law. The meetings of the congress were well attended and proved in every sense highly successful.

Glasgow Royal Infirmary

Dr James Dunlop has resigned his position as assistant physician to the infirmary and Dr John Henderson has been appointed extra dispensary physician.

Sept. 9th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Bicycle Accidents in Dublin.

FATAL bicycle accidents are very frequent in Dublin and its neighbourhood at this season so that not a week passes without a record of serious injury or death. The wife of an English clergyman was recently killed while cycling on Donnybrook road. The explanation of the number of these accidents is to be found firstly in the fact that the bicycle as a means of locomotion is more popular in Dublin than in any other town of the United Kingdom not excluding Coventry which may be looked upon as the birthplace of the cycle, and secondly because the usual laws and regulations have not until quite recently prevailed here. It will surprise English readers of THE LANCET to know that the first announcement that the metropolitan police were about to enforce within the city limits the by laws in connexion with the use of lamps at night—laws that have been put in practice in England for years—appeared here on July 22nd 1902. The first prosecution in connexion with this important regulation took place only the other day when two bicyclists were sentenced to pay a nominal fee for travelling in the dark through the city without lamps.

Armagh Fever Hospital.

At a meeting of the Armagh board of guardians held on Sept. 2nd it was reported that several cases of sore-throat had occurred both in the fever hospital and in the workhouse, caused as the medical officer said by septic poisoning arising from sewage tanks. The reports of the medical officer and of the architect (with his suggestions to remove the unsanitary conditions) were referred to a committee and it was decided to write to the clerk of the urban council and to find out what sum it would accept for the disposal of the union sewage through the new Armagh sewerage scheme.

Small-pox in Belfast.

Belfast is now free from small pox and the stamping-out of the epidemic is due largely to the efforts of Dr A. G Robb, physician to the Fever Hospital, to whom it has been very fairly proposed to grant a bonus of £50 for his arduous duties in connexion with the outbreak

Extraordinary Floods in Belfast

Belfast has been visited by an extraordinary heavy rain storm, which began about 10 o clock on Tuesday Sept. 2nd and continued for about 12 hours, culminating on Wednesday morning in a downpour of really tropical severity the deluge being accompanied by a strong gale and unusually high tides. This visitation in its effects exceeded anything that has ever occurred before and produced a state of things absolutely unprecedented in the history of Belfast. The low lying parts of the city and almost all the business parts of the town were so flooded that many of the streets were impassable and quite a Venetian condition was produced in Belfast an immense deal of injury was done to property and great inconvenience was occasioned. The rainfall for a period of 24 hours was 2·75 inches. Two causes are given for this extraordinary flooding of the city of Belfast—firstly the torrential and altogether unexampled rainfall and, secondly the complete failure of the main drainage scheme of Belfast. I am glad to state that a special meeting of the corporation has been called to consider this latter most important matter

Lisburn Workhouse Hospital.

The Local Government Board has forwarded for the information and consideration of the Lisburn board of guardians a special report which it has received from Dr E. C. Bigger its medical inspector on the condition of the workhouse hospital. The inspector pointed out *inter alia* that there were no convalescent wards, day rooms, or operating rooms and that cases were not classified in the hospital for treatment. Both ambulances were old two-wheeled vehicles and the inspector suggested the substitution of four wheeled machines. The infirmary was not as clean and tidy as it should be. The nursing staff was insufficient, as two day nurses and one night nurse could not carry out all the nursing duties connected with such a large number of patients and at the same time, supervise the lunatic department and the nursery. One additional qualified nurse should be added. There were two padded cells in the lunatic department which should be removed. Iron bedsteads with wire fittings should be provided for the fever hospital. There were no separate wards for consumptive patients. The report concluded by hoping that the inspector's recommendations would be carefully considered.

The Belfast District Asylum.

At a meeting of the committee of the Belfast Asylum, held on Sept. 8th a letter having been read from the Richmond Asylum Committee urging upon the Belfast committee that they should join in the movement for the establishment of a central pathological laboratory in Dublin for lunatic asylums a resolution was passed. That the committee of the Belfast Asylum are of opinion that psycho- and neuro-pathology can be most efficiently and successfully undertaken in connexion with the pathological department of a recognised college or university and having regard to such they consider that the requisite pathological investigation for the Belfast Asylum can be satisfactorily performed in their own laboratory with the coöperation of the Professor of Pathology for Queen's College, whenever external assistance is required. This resolution shows that the Belfast view is entirely against any scheme of centralisation in Dublin. The day for such a scheme is passed

Sept. 9th

PARIS

(FROM OUR OWN CORRESPONDENT.)

The New Director of the Assistance Publique

THE Ministry has chosen M. Mesureur to replace M. Mourier whose death I announced in my last letter to you. The new Director of the Assistance Publique is a politician who was formerly a Deputy for Paris and also for a short time a Minister. At the last general election he was thrown over by the electors and his nomination is evidently a sort of consolation prize given to him by his political friends, who are, as a fact, masters of the Government. M Mesureur who commenced life as a working man, his occupation being that of an embroidery designer knows absolutely nothing about the various complex questions which arise in regard to the Assistance Publique. The director of this administration ought to be at once a philanthropist, a lynx-eyed administrator and an excellent man of business. Other men well known for their labours and their aptitude for these matters were proposed for the post, but it was absolutely necessary for the Government to find a good post for a political friend who is well known for his socialistic revolutionary opinions. It is much to be feared that the choice of the Government, which is being met with lively disapprobation by all the medical men and the whole staff of the Assistance Publique in Paris will do nothing to assist in setting the administration on a sound footing

Various Congresses

At the present time congresses are being held everywhere. At Montauban the French Association for the Advancement of Science is in session. At Grenoble there is a Congress of Neurologists, together with another congress that of Hydrology and Geology. At Grenoble an interesting discussion has been held on the question of *tics*. M Meige and M Feindel, who have just written a remarkable book on this question, have laid before the Congress of Neurologists some very instructive views on the matter. M Meige, together with Professor Brissaud, holds that *tics* are to be distinguished from spasms in that the motions of the former are coördinated, but they are brought about unconsciously and in a purposeless manner As far as treatment goes M Meige recommends exercise before a mirror—that is to say, the patient should practise before a mirror by trying to reproduce voluntarily and slowly the motions of the *tic* When he can do this deliberately and on purpose he may be said to be nearly well At the Montauban Congress the Section of Hygiene has passed some interesting resolutions with regard to alcoholism, the construction of buildings destined for community life such as lycées and hospitals, and the means of combating tuberculosis.

Sept. 10th

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE —*Berlin* Dr Nagel of the Physiological Institute has been promoted to an Extraordinary Professorship, *Bologna* Dr Antonio Gnudi has been recognised as *privat docent* of Medical Pathology —*Breslau* Dr Paul Krause has been recognised as *privat-docent* of Internal Medicine —*Chicago* (*Harvey Medical College*) Dr G E. Krieger, medical inspector of the Chicago Health Department, and formerly assistant in the Würzburg Surgical Clinic, has been appointed to the chair of Surgery —*Cracow* Dr Alex Rosnér, *privat-docent* of Midwifery and Gynæcology, has been promoted to an Extraordinary Professorship —*Erlangen* Dr Heim has been promoted from Extraordinary Professor to Ordinary Professor of Hygiene.—*Freiburg* Dr Pertz has been recognised as *privat docent* of Surgery, Dr Eduard Jacobi has been given charge of the newly established chair of Dermatology, Dr H Pfister, *privat docent* of Psychiatry, has been promoted to an Extraordinary Professorship —*Göttingen* Dr Sultan, *privat docent* of Surgery, has been granted the title of Professor —*Gratz* Dr Wilhelm Scholz has been recognised as *privat-docent* of Internal Medicine —*Lausanne* Dr J Berdez has been appointed Extraordinary Professor of Therapeutics and Materia Medica, Dr A. Mermod has been appointed Extraordinary Professor of Otology and Laryngology —*Leipsic* Dr F Saxer has been appointed Extraordinary Professor of Pathological Anatomy —*Marburg* Dr Heinrich Hildebrand of Hamburg has been appointed to an Extraordinary Professorship —*Moscow* Dr Maliutin has been recognised as *privat docent* of Otology and Laryngology —*Munich* Professor Max Gruber of Vienna has, in spite of the efforts of the Austrian authorities to retain his services, decided to accept the chair of Otology, Dr Siegfried Mollier has been promoted to an Ordinary Professorship of Anatomy, Professor Fritz Voit has taken over charge of the University Medical Policlinic in place of Professor Moritz who has gone to Greifswald —*Naples* Dr Giovanni Velo has been recognised as *privat docent* of Operative Medicine.—*Paris* Dr Gaucher of the St. Antoine Hospital has been appointed to the chair of Dermatology and Syphilis in succession to M Fournier —*Prague* (*German University*) Dr Hering has been promoted to be Ordinary Professor of Experimental Pathology —*Pavia* Dr Emilio Veratti has been recognised as *privat docent* of Histology —*St Petersburg* (*Military Medical Academy*) Dr P Avroroff has been recognised as *privat-docent* of General Pathology —Dr Vinogradski has been appointed Director of the Institute for Experimental Medicine —*Warsaw* Dr Cherniakovski of Kieff has been recognised as *privat docent* of Surgery

SUDDEN DEATHS OF TWO MEDICAL MEN —Dr C T Aveling of Stamford hill, London after cycling on Sept. 5th, was bathing at Mullion, Cornwall. A young lady who was bathing near him cried out for help and Dr Aveling promptly went to her assistance. Before he reached her and when not out of his depth he sank, it is supposed, from syncope. He was brought in at once by another visitor but life was then extinct Dr Aveling had been an annual visitor at Mullion for some years He was of a genial temperament and was very popular in the little village where much sympathy is felt with his widow and children —Mr Frederick Pratt of Appledore, North Devon, died suddenly whilst visiting a patient on Sept 3rd The deceased received his medical education at St Bartholomew's Hospital and qualified as M.R C S Eng and L.S A. in 1851. He was attached to the Highland Brigade during the Crimean war and received the Crimean medal and clasp, he was also awarded the Turkish medal. Mr Pratt succeeded to his father's practice at Appledore, being one of six sons who were all medical men. The deceased, who was 75 years of age, had been for many years medical officer of health of the Northam district and Trinity surgeon to Lundy Island.

THE Barnstaple friendly societies have just raised over £150 for the North Devon Infirmary and Dispensary

PRESENTATIONS TO MEDICAL PRACTITIONERS —At Negapatam, South India, on August 14th, Mr H W M'Caully Hayes, M.R.C P, L R.C S Edin, L.F P S Glasg, and L M., was presented with a gold signet ring by the members of the St John Ambulance Association class in token of their appreciation of his services as lecturer to the class

DIFFICULTIES UNDER THE NOTIFICATION ACT —We have been requested by the honorary secretary of the Birmingham and District General Medical Practitioners' Union to publish the following resolution which was passed unanimously at a meeting of the union held on Sept 4th —

> That this council considers that the arrangement made by the health committee for one of the medical superintendents of the City Hospital to visit all patients reported to be suffering from chicken pox who are over seven years old is an unwarrantable interference with the liberty of the patient and contrary to the practice of the profession that this action is both unnecessary and improper and should not be undertaken except at the request of and in consultation with, the practitioner in attendance and further that the remarks published in reference to the instance in which it is alleged that no less than six persons in one house were mistakenly treated as suffering from small-pox are libellous, unfair and altogether unjustifiable

A CENTENARIAN — Mrs Macqueeney, *née* Livingstone, a cousin of Dr David Livingstone, the African explorer, has now reached the age of 107 years. She is living at Fishnish, Isle of Mull, under the care of Mrs Fletcher of Glenaros, with whom she was for long a servant. She is feeble and her hearing, which was not good seven years ago, is now completely gone Her memory began to fail many years ago Dr Livingstone, on the occasion of one of his visits to Mull, presented her with a silver brooch, on which her name was inscribed When she was about 35 years of age she married an Irish soldier named Macqueeney Their married life only lasted about four years and their one daughter, now aged 70 years, resides in Glasgow

LORD GREY'S PUBLIC HOUSE TRUST —The active support afforded to this movement in all parts of the kingdom has resulted in the placing in the hands of Lord Grey's Local Trust Companies 35 public houses of which the majority are already opened. In addition to these the People's Refreshment House Association (the pioneer of the movement) of which the Bishop of Chester is president, has acquired 25 houses Of these 60 houses all except six have been taken since 1900 During the next few weeks prospectuses will be issued for additional trust companies for Manchester, Salford and district, Bradford, and the counties of Middlesex Derbyshire, Cheshire, Carnarvonshire, and Staffordshire Those interested in the movement can obtain all information concerning it from the Central Association's Offices at 116, Victoria street, S W

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office directed to the Sub Editor, not later than 9 o clock on the Thursday morning of each week, for publication in the next number*

DUNCAN WILLIAM M.B, C M Glasg has been appointed Certifying Surgeon under the Factory Act for the Clay Cross District of Derbyshire

DWYER, HUBERT DE BURGH, M R C S Eng L R C P Lond has been appointed Medical Officer to the Banbury Union Workhouse Infirmary vice H J Edwards resigned

EATON OLIVER L R C P M R C S D P H Cantab has been appointed Public Vaccinator for Exmouth (Devon)

GARLAND EDWARD CHARLES M R C S L.R C P Edin L S A has been re-appointed Medical Officer of Health for Yeovil

GIBBS NORMAN EDWARD L R C P L R C S Edin L F P S Glasg, has been appointed House Surgeon to the West Kent General Hospital, vice C J I Krumbholz, M.B resigned

KIRBY SAMUEL J J, M D Brussels has been appointed Medical Officer of Health of the Hoxne Rural District.

MACVIE, RONALD CAMPBELL, M.B., C.M. Aberd. has been appointed Medical Superintendent of Dundee Sanatorium

MORRISSEY MARTIN R., L.R C.P L.R.C.S Edin., L.F P.S Glasg has been appointed Certifying Surgeon under the Factory Act for the Ballymore Eustace District of the county of Kildare.

MURPHY W D. CAVANAGH, M B B Ch Dubl. has been re-appointed Medical Officer of Health for the Llantarnam (Mon) Urban District Council

O'HAGAN PATRICK F L.R.C.P L.R.C.S Edin., L.F.P.S Glasg., has been appointed Certifying Surgeon under the Factory Act for the Croydon District of Surrey

PEACOCK, PATRICK, M.B Brussels, has been appointed Certifying Surgeon under the Factory Act for the Castleknock District of the county of Dublin.

SEQUEIRA, JAMES H., M D Lond., M.R C P Lond. F R C S Eng., has been appointed Assistant Physician to the Skin Department of the London Hospital.

SHARP EDGAR WM., M B Ch.B Glasg., has been appointed Resident Medical Officer to the Halifax Workhouse Infirmary

SMITH LEWIS A. M.D M.R C.P has been appointed Assistant Physician to the London Hospital.

Vacancies

For further information regarding each vacancy reference should be made to the advertisement (see Index)

BIRKENHEAD BOROUGH HOSPITAL.—Junior Male House Surgeon Salary £80 per annum with board and washing

BIRMINGHAM GENERAL HOSPITAL.—Dental Surgeon Honorarium £50 per annum

BLACKBURN AND EAST LANCASHIRE INFIRMARY —Junior House Surgeon Salary £70 per annum, with board washing &c.

BRADFORD POOR LAW UNION HOSPITAL AND WORKHOUSE —Resident Assistant Medical Officer unmarried Salary £125, with rations, apartments and washing

BRISTOL GENERAL HOSPITAL.—Assistant Casualty House Surgeon. Salary £70 with board residence &c.

BURY INFIRMARY —Senior House Surgeon. Salary £110 with board, residence, and attendance.

CAMBERWELL HOUSE ASYLUM —Second Assistant Medical Officer unmarried Salary £150 per annum with board rooms and laundry

CANCER HOSPITAL, London.—Pathologist. Salary £250 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road W C —House Surgeon

CORNWALL COUNTY ASYLUM Bodmin —Junior Assistant Medical Officer unmarried Salary £130 rising to £160 with board, apartments laundry &c.

DENBIGHSHIRE INFIRMARY Denbigh —House Surgeon Salary £100 with board residence and washing

DERBYSHIRE ROYAL INFIRMARY —Honorary Physician.

EAST SUSSEX NEW LUNATIC ASYLUM —Medical Superintendent. Salary £900 a year with unfurnished house &c.

HITCHIN (NEAR) THREE COUNTIES ASYLUM —Second Assistant Medical Officer unmarried Salary £150 per annum, with board, apartments washing and attendance

LEICESTER INFIRMARY —Assistant House Surgeon. Salary £80 per annum with board apartments and washing

LIVERPOOL, CITY OF, INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer unmarried. Salary £120 per annum with board washing and lodging

LIVERPOOL COUNTY ASYLUM Rainhill.—Assistant Medical Officer unmarried Salary £150 per annum rising to £250, with further increase to £350 on promotion with apartments board attendance, and washing

LIVERPOOL DAVID LEWIS NORTHERN HOSPITAL.—Assistant House Surgeon Salary £70 per annum, with residence and maintenance.

MIDDLESBOROUGH NORTH RIDING INFIRMARY —House Surgeon unmarried Salary £100 per annum with board lodging and washing

MORPETH DISPENSARY —House Surgeon unmarried Salary £120 per annum, with rooms and attendance

NORTHAMPTON COUNTY BOROUGH —Medical Officer of Health Salary £500 per annum

NORTH EASTERN HOSPITAL FOR CHILDREN Hackney road N E —Resident Medical Officer Salary £120 per annum with board residence, and washing

NOTTINGHAM CHILDREN'S HOSPITAL, Forest House.—House Surgeon (unmarried) for six months Salary at the rate of £100, with board and residence.

READING ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon Salary £50 per annum with board, lodging and washing.

ROXBURGH DISTRICT ASYLUM Melrose, N.B —Assistant Medical Officer Salary £140 per annum with board, rooms, and washing

ROYAL FREE HOSPITAL, Gray's Inn-road London, W C.—Physician; also Assistant Physician for Diseases of Women

ROYAL SURREY COUNTY HOSPITAL, Guildford —Assistant House Surgeon. Salary £75 with board residence, and laundry

ST MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM City-road, London, E.C —House Surgeon. Salary £80 per annum with board, lodging and washing

ST MARY'S HOSPITAL, Paddington, W —Surgeon for Diseases of the Skin

ST PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES Red Lion-square W C —Clinical Assistant, also Honorary Anæsthetist

ST PETER'S HOSPITAL FOR STONE ETC. Henrietta-street, Covent garden W C —House Surgeon for six months. Salary at rate of £100 a year, with board lodging and washing

ST THOMAS'S HOSPITAL AND MEDICAL SCHOOL.—Assistant Pathologist and Demonstrator of Pathology Salary £250 per annum.

SALISBURY GENERAL INFIRMARY —Assistant House Surgeon unmarried. Salary at rate of £75 per annum, with apartments board, and washing

SHEFFIELD CITY OF HOSPITALS FOR THE TREATMENT OF CASES OF INFECTIOUS DISEASE.—Second Assistant Medical Officer Salary £1[illegible]0 per annum with board lodging and attendance.

STOCKPORT INFIRMARY —Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum with board washing and residence.

VICTORIA HOSPITAL FOR CHILDREN Tite-street Chelsea, S W —House Surgeon for six months Honorarium of £25, with board and lodging

WESTMINSTER HOSPITAL. Assistant Pathologist and Curator Salary 100 guineas a year

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY —Medical Officer to the Provident Dispensary Salary £100 per annum with board lodging and washing

WILLITON UNION Somerset.—Medical Officer and Public Vaccinator Salary £80 per annum, with fees

WITHINGTON URBAN DISTRICT COUNCIL HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer (unmarried) for the Baguley Sanatorium. Salary £120 per annum with board apartments washing and attendance

WONFORD HOUSE HOSPITAL FOR THE INSANE, Exeter —Assistant Medical Officer unmarried, Salary £150 per annum rising to £200 with board &c.

YORK DISPENSARY —Resident Medical Officer unmarried Salary £110 a year with board lodging and attendance

THE Chief Inspector of Factories, Home Office, London S W gives notice that vacancies as Certifying Surgeons under the Factory Act exist at Truro and at Winsford

Births, Marriages, and Deaths

BIRTHS

ARKWRIGHT —On Sept 6th at Halesowen the wife of Joseph A. Arkwright M D., of a daughter

LUCY —On Sept 6th at The Crescent Plymouth the wife of Reginald H. Lucy M.B F R.C.S., of a son.

MELLISH.—On Sept 1st, at Coombe House Tetbury Gloucestershire, the wife of J Stafford Mellish M.R.C.S., L.R.C.P., of a daughter

SMITH.—On Sept. 6th at Earl's-court-road, South Kensington the wife of P Montague Smith, M R.C.S. Eng L.R C.P Lond., of a son.

MARRIAGES

BARRY—DE COURCY IRELAND.—On Sept. 9th, at Christ Church, Ealing W by the Right Rev Alfred Barry D D., Assistant Bishop of London, Captain Cecil Stuart Barry I M.S to Dorothea Alice Maud second daughter of the late W de Courcy Ireland

FISHER—GORMAN —On Sept. 4th at St. James's parish church Paddington, by the Rev J. M. L. Evans Herbert Wortley Fisher M R C.S L.R C P., to Aileen daughter of Lieutenant-Colonel W J Gorman (retired)

FOX—LEWIS.—On Sept. 3rd at All Souls Langham place, by the Rev A. C. Fox uncle of the bridegroom Campbell Tilbury Fox, M.R.C S Eng L.R C.P Lond of Ashford Kent son of the late Tilbury Fox, M.D F R C.P to Hilda Lewis of Seaham Harbour co Durham daughter of A. Lewis Esq

HORDER—DOGGETT —On Sept 3rd at the parish church, Newnham Herts by the Rev G Todd, vicar and the Rev J T In kip vicar of Leyton Essex Thomas Jeeves Horder, *M.D Lond. M.R.C.P* &c. 141 Harley-street W, youngest son of the late Albert Horder Wincombe, Swindon, to Geraldine Rose only daughter of Arthur Doggett Esq of Newnham Manor Baldock, Herts.

JAMESON EVANS—EDWARDS —On Sept 3rd at St Columba's Presbyterian Church Cambridge by the Rev Llewelyn Edwards, M.A London uncle of the bride, *assisted by the Rev D Treborth* Jones Cambridge brother in law of the bride John Jameson Evans M.B., F.R C.S Birmingham only son of Benjamin Evans Scythlyn Penoader to Leta Charles, younger daughter of the late Rev Thomas Charles Edwards, *D D Principal of the Theological* College Bala.

KIRTON—SIMMONDS.—On Wednesday Sept. 3rd at S. Peter's Kirkley, Lowestoft Reginald Gower Kirton M.D eldest surviving son of the *Rev* Charles Kirton B.A., of Southwold Suffolk, to Agnes *Mary (Nellie)* daughter of Christopher Simmonds E q

TUKE—BOYD —On August 4th at Rawal Pindi, India by the Rev Mr Slade Captain Arthur William Tuke I.M S., to Anna, daughter of the late John *Boyd*

WALTON—RHODES —On July 26th at Klandsfontein South Africa, Captain Henry Beckles G H Walton R.A.M C to Florence Adela daughter of the late Charles Rhodes M.D

WISE—DARBY.—On Sept 10th, at St Mary Hornsey-rise, by the Rev Henry Scott Holland, Robert Wise, M.D., to Adelina Ida daughter of A G Darby

DEATHS

ASHLEY —On Sept 3rd at Sion hill Clifton, Bristol, Ambrose Humphreys Ashley M R.C.S., &c. late H.E.I C S aged 57 years

AVELING —On Sept 6th at Mullion Cornwall, Charles Taylor Aveling M.S M D Lond., F R C.S aged 68 years.

GRANT —On Sept 2nd, at Vinnage Lodge Westbury-on Severn Henry Saunders Grant M R.C.S aged 70

NICOLL.—On August 31st, at Delabole, Cornwall William N S Nicoll M B and C M of Jamaica, West Indies aged 54

POMERY —On Sept. 2nd at Bitterne Southampton James Robert Moriarty Pomery M R C S., aged 75

N.B —A fee of 5s is charged for the insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

A QUESTION OF FEES

To the Editors of The Lancet

Sirs,—I should like your opinion on the following I was asked to attend an elderly woman in the town in which I reside by a certain individual and did so After her death I was again asked to render my account and along with other charges it was sent to her son who is a medical man in the States of America. He, writing in return to the individual, says it is not the proper thing for one doctor to render an account to another in such a case Was I doing the right thing in sending my bill?

I am Sirs, yours faithfully,
T W

*** The fee should be paid The person calling in our correspondent was liable for the fee and the account was rendered to him —Ed L.

A WATERLESS URINAL

We have received a communication from Mr J T Szek of 12 Montague-place Russell-square London, W C, in which he proposes to do away with the water flushing of urinals He suggests the introduction of a slab in the urinal composed of a porous substance and saturated with an antiseptic such as carbolic acid or its homologues He has submitted a specimen of the porous slab suggested and the disinfectant oil with which it is saturated The proposal raises several important sanitary points Of course, the method suggested neglects the idea that microbes should do the work of destruction and purification since the disinfectant slab is intended to sterilize the urine On the other hand, there is no doubt that water carriage in the case of urine favours fermentation and putrefaction It is a common experience that however well a urinal may be flushed with water it is more or less offensive

DETAILED MEDICAL ACCOUNTS

To the Editors of The Lancet

Sirs,—Patients naturally like to know something of the rate at which they are being charged so I frequently especially with new patients, add in brackets a little detail—e g [60 Ordinary Vts , £7 10s 2 Special Vts 7s 6d Extra Med , 4s 6d] also where I think it necessary the note, ' A Vt to 2 patients = 1½ Vt This plan is only suitable in practices where medicine is not charged for except when excessive in quantity or when supplied apart from visits

I am Sirs yours faithfully,
Woolwich Common Sept 8th, 1902. Theodore Maxwell.

THE RELIEF OF A RUPTURE

To the Editors of The Lancet

Sirs,—Some years ago I got a severe attack of bronchitis—at Nice of all places This was followed by a bronchial cough from which ultimately developed a very prominent hernia in the right inguinal region in fact it seemed to me there must be two openings I immediately went to the best surgical instrument maker I could find was carefully examined had a truss and as that proved of no use I had another But as both failed to keep up the hernia I said to the man, ' Is this all you can do for me? ' and he was sorry to say it was, as he knew of nothing else For a year I bore this inconvenience and irritation with what patience I could and the worst of it was that sometimes, after a fit of coughing I was seized with pain all over the front of the abdomen I never could quite make this out it was evidently connected in some way with the hernia, as it has now disappeared I determined at last to take the matter into my own hands to see what I could do for myself I am not going to weary you or your readers with a detail of all the score of experiments I made with different materials, &c. but I will tell such sufferers at once what I did and what I advise them to do Take a piece of the heaviest sheet-lead say about three inches square and cut it with a pair of scissors until it fits exactly into the space which you wish to be supported This, of course, must be very carefully and accurately done Then when you have got the piece perfectly adapted to the curves of the groin and the scrotum, let it be your model Now take another piece of the sheet-lead—say, four inches square or so—and bevel the edges beyond your model to make all smooth The lead is so pliable that you can bulge it and make it of any size you like Then cut off half the pad of the truss longways and diagonally so that the pressure may be exactly where you want it When you are satisfied with its position on your leaden shield fasten it with a little diamond cement and when dry fold the surplus part of the lead over the edges of the truss and its narrower part so as to keep all firm and secure cover the under surface and the edges with imitation Astrachan fur, also gummed on, and then your protecting pad should be about two and a half inches square or so, but really pear-shaped The thigh strap must of course go on the opposite side and when both straps are properly fixed you will see at once that when the pad is duly pressed against the scrotum nothing can possibly escape—the hernia is absolutely under control. To me the relief was astonishing it was both immediate and complete, while the spasmodic attacks of pain entirely disappeared All I can say is that if any of your readers experiences the same relief he will thank me all the days of his life It may be that this little simple plan may be known to others but it was not to me A small silk pocket-handkerchief may be also put under the pad if need be and the whole worn over the vest By easing the straps I found it very comfortable for night wear I found Burroughs and Wellcome s hazeline cream very useful in relieving the irritation caused by my experiments and also most valuable was a prescription of a celebrated Berlin physician: one-third zinc ointment one-third powdered starch, and one third salicylate of soda. I may observe that a bad case of eczema was cured by this in Gloucestershire which had resisted all other treatment You have my name and address and if any of your readers require any further information, which I think is scarcely necessary, I shall be glad to give it

I am, Sirs, yours faithfully,
August 30th 1902. M D

" OBJECTIONABLE ADVERTISEMENTS '—" THE ENGLISH ILLUSTRATED MAGAZINE "

To the Editors of The Lancet

Sirs —In reply to your correspondent s note in The Lancet of Sept 6th, p 719 my attention was drawn last month to certain advertisements in the *English Illustrated Magazine* I immediately gave orders that they should not appear again, and they are not in the current issue which was published by me on Aug 28th

I am, Sirs, yours faithfully,
Sept 9th 1901 T *Fisher Unwin*

*** Mr T Fisher Unwin s action is only what we should have expected from a publisher of his standing.—Ed L

THE TREATMENT OF ASTHMA

To the Editors of The Lancet

Sirs,—In reply to the inquiry of Rusticus" in The Lancet of Sept 6th (p 720) I would say that Messrs Oppenheimer and Son have in their Neboline Compound No 19 an almost exactly similar preparation to the so-called Tucker s Remedy for Asthma. The compound can be used with either Oppenheimer s 'Nebulizer' or "Aerizer and will be found most effectual in affording relief

I am, Sirs, yours faithfully
William Odell, M.D Durh , F R C S Eng.
Torquay, Sept. 6th, 1902

THE HUMOURS OF CONSCIENTIOUS OBJECTION

At the *North London police-court* on Sept 3rd a *respectably dressed* man, who said that he was a traveller, asked Mr D'Eyncourt for a certificate exempting his child from vaccination He said: "I conscientiously believe that vaccination would be prudential to the health of my child —Mr D'Eyncourt 'What do you say prudential? Surely you do not mean that? —The Applicant (in some confusion): "I can t think of the word —On the advice of the magistrate he sat down to think the matter over and presently returning to the witness box he said: "I conscientiously believe that vaccination would be prejudicial to the health of my child —Mr D'Eyncourt: That is what you intended to say before I suppose?" —The Applicant: 'Yes "—Mr D'Eyncourt "Very well by law you are entitled to have the certificate and you may take it Another *applicant is reported as asking for an exemption certificate for a* child on the ground that he believed ' vaccination to be judicial to my health

ALIQUANDO DORMITAT HOMERUS

The following is from the September number of the London *Polyclinic*:—

> A Bookseller s Blunder.—We have all heard of the sufferer from podagra who purchased a French treatise on Goût in the hope of finding the newest knowledge as to his enemy His blunder has, however been capped by a Reading bookseller, who prints in a catalogue with which he has just favoured us the following:—
>
> 770 MEDICAL —The Anatomy of the Kebla or a Dissection of the Defence of Eastward Adoration, lately published by J Andrews, Vicar of South Newington, in Oxfordshire sm 8vo *hf brown mor*, 3s 6d 1749

THE DUTIES OF A LADY SUPERINTENDENT

To the Editors of The Lancet

Sirs,—You will, I think agree that the following resolution passed by the board of management here a fortnight ago should be read by any intending applicant *for the post of house surgeon to the hospital*: 'That the lady superintendent be given to understand in cases which she believes the house surgeon is not properly carrying out the instructions of the honorary medical staff that it is her duty to report such case at once to the board through the chairman.

I am, Sirs, yours faithfully,
James Campbell, M.B., Ch B Aberd., House Surgeon.
Children s Hospital, Nottingham Sept 9th, 1902.

Mr. F W Waters writes to say that he has sent in his resignation of the post of medical officer of the Sheerness Medical Benefit Society

He would be glad if any person thinking of applying for the appointment would write to him first. The rate of subscription is a halfpenny a week and out of that the medical officer has to find drugs splints, instruments bandages the rent rates and taxes of a surgery; together with the pay of a dispenser and a boy

A CORRESPONDENT who writes from Inglebank, Barker's-lane Ashton-on-Mersey has omitted to sign his letter or to inclose his card

◆

Rufus—Our correspondent is we think at liberty to call himself Doctor" He must however not use the title officially—e.g., he must not sign a death certificate as Rufus, M.D "—but must use his registered qualification

During the week marked copies of the following newspapers have been received —*Buxton Herald, Referee, Nenagh Guardian, Labour Leader Imperial Review Register (Adelaide) Oban Telegraph Engineer Surrey Advertiser Umpire Hertfordshire Mercury Fife Herald, Isle of Wight Herald, Preston Guardian Yorkshire Post Yorkshire Daily Observer &c*

METEOROLOGICAL READINGS

(Taken daily at 8.30 a m. by Steward's Instruments.)

THE LANCET Office, Sept. 11th, 1902.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Sept. 5	30·00	N W	...	108	70	56	57	59	Hazy
6	30·08	NNW		109	74	57	57	58	Hazy
„ 7	30 18	W		103	71	54	57	60	Fine
8	30·23	WNW		110	72	53	54	57	Hazy
„ 9	30·04	SSE		109	72	55	59	62	Fine
10	29 97	E.	..	92	68	59	60	62	Dull
11	29 84	S.E	0·45	76	65	59	60	62	Overcast

Medical Diary for the ensuing Week

OPERATIONS.

METROPOLITAN HOSPITALS

MONDAY (15th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M) St. George's (2 P.M.) St. Mary's (2.30 P.M) Middlesex (1.30 P.M) Westminster (2 P.M) Chelsea (2 P.M), Samaritan (Gynæcological, by Physicians 2 P.M) Soho-square (2 P.M.), Royal Orthopædic (2 P M.), City Orthopædic (4 P.M) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M) Royal Free (2 P.M.), Guy's (1.30 P.M)

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M), Middlesex (1.30 P.M), Westminster (2 P.M.) West London (2.30 P.M.) University College (2 P.M.) St. George's (1 P.M.) St. Mary's (1 P M) St. Mark's (2.30 P.M.) Cancer (2 P.M) Metropolitan (2.30 P.M.) London Throat (9.30 A.M) Royal Ear (3 P.M) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M) Soho-square (2 P.M)

WEDNESDAY (17th) —St Bartholomew's (1.30 P.M.) University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M), Charing-cross (3 P.M.) St. Thomas's (2 P.M) London (2 P.M) King's College (2 P.M.), St George's (Ophthalmic 1 P M.) St. Mary's (2 P.M) National Orthopædic (10 A.M.) St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M) Gt. Ormond-street (9.30 A.M) Gt. Northern Central (2.30 P.M), Westminster (2 P.M.) Metropolitan (2.30 P.M.), London Throat (9.30 A.M.) Cancer (2 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

THURSDAY (18th).—St. Bartholomew's (1.30 P.M) St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.), London (2 P.M.) King's College (2 P.M), Middlesex (1.30 P.M.), St Mary's (2.30 P.M.) Soho-square (2 P.M.), North-West London (2 P.M.) Chelsea (2 P.M) Gt. Northern Central (Gynæcological, 2.30 P.M) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), St. Mark's (2 P.M) Samaritan (9.30 A.M and 2.30 P.M.) Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M)

FRIDAY (19th).—London (2 P.M) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.) Middlesex (1.30 P.M.), Charing cross (3 P.M.) St. George's (1 P.M.) King's College (2 P.M.), St. Mary's (2 P.M.) Ophthalmic (10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M) West London (2.30 P.M.) London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square, (9.30 A.M.) City Orthopædic (2.30 P.M.) Soho-square (2 P.M.)

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.) Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), University College (9 15 A.M) Charing-cross (2 P.M.) St. George's (1 P.M) St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M) Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.) and the Central London Ophthalmic Hospitals operations are performed daily

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C.).—4 P.M. Dr J Galloway: Clinique. (Skin)

TUESDAY (16th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C.) —4 P.M. Dr C O Hawthorne: Clinique (Medical.)

WEDNESDAY (17th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C).—4 P.M Mr R Harrison: Clinique. (Surgical.)

THURSDAY (18th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C.) —4 P.M. Mr Hutchinson: Clinique. (Surgical)

FRIDAY (19th).—MEDICAL GRADUATES COLLEGE AND POLYCLINIC (22, Chenies-street, W C).—4 P.M. Mr R. Lake: Clinique. (Ear)

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice

It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed To the Sub-Editor '

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed ' To the Manager*

We cannot undertake to return MSS. not used.

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An Address

ON

THE PRESENT POSITION OF CHEMICAL PHYSIOLOGY

Delivered before the Physiological Section of the British Association for the Advancement of Science at the meeting at Belfast 1902,

By W D HALLIBURTON, M D Lond, F R S,

PROFESSOR OF PHYSIOLOGY IN KING S COLLEGE, LONDON PRESIDENT OF THE SECTION

THE PRESENT POSITION OF CHEMICAL PHYSIOLOGY

GENTLEMEN —An engineer who desires to understand thoroughly how a machine works must necessarily know its construction. If the machine becomes erratic in its action, and he wishes to put it into proper working order a preliminary acquaintance with its normal structure and function is an obvious necessity If we apply this to the more delicate machinery of the animal body we at once see how a knowledge of function (physiology and pathology) is impossible without a preliminary acquaintance with structure or anatomy It is therefore not surprising—it is indeed in the nature of things—that physiology originated with the great anatomists of the past. It was not until Vesalius and Harvey by tedious dissections laid bare the broad facts of structure that any theorising concerning the uses of the constituent organs of the body had any firm foundation. Important and essential as the knowledge is that can be revealed by the scalpel the introduction and use of the microscope furnished physiologists with a still more valuable instrument. By it much that was before unseen came into view and microscopic anatomy and physiology grew in stature and knowledge simultaneously The weapons in the armoury of the modern physiologist are multitudinous in number and complex in construction and enable him in the experimental investigation of his subject accurately to measure and to record the workings of the different parts of the machinery he has to study But pre-eminent among the instruments stands the test-tube and the chemical operations typified by that simple piece of glass. Herein one sees at once a striking distinction between the mechanism of a living animal and that of a machine like a steam-engine or a watch. It is quite possible to be an excellent watchmaker or to drive a steam engine intelligently without any chemical knowledge of the various metals that enter into its composition In order to set the mechanism right if it goes wrong all the preliminary knowledge which is necessary is of an anatomical nature The parts of which an engine is composed are stable the oil that lubricates it and the fuel that feeds it never become integral parts of the machinery But with the living engine all this is different. The parts of which it is made take up the nutriment or fuel and assimilate it, thus building up new living substance to replace that which is destroyed by the wear and tear associated with activity This condition of unstable chemical equilibrium is usually designated metabolism, and metabolism is the great and essential attribute of a living as compared with a non living thing

It seems childish at the present day and before such an audience as this to point out how essential it is to know the chemical structure as well as the anatomical structure of the component parts of the body, But the early anatomists to whom I have alluded had no conception of the connexion of the two sciences Speaking of Vesalius, Sir Michael Foster says The great anatomist would no doubt have made use of his bitterest sarcasms had someone assured him that the fantastic school which was busy with occult secrets and had hopes of turning dross into gold would one day join hands in the investigation of the problems of life with the exact and clear anatomy so dear to him." Nor did Harvey any more than Vesalius, pay heed to chemical learning The scientific men of his time ignored and despised the beginning of that chemical knowledge which in later years was to become one of the foundations of physiology and the mainstay of the art of medicine The earliest to recognise this important connexion was one whose name is usually associated more with charlatanry than with truth—namely Paracelsus and 50 years after the death of that remarkable and curious personality his doctrines were extended and developed by van Helmont. In spite, however of van Helmont s remarkable insight into the processes of digestion and fermentation, his work was marred by the mysticism of the day which called in the aid of supernatural agencies to explain what could not otherwise be fully comprehended

In the 250 years that have intervened between the death of van Helmont and the present day alchemy became a more and more exact science and changed its name to chemistry and a few striking names stand out of men who were able to take the new facts of chemistry and to apply them to physiological uses. Of these one may mention Mayow Lower Boerhaave Réaumur Borelli, Spallanzani, and Lavoisier Mulder in Holland and Liebig in Germany bring us almost to the present time, and I think they may be said to share the honour of being regarded as the father of modern chemical physiology This branch of science was first placed on a firm basis by Wöhler when he showed that organic compounds can be built out of their elements in the laboratory and his first successful experiments in connexion with the comparatively simple substance urea have been followed by numberless others which have made organic chemistry the vast subject it is to-day

Sir Michael Foster s book on the History of Physiology from which I have already quoted treats of the older workers who laid the foundations of our science and whose names I have not done much more than barely mention Those interested in the giants of the past should consult it. But what I propose to take up this morning is the work of those who have during more recent days been engaged in the later stages of the building The edifice is far from completion even now It is one of the charms of physiological endeavour that as the older areas yield their secrets to the explorers new ones are opened out which require equally careful investigation. If even a superficial survey of modern physiological literature is taken one is at once struck with the great preponderance of papers and books which have a chemical bearing. In this the physiological journals of to-day contrast very markedly with those of 30 20 or even 10 years ago The sister science of chemical pathology is making similar rapid strides. In some universities the importance of biological chemistry is recognised by the foundation of chairs that deal with that subject alone and though in the United Kingdom owing mainly to lack of funds, this aspect of the advance of science is not very evident, there are signs that the date cannot be far distant when every well-equipped university or university college will follow the example set us at many seats of learning on the continent and at Liverpool With these introductory remarks let me now proceed to describe what appear to me to be the main features of chemical physiology at the present time.

The first point to which I shall direct your attention is the rapid way in which chemical physiology is becoming an exact science. Though it is less than 20 years since I began to teach physiology I can remember perfectly well a time when those who devoted their work to the chemical side of the science might almost be counted on the fingers of one hand and when chemists looked with scarcely veiled contempt on what was at that time called physiological chemistry, they stated that physiologists dealt with messes or impure materials and therefore anything in the nature of correct knowledge was not possible. There was a good deal of truth in these statements and if physiologists to-day cannot quite say that they have changed all that they can at any rate assert with truth that they are changing it This is due to a growing *rapprochement* between chemists and physiologists Many of our younger physiologists now go through a thorough preliminary chemical training and on the other hand there is a growing number of chemists—of whom Emil Fischer may be taken as a type—who are beginning to recognise the importance of a systematic study of substances of physiological interest. A very striking instance of this is seen in the progress of our knowledge of the carbohydrates which has culminated in the actual synthesis of several members of the sugar group Another instance is seen in the accurate information we now possess of the constitution of uric acid When Miescher began his work on the chemical composition of the nuclei of cells and separated from them the material he called nuclein he little foresaw the wide practical application of his work. We now know that it is in the metabolism of cell nuclei that we have to look for the oxidative formation of uric acid and other substances of the purine family Already the chemical relationships of uric acid and nuclein have taught practical physicians some of the secrets that underlie the occurrence of gout and allied disorders

With the time at my disposal it would be impossible to discuss all the chemico vital problems which the physiologists of the present day are attempting to solve, but there is one subject at which many of them are labouring which seems to me to be of supreme importance—I mean the chemical constitution of proteid or albuminous substances Proteids are produced only in the living laboratory of plants and animals, proteid metabolism is the main chemical attribute of a living thing, proteid matter is the all important material present in protoplasm But in spite of the overwhelming importance of the subject chemists and physiologists alike have far too long fought shy of attempting to unravel the constitution of the proteid molecule This molecule is the most complex that is known it always contains five, and often six, or even seven, elements The task of thoroughly understanding its composition is necessarily vast and advance slow But little by little the puzzle is being solved, and this final conquest of organic chemistry, when it does arrive, will furnish physiologists with new light on many of the dark places of physiological science.

The revival of the vitalistic conception in physiological work appears to me a retrograde step To explain anything we are not fully able to understand in the light of physics and chemistry by labeling it as vital or something we can never hope to understand is a confession of ignorance and, what is still more harmful, a bar to progress It may be that there is a special force in living things that distinguishes them from the inorganic world. If this is so, the laws that regulate this force must be discovered and measured, and I have no doubt that those laws when discovered will be found to be as immutable and regular as the force of gravitation I am, however, hopeful that the scientific workers of the future will discover that this so-called vital force is due to certain physical or chemical properties of living matter which have not yet been brought into line with the known chemical and physical laws that operate in the inorganic world, but which, as our knowledge of chemistry and physics increases, will ultimately be found to be subservient to such laws

Let me take as an example the subject of osmosis The laws which regulate this phenomenon through dead membranes are fairly well known and can be experimentally verified, but in the living body there is some other manifestation of force which operates in such a way as to neutralise the known force of osmosis Is it necessary to suppose that this force is a new one? May it not rather be that our much vaunted knowledge of osmosis is not yet complete? It is quite easy to understand why a dead and a living membrane should behave differently in relation to substances that are passing through them. The molecules of the dead membrane are, comparatively speaking, passive and stable, the molecules in a membrane made of living cells are in a constant state of chemical integration and disintegration, they are the most unstable molecules we know Is it to be expected that such molecules would allow water, or substances dissolved in water, to pass between them and remain entirely inactive? The probability appears to me to be all the other way, the substances passing, or attempting to pass, between the molecules will be called upon to participate in the chemical activities of the molecules themselves, and in the building up and breaking down of the compounds so formed there will be a transformation of chemical energy and a liberation of what looks like a new force. Before a physicist decides that his knowledge of osmosis is final let him attempt to make a membrane of some material which is in a state of unstable chemical equilibrium, a state in some way comparable to what is called metabolism in living protoplasm. I cannot conceive that such a task is insuperable, and when accomplished, and the behaviour of such a membrane in an osmometer or dialyser is studied, I am convinced that we shall find that the laws of osmosis as formulated for such dead substances as we have hitherto used will be found to require revision.

Such an attitude in reference to vital problems appears to be infinitely preferable to that which too many adopt of passive content, saying that the phenomenon is vital and there is an end of it. When a scientific man says this or that vital phenomenon cannot be explained by the laws of chemistry and physics, and therefore must be regulated by laws of some other nature, he most unjustifiably assumes that the laws of chemistry and physics have all been discovered. He forgets, for instance, that such an important detail as the constitution of the proteid molecule has still to be made out. The recent history of science gives an emphatic denial to such a supposition All my listeners have within the last few years seen the discovery of the Roentgen rays and the modern development of wireless telegraphy On the chemical side we have witnessed the discovery of new elements in the atmosphere and the introduction of an entirely new branch of chemistry called physical chemistry With such examples ready to our hands, who can say what further discoveries will not shortly be made, even in such well worked fields as chemistry and physics?

The mention of physical chemistry brings me to what I may term the second head of my discourse, the second striking characteristic of modern chemical physiology this is the increasing importance which physiologists recognise in a study of inorganic chemistry The materials of which our bodies are composed are mainly organic compounds, among which the proteids stand out as pre eminently important, but everyone knows that there are many substances of the mineral or inorganic kingdom present in addition I need hardly mention the importance of water, of the oxygen of the air, and of salts like sodium chloride and calcium phosphate.

The new branch of inorganic chemistry called physical chemistry has given us entirely new ideas of the nature of solutions, and the fact that electrolytes in solution are broken up into their constituent ions is one of fundamental importance One of the many physiological aspects of this subject is seen in a study of the action of mineral salts in solution on living organisms and parts of organisms. Many years ago Dr Ringer showed that contractile tissues (heart, cilia, &c.) continue to manifest their activity in certain saline solutions Howell goes so far as to say, and probably correctly say, that the cause of the rhythmical action of the heart is the presence of these inorganic substances in the blood or lymph which usually bathes it. The subject has more recently been taken up by Loeb and his colleagues at Chicago they confirm Ringer's original statements but interpret them now as ionic action Contractile tissues will not contract in pure solutions of non-electrolytes like sugar or albumin But different contractile tissues differ in the nature of the ions which are their most favourable stimuli An optimum salt solution is one in which stimulating ions, like those of sodium, are mixed with a certain small amount of those which, like calcium, restrain activity Loeb considers that the ions act because they affect either the physical condition of the colloidal substances (proteid, &c.) in protoplasm or the rapidity of chemical processes. Amœboid movement, ciliary movement, the contraction of muscle, cell division, and karyokinesis all fall into the same category as being mainly dependent on the stimulating action of ions Loeb has even gone so far as to consider that the process of fertilisation is mainly ionic action, he denies that the nuclein of the male cell is essential, but asserts that all it does is to act as the stimulus in the due adjustment of the proportions of the surrounding ions, and supports this view by numerous experiments on ova in which without the presence of spermatozoa he has produced larvæ by merely altering the saline constituents and so the osmotic pressure of the fluid that surrounds them. Whether such a sweeping and almost revolutionary notion will stand the test of further verification must be left to the future, so also must the equally important idea that nervous impulses are to be mainly explained on an electrolytic basis But whether or not all the details of such work will stand the test of time, the experiments I have briefly alluded to are sufficient to show the importance of physical chemistry to the physiologist, and they also form a useful commentary on what I was saying just now about vitalism. Such eminently vital phenomena as movement and fertilisation are to be explained in whole or in part as due to the physical action of inorganic substances Are not such suggestions indications of the undesirability of postulating the existence of any special mystic vital force?

I have spoken up to this point of physical chemistry as a branch of inorganic chemistry, there are already indications of its importance also in relation to organic chemistry Many eminent chemists consider that the future advance of organic chemistry will be on the new physical lines It is impossible to forecast where this will lead us, suffice it to say that not only physiology but also pathology pharmacology and even therapeutics, will receive new accessions to knowledge the importance of which will be enormous.

I have now briefly sketched what appear to me to be the two main features of the chemical physiology of to-day and the two lines, organic and inorganic along which I believe it will progress in the future. Let me now press upon you the importance in physiology as in all experimental sciences, of the necessity first of bold experimentation and secondly of bold theorising from experimental data. Without experiment all theorising is futile, the discovery of gravitation would never have seen the light if laborious years of work had not convinced Newton that it could be deduced from his observations The Darwinian theory was similarly based upon data and experiments which occupied the greater part of its author s lifetime to collect and to perform. Pasteur in *France and Virchow in Germany supply other instances of* the same devotion to work which was followed by the promulgation of wide-sweeping generalisations. And after all it is the general law which is the main object of research isolated facts may be interesting and are often of value, but it is not until facts are correlated and the discoverers ascertain their inter relationships that anything of epoch making importance is given to the world. It is, however frequently the case that a thinker with keen insight can see the general law even before the facts upon which it rests are fully worked out Often such bold theorisers are right, but even if they ultimately turn out to be wrong or only partly right, they have given to their fellows some general idea on which to work If the general idea is incorrect it is important to prove it to be so in order to discover what is right later No one has ever seen an atom or a molecule, yet who can doubt that the atomic theory is the sheet anchor of chemistry? Mendeleeff formulated his periodic law before many of the elements were discovered yet the accuracy of this great generalisation has been such that it has actually led to the discovery of some of the missing elements.

I purpose to illustrate these general remarks by a brief *allusion to two typical sets of researches* carried out during recent years in the region of chemical physiology I do not pretend that either of them has the same overwhelming importance as the great discoveries I have alluded to but I am inclined to think that one of them comes very near to that standard. The investigations in question are those of Ehrlich and of Pawlow The work of Ehrlich mainly illustrates the useful part played by bold theorising the work of Pawlow that played by the introduction of new and bold methods of experiment.

I will take Pawlow first. This energetic and original Russian physiologist has by his new methods succeeded in throwing an entirely new light on the processes of *digestion.* Ingeniously devised surgical operations have enabled him to obtain the various digestive juices in a state of absolute purity and *in large quantity* *Their composition* and their actions on the various foodstuffs have thus been ascertained in a manner never before accomplished an apparently unfailing resourcefulness in devising and adapting experimental methods has enabled him and his fellow workers to discover the paths of the various nerve impulses by which secretion in the alimentary canal is regulated and controlled The importance of the psychical element in the process of digestion has been experimentally verified. If I were asked to point out what I considered to be the most important outcome of all this painstaking work, I should begin my answer by a number of negatives and would say, not the discovery of the secretory nerves of the stomach or pancreas, not the correct analysis of the gastric juice or the fact that the intestinal juice has most useful digestive functions all of these are *discoveries of* which anyone might have been rightly proud but after all they are more or less isolated facts. The main thing that Pawlow has shown is that digestion is not a succession of isolated acts but each one is related to its predecessor and to that which follows it the process of digestion is thus a continuous whole for example the acidity of the gastric juice provides for a delivery of pancreatic juice in proper quantity into the intestine the intestinal juice *acts upon the pancreatic,* and so enables the latter to perform its powerful actions. I am afraid that this example, as I have tersely stated it presents the subject rather inadequately, but it will serve to show what I mean. Further, the composition of the various juices is admirably adjusted to the needs of the organism when there is much proteid to be digested the proteolytic activity of the juices secreted is correspondingly high, and the same is true for the other constituents of the food It is such general conclusions as these the correlation of isolated facts leading to the formulation of the law that the digestive process is continuous in the sense I have indicated and adapted to the needs of the work to be done, that constitute the great value of the work from the Russian laboratory Work of this sort is sure to stimulate others to fill in the gaps and complete the picture, and already has borne fruit in this direction. It has, for instance, in Starling's hands led to the discovery of a chemical stimulus to pancreatic secretion This is formed in the intestine as the result of the action of the gastric acid and taken by the blood stream to the pancreas. Whether this *secretin,* as it is called, may be one of a group of similar chemical stimuli which operate in other parts of the body has still to be found out

The other series of researches to which I referred are those of Ehrlich and his colleagues and followers on the subject of *immunity* This subject is one of such importance to every one of us that I am inclined to place the discovery on a level with those great discoveries of natural laws to which I alluded at the outset of this portion of my address. I hesitate to do so yet, because many of the details of the theory still await verification But up to the present all is working in that direction and Ehrlich s ideas illustrate the value of bold theorising in the hands of clear-sighted and far seeing individuals. But when I say that the doctrine is bold, I do not mean to infer that the experimental facts are scanty they are just the reverse But in the same way that a chemist has never seen an atom and yet he believes atoms to exist, so no one has yet ever seen a toxin or an antitoxin in a state of purity and yet we know they exist and this knowledge promises to be of incalculable benefit to suffering *humanity*

It may not be uninteresting to state briefly for the benefit of those to whom the subject is new the main facts and an outline of the theory which is based upon them We are all aware that one attack of many infective maladies protects us against another attack of the same disease. The person is said to be *immune* either partially or completely against that disease. Vaccination produces in a patient an attack of cowpox or vaccinia. This disease is related to small pox and some still hold that it is small pox modified and rendered less malignant by passing through the body of a calf At any rate an attack of vaccinia renders a person immune to small pox or variola for a certain number of years. Vaccination is an instance of what is called *protective inoculation,* which is now practised with more or less success in reference to other diseases like plague and typhoid fever The study of immunity has also rendered possible what may be called *curative inoculation* or the injection of antitoxic material as *a cure for* diphtheria, tetanus snake poisoning &c. The power the blood possesses of slaying bacteria was first discovered when the effort was made to grow various kinds of bacteria in it it was looked upon as probable that blood would prove a suitable soil or *medium for this purpose.* It was found in some instances to have exactly the opposite effect. The chemical characters of the substances which kill the bacteria are not fully known indeed the same is true for most of the substances we have to speak of in this connexion Absence of knowledge on this particular point has not, however prevented important discoveries from being made So far as is known at present, the substances in question are proteid in nature. The bactericidal powers of blood are *destroyed* by heating it for an hour at 56° C. Whether the substances are enzymes is a disputed point So also is the question whether they are derived from the leucocytes, the balance of evidence appears to me to be in favour of this view in many cases at any rate, and phagocytosis becomes more intelligible if this view is accepted. The substances, whatever be their source or their chemical nature are sometimes called alexins but the more usual name now applied to them is that of *bacterio lysins.* Closely allied to the bactericidal power of blood or blood serum is its globulicidal power By this one means that the blood serum of one animal has the power of dissolving the red blood-corpuscles of another species. If the serum of one animal is injected into the blood stream of an animal of another species the result is a destruction of its red *corpuscles,* which may be so excessive as to lead to the passing of the liberated hæmoglobin into the urine (hæmoglobinuria) The substance or substances in the serum that possess this property are called *hæmolysins* and though there is some doubt whether bacteriolysins and hæmo-lysins are absolutely identical there is no doubt that they are closely related substances

Another interesting chemical point in this connexion is the fact that the bactericidal power of the blood is closely related to its alkalinity Increase of alkalinity means increase of bactericidal power Venous blood contains more diffusible alkali than arterial blood and is more bactericidal, dropsical effusions are more alkaline than normal lymph and kill bacteria more easily In a condition like diabetes, when the blood is less alkaline than it should be, the susceptibility to infectious disease is increased Alkalinity is probably beneficial because it favours those oxidative processes in the cells of the body which are so essential for the maintenance of healthy life Normal blood possesses a certain amount of substances which are inimical to the life of our bacterial foes But suppose a person gets run down, everyone knows that he is then liable to "catch anything" This coincides with a diminution in the bactericidal power of his blood But even a perfectly healthy person has not an unlimited supply of bacterio lysin, and if the bacteria are sufficiently numerous he will fall a victim to the disease they produce Here, however, comes in the remarkable part of the defence In the struggle he will produce more and more bacterio-lysin, and if he gets well it means that the bacteria are finally vanquished and his blood remains rich in the particular bacteriolysin he has produced and so will render him immune to further attacks from that particular species of bacterium Every bacterium seems to cause the development of a specific bacterio lysin Immunity can more conveniently be produced gradually in animals, and this applies, not only to the bacteria, but also to the toxins they form If, for instance, the bacilli which produce diphtheria are grown in a suitable medium they produce the diphtheria poison, or toxin, much in the same way that yeast-cells will produce alcohol when grown in a solution of sugar Diphtheria toxin is associated with a proteose, as is also the case with the poison of snake venom. If a certain small dose called a "lethal dose" is injected into a guinea pig the result is death But if the guinea pig receives a smaller dose it will recover, a few days after it will stand a rather larger dose and this may be continued until after many successive gradually increasing doses it will finally stand an amount equal to many lethal doses without any ill effects The gradual introduction of the toxin has called forth the production of an antitoxin. If this is done in the horse instead of the guinea pig the production of antitoxin is still more marked and the serum obtained from the blood of an immunised horse may be used for injecting into human beings suffering from diphtheria and rapidly cures the disease The two actions of the blood, antitoxic and antibacterial, are frequently associated but may be entirely distinct.

The antitoxin is also a proteid probably of the nature of a globulin, at any rate, it is a proteid of a larger molecular weight than a proteose This suggests a practical point In the case of snake bite the poison gets into the blood rapidly owing to the comparative ease with which it diffuses, and so it is quickly carried all over the body In treatment with the antitoxin or antivenin speed is everything if life is to be saved, injection of this material under the skin is not much good, for diffusion into the blood is too slow It should be injected straight away into a blood vessel There is no doubt that in these cases the antitoxin neutralises the toxin much in the same way that an acid neutralises an alkali. If the toxin and antitoxin are mixed in a test tube, and time allowed for the interaction to occur, the result is an innocuous mixture The toxin however, is merely neutralised, not destroyed, for if the mixture in the test-tube is heated to 68° C the antitoxin is coagulated and destroyed and the toxin remains as poisonous as ever

Immunity is distinguished into *active* and *passive* Active immunity is produced by the development of protective substances in the body, passive immunity by the injection of a protective serum Of the two the former is the more permanent. *Ricin* the poisonous proteid of castor oil seeds, and *abrin* that of the Jequirity bean also produce when gradually given to animals an immunity due to the production of antiricin and antiabrin respectively Ehrlich's hypothesis to explain such facts is usually spoken of as the *side-chain theory* of immunity He considers that the toxins are capable of uniting with the protoplasm of living cells by possessing groups of atoms like those by which nutritive proteids are united to cells during normal assimilation. He terms the e *haptophor* groups and the groups to which these are attached in the cells he terms *receptor* groups The introduction of a toxin stimulates an excessive production of receptors, which are finally thrown out into the circulation, and the free circulating receptors constitute the antitoxin The comparison of the process to assimilation is justified by the fact that non toxic substances like milk introduced gradually by successive doses into the blood stream cause the formation of anti substances capable of coagulating them

Up to this point I have spoken only of the blood, but month by month workers are bringing forward evidence to show that other cells of the body may by similar measures be rendered capable of producing a corresponding protective mechanism

One further development of the theory I must mention At least two different substances are necessary to render a serum bactericidal or globulicidal. The bacterio-lysin or hæmolysin consists of these two substances One of these is called the *immune body*, the other the *complement* We may illustrate the use of these terms by an example The repeated injection of the blood of one animal—e g, the goat—into the blood of another animal—e g, a sheep—after a time renders the latter animal immune to further injections, and at the same time causes the production of a serum which dissolves readily the red blood corpuscles of the first animal The sheep's serum is thus hæmolytic towards goat's blood-corpuscles This power is destroyed by heating to 56° C for half an hour, but returns when fresh goat's serum is added The specific immunising substance formed in the sheep is called the immune body, the ferment like substance destroyed by heat is the complement. The latter is not specific since it is furnished by the blood of non immunised animals, but it is nevertheless essential for hæmolysis Ehrlich believes that the immune body has two side groups—one which connects with the receptor of the red corpuscles and one which unites with the haptophor group of the complement and thus renders possible the ferment-like action of the complement on the red corpuscles Various antibacterial serums which have not been the success in treating disease they were expected to be are probably too poor in complement, though they may contain plenty of the immune body Quite distinct from the bactericidal, globulicidal, and antitoxic properties of blood is its agglutinating action This is another result of infection with many kinds of bacteria or their toxins The blood acquires the property of rendering immobile and clumping together the specific bacteria used in the infection The test applied to the blood in cases of typhoid fever and generally called Widal's reaction depends on this fact The substances that produce this effect are called *agglutinins* They also are probably proteid like in nature, but are more resistant to heat than the lysins Prolonged heating to over 60° C is necessary to destroy their activity

Lastly, we come to a question which more directly appeals to the physiologist than the preceding, because experiments in relation to immunity have furnished us with what has hitherto been lacking—a means of distinguishing human blood from the blood of other animals The discovery was made by Tchistovitch (1899) and his original experiment was as follows rabbits, dogs, goats, and guinea pigs were inoculated with eel serum which is toxic, he thereby obtained from these animals an antitoxic serum But the serum was not only antitoxic, but produced a precipitate when added to eel serum but not when added to the serum of any other animal, in other words, not only has a specific antitoxin been produced but also a specific *precipitin* Numerous observers have since found that this is a general rule throughout the animal kingdom including man If, for instance, a rabbit is treated with human blood the serum ultimately obtained from the rabbit contains a specific precipitin for human blood, that is to say, a precipitate is formed on adding such a rabbit's serum to human blood, but not when added to the blood of any other animal [2] The great value of the test is its delicacy it will detect the specific blood when it is greatly diluted, after it has been dried for weeks, or even when it is mixed with the blood of other animals

I have entered into this subject at some length because it so admirably illustrates the kind of research which is now in progress, it is also of interest to others than mere physiologists I have not by an means exhausted the subject, but for fear I may exhaust my audience let me hasten to a conclusion. I began by eulogising the progress of the branch of science on which I have elected to speak to you. Let me conclude with a word of warning on the danger of over specialisation. The ultra specialist is apt to become narrow, to confine himself so closely to his own groove that he forgets to notice what is occurring in the parallel and inter crossing grooves of others But those who devote themselves to the chemical side of physiology run but little danger of this evil. The subject cannot be studied apart from other branches of physiology so closely are both branches and roots intertwined. As an illustration of this may I be permitted to speak of some of my own work? During the past few years the energies of my laboratory have been devoted to investigations on the chemical side of nervous activity and I have had the advantage of coöperating to this end with a number of investigators, of whom I may particularly mention Dr F W Mott and Dr T G Brodie But we soon found that any narrow investigation of the chemical properties of nervous matter and the changes this undergoes during life and after death was impossible. Our work extended in a pathological direction so as to investigate the matter in the brains of those suffering from nervous disease, it extended in a histological direction so as to determine the chemical meaning of various staining reactions presented by normal and abnormal structures in the brain and spinal cord it extended in an experimental direction in the elucidation of the phenomena of fatigue and to ascertain whether there was any difference in medullated and non medullated nerve-fibres in this respect it extended into what one may call a pharmacological direction in the investigation of the action of the poisonous products of the breakdown of nervous tissues. I think I have said enough to show you how intimate are the connexions of the chemical with the other aspects of physiology and although I have given you but one instance that which is freshest to my mind the same could be said for almost any other well planned piece of research work of a bio-chemical nature.

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[2] There may be a slight reaction with the blood of allied animals, for instance with monkey's blood in the case of man

We have now before us the real work of the section, the reading hearing and seeing the researches which will be brought forward by members of the Association and I must, in thanking you for your attention, apologise for the length of time I have kept you from these more important matters.

A Clinical Lecture

ON

ACUTE INFANTILE BRONCHO-PNEUMONIA (BRONCHO-PNEUMONITIS)

BASED ON THE CLINICAL, PATHOLOGICAL, AND HÆMATOLOGICAL PHENOMENA OBSERVED IN THREE FATAL CASES.

Delivered in the Glasgow Royal Infirmary on Feb 10th 1902

By JOHN LINDSAY STEVEN, M.D,
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THERE is, perhaps no disease of infancy and childhood concerning which it is more difficult to form a precise conception as to etiology pathology and diagnosis than that to which the terms "broncho-pneumonia," "lobular pneumonia," and "capillary bronchitis" have indifferently and on the whole with fair accuracy as regards the essential phenomena, been applied. As to the clinical phenomena of broncho-pneumonia it may perhaps be admitted that there is a general uniformity of the more prominent symptoms in the different cases met with in practice, especially in the acute forms but when the etiology the clinical course, the morbid anatomy the histology and the bacteriology of the disease are considered we find ourselves face to face with many and difficult problems. Are we dealing with one morbid condition of the respiratory system or with several? Are the different types or forms which we meet with in practice separate diseases or mere variations of one and the same morbid process? Why do some cases tend rapidly to death in a few days and others as rapidly to get well? Are the cases which from the first are subacute and lead on to a long course of chronic respiratory illness, not infrequently ending fatally or in pulmonary tuberculosis essentially the same in etiology and pathology as the more acute forms? Are broncho-pneumonia and lobar pneumonia the same or different? These are a few of the problems which are constantly suggesting themselves to every practitioner of experience, and it must be admitted that, even with our greatly increased knowledge of the pathology and bacteriology of the conditions concerned no very satisfactory solutions are yet possible. These considerations, then sufficiently explain to you why I have determined to make the three fatal cases of acute infantile broncho-pneumonia which we have recently watched in the ward, and two of which we have followed to the post-mortem theatre, the text of a clinical lecture on this very common and exceedingly fatal disease. Let me first of all by means of brief summaries of the reports in the ward journal recall the three cases to your memories.

CASE I.—The patient, aged nine months, was admitted to Ward 8 on Nov 19th 1901 and died on the 20th. His mother took him out, as she was in the habit of doing on the evening of Nov 16th between 7 and 8 o'clock and she thinks he caught cold on that occasion, as next day he was "running at the nose" and his bowels were constipated, the latter condition, however having been present for some days before Her medical attendant prescribed a powder for the constipation, but no cough or difficulty of breathing was noted till the day before admission when the mother felt a "crackling" if she placed her hand over the child's chest. At this time, too the abdomen was much swollen. The cough was not very frequent or vigorous The patient had always been rather a delicate child suffering more or less from cough, and he had "green diarrhœa" very severely when he was a month old. Of a family of eight children three died in infancy from "lung trouble" or "dregs of the measles" On admission the patient was very ill the face being pallid and livid, and the respirations very shallow and rapid numbering from 80 to 94 per minute, and occasionally somewhat of the Cheyne-Stokes type—i.e. shallow and forced breathing alternating, the alæ nasi dilated vigorously the intercostal spaces were sucked in during inspiration, and the pulse was so rapid small and thready that it could not be counted The shape of the head suggested a rachitic diathesis and the temperature during residence ranged between 103° and 104° F Over the right apex in front there was a dull, or dull tympanitic, note with intense tubular breathing latterly associated with medium crackling râles. At the right base posteriorly there was marked dulness the respiratory murmur was harsh but not tubular and there were numerous crackling râles with inspiration. Percussion over the left lung was generally resonant, except in the infra spinous region behind where it was impaired, and râles were nowhere so prominent as on the right side The abdomen was somewhat distended and the bowels were loose, the motions being light yellow in colour but not very copious. Two blood-counts were made by my resident, Dr J Scott with the following results On Nov 19th, 1901 examined in the fresh state the red blood corpuscles formed characteristic rouleaux. Hæmoglobin, 60 per cent. red blood corpuscles 2,276,000 and white blood corpuscles, 15 212 A differential count of the leucocytes gave these results polymorphonuclear 79 5 per cent. lymphocytes, 18 6 per cent. and large mononuclear 1·9 per cent. On Nov 20th at 12 noon hæmoglobin 60 per cent. red blood corpuscles, 2,037 500 and white blood corpuscles, 12,000 Death took place at 8 P M You witnessed the post-mortem examination of this case on Nov 21st, 1901, and I shall now read to you Dr Charles Workman's report.

Summary—Pleurisy of right side pericarditis; partial collapse of left lung *External appearances*—A fairly well nourished body, with rather large head and open fontanelles. *Thorax*—The left lung is free from pleural adhesions. The right lung is adherent over most of the lower lobe from a fresh fibrinous pleurisy The upper lobe of the right lung is in part consolidated so that a portion sinks at once in water This consolidation appears to be due to œdema for the most part and it does not appear congested. The left lung shows some small areas of collapse but otherwise appears healthy The pericardium shows a well-marked fibrinous pericarditis but contains very little fluid

The heart presents remarkably healthy characters *Abdomen* —The stomach is normal in size and contains a quantity of coagulated milk Its mucous membrane is in a condition of catarrh There is slight general catarrh of the intestine and the Peyer's patches near the ileo-cæcal valve are somewhat congested The liver is slightly enlarged but otherwise healthy The spleen is much enlarged and congested The kidneys present very healthy characters The mesenteric lymphatic glands are perhaps unduly prominent but are not definitely diseased

Dr Walter K. Hunter has made a series of sections of the lungs in this case which I shall shortly describe to you, and you will then see that the consolidation at the right apex was inflammatory and not œdematous and that the so-called "small areas of collapse" are in reality small areas of inflammation The bacteriology of the case, which was investigated by Mr D McCrorie, I will speak of at a later part of the lecture.

CASE 2.—The patient, aged 15 months, was admitted to Ward 8 on Dec 2nd, 1901, and died on the 6th. About two months before admission he suffered from an attack of "pneumonia," for which he was treated at the Sick Children's Dispensary and from which he had apparently recovered about Nov 13th. This illness, however left some cough behind and on the evening of Nov 30th it was observed that he had suddenly become much worse. He refused food, moaned a great deal, and became very short of breath. His skin was very hot and his cough was frequent but not violent or accompanied by any expectoration The day before admission he was seen at the dispensary by Dr J W Findlay and admitted as a case of acute pneumonia. During residence in the ward the temperature, taken four hourly, ranged between 101° and 104° F , but on the first night it was as high as 104 8° , the pulse averaged 145 per minute, with one maximum of 176 and two minima of 132 , the respirations averaged 76, with one maximum of 94 and one minimum of 61 The breathing was all along very shallow and the cough, though frequent, was not violent The pulmonary physical signs were chiefly confined to the right lung , over the right side of the thorax there were diminished movement and dulness in the right infra clavicular and right infrascapular regions with resonance in the right axillary region. Over the dull areas of the right side the respiratory murmur was always audible and of tubular type , and during the last two days over the whole right lung, but particularly at the base, numerous coarse crackling râles were heard. Over the left lung the respiratory murmur was everywhere of vesicular though harsh character and no special dulness or crackling râle was at any time noted The question of empyema at the right base was raised on Dec 3rd, 1901, but in view of the abundant breath sound over the dull area I decided not to use the exploring needle Pale lividity of the face was marked throughout and on the evening of the 5th swelling of the hands was observed. On the morning of the 6th the lividity was much more pronounced and there was very marked œdema of the hands and arms, while there was no trace of dropsy in the lower limbs or trunk I regarded this localised dropsy of the upper limbs as indicative of severe pleural involvement, probably empyema, and so I explored the right side of the chest in three different spots but with quite negative results The child died in the afternoon. Blood counts by Dr Scott — Dec 2nd, 1901 hæmoglobin, 78 per cent. , red blood corpuscles, 3,750,000 , and white blood corpuscles, 12,500 Dec. 3rd hæmoglobin, 65 per cent , red blood corpuscles, 17,921 and 8192 at midnight , and lymphocytes, 37 per cent. Dec. 4th hæmoglobin, 65 per cent. , the white blood corpuscles in seven counts ranged from 6400 in the morning to 13 800 at midnight, the lymphocytes from 38 to 50 per cent Dec. 5th hæmoglobin, 58 per cent. , white blood corpuscles, 16 000 , and lymphocytes 33 per cent The average of these observations gives us 12,485 white blood corpuscles per cubic millimetre and 39 5 per cent of lymphocytes, with a maximum of 17,921 leucocytes and a minimum of 6403 at midnight. On Dec 9th you saw the post-mortem examination of this child and I now read to you Dr Workman's report —

Summary —Double pleurisy fibrinous catarrhal pneumonia of right lung *External appearances* —A fairly well-developed and somewhat emaciated body Post mortem rigidity has passed off *Thorax.*—On opening the thorax the posterior parts of both lower lobes of the lungs are found to be covered with a thick layer of recent fibrin The right lower lobe is collapsed so that it will sink at once in water The upper lobe presents a large cavity or cyst which is lined by a smooth non inflammatory membrane and is partially subdivided by septa which are covered by the same smooth membrane From this appearance this cavity is of old standing and is probably congenital The anterior part of the upper lobe is consolidated by a catarrhal pneumonia and the bronchi contain a quantity of purulent mucus which appears in large drops on the cut surface when the tissue is compressed The left lung is comparatively healthy and a portion of the lower lobe when thrown into water floats readily The heart presents very healthy characters *Abdomen* —The liver is somewhat congested but is otherwise healthy The gall bladder contains fluid bile The spleen is somewhat congested The stomach appears quite healthy as are also the kidneys

I had intended that the lungs in this case should also have been subjected to microscopic examination and had given instructions to this effect, but unfortunately the organs were lost in the pathological department. Mr D McCrorie's bacteriological report I will read to you a little further on

CASE 3 —The patient, aged one year and 10 months, was admitted to Ward 8 on Dec 12th, 1901, and died the next day The child had suffered from measles about two months before admission and since this illness she had never regained strength About a fortnight before entering the ward she began to cough and to be very drowsy and by Dec 6th she was obviously very ill On the evening of that day the cough was very severe and hard and the breathing was very rapid She refused food but was very thirsty Her skin was very hot and remained so until the 10th, but since that date the mother thought it had not been quite so feverish Dr A. Galbraith Faulds saw her on Dec 8th and diagnosed pneumonia. On the 12th he saw her again and sent her to the infirmary The father and mother were healthy , of five children three survived , one had died from inflammation of the lungs after a week's illness and the other from convulsions following measles The condition of the child on entering the ward was very critical. Dr Scott's note informed us that the face was greatly cyanosed , that the respirations were very rapid, numbering 103 per minute , and that cough occurred in frequent severe paroxysms, followed by some white frothy mucus that had to be wiped from the mouth after the seizure The temperature was 100 4° F and the pulse was so rapid that it could not be counted No dulness was anywhere detected, but over the whole chest fine crepitant râles, chiefly with inspiration, could be heard , the râles were more abundant and of coarser quality at the left apex in front and at the right base behind The heart's action was very feeble and no precise note of its condition was possible The abdomen was not much distended, the spleen was not palpable, and the hepatic area was not increased. On the morning of the 13th I saw the patient at our ward visit and if I read to you the note which I then dictated it will indicate to you sufficiently the further course of the case.

The child this morning is critically ill and lies in bed without noticing much and without much resistance to being handled The breathing is exceedingly rapid and the expirations are laboured and panting There is very vigorous action of the alæ nasi The complexion is very pale but after a fit of coughing there is considerable lividity The temperature has been gradually rising from 102° F at 8 P M last night to 103° at 8 A M this morning No dulness can be detected at any part of the surface of the chest but at the right base behind and at the right apex in front numerous fine liquid râles, chiefly on inspiration, are detected All the phenomena indicate a severe acute capillary bronchitis or broncho-pneumonia.

Such was my note of the condition on the morning of Dec 13th. The child died on the night of the same day at 11.15 At 8 P M the temperature was 105°, and at 11 P M it was 106° Two convulsions occurred at 5 P.M and 8 P M , in which on the whole the left side of the body was more involved During residence the bowels were loose, having been moved seven times The following are the blood counts as taken by Dr Scott. The fresh specimens showed little tendency to rouleaux formation and there was very great leucocytosis Dec 12th hæmoglobin, 90 per cent. , 11 A M , red blood corpuscles, 4,800,000, and white blood corpuscles, 236,000 Dec 13th hæmoglobin, 60 per cent. , 11 A.M white blood corpuscles, 227,810 Differential count polymorphonuclear leucocytes, 33 6 per cent. , lymphocytes, 50 2 per cent., large mononuclear, 15 2 per cent. , and eosinophiles, 0 57 per cent. There was no post-mortem examination

NOMENCLATURE.

Three names, as I have stated at the beginning of this lecture, are indifferently applied to the acute pulmonary disorder of children at present under consideration the names are "acute lobular pneumonia," "acute broncho-pneumonia," and "acute capillary bronchitis " Such a terminology, applied to what is generally regarded as an independent disease, indicates a considerable divergence of opinion as to its clinical history and its pathological anatomy, and it must be admitted that there are prominent features in the symptomatology and the morbid anatomy of the disease which could be adduced in support of each or all of the terms especially of the first two At the same time it is not to be doubted that the disease would be better designated if that were possible by one term than by several. I do not know whether such a simplification of nomenclature can at present be accomplished but perhaps a few critical remarks may indicate the direction in which such a satisfactory result might be attained. If the term acute lobular pneumonia could be abolished I think it would tend towards the simplification which I desiderate The name infers a relationship between acute lobar pneumonia and the disease we are considering which I believe does not exist either clinically or anatomically Perhaps the use of the word pneumonia" in the name is more to blame for this erroneous conception of the relationship of the two diseases than the term lobular That the pulmonary consolidations in acute broncho-pneumonia are multiple scattered and usually of moderate size justifies the use 'of the term lobular' but neither the macroscopic nor the microscopic nature of the consolidated areas indicates that they in any way are related to the lesion of acute lobar pneumonia. Hence I am of opinion that the term lobular pneumonia should not be used.

As regards the name broncho-pneumonia, the same objection applies to the use of the word pneumonia. The pulmonary lesion in acute lobar pneumonia is a fairly constant one, limited to certain definite histological elements as a rule, and generally as definite in its development as is the clinical course of the disease itself Such constancy of structural development is not present in acute infantile broncho-pneumonia. As I shall shortly point out to you in two of our cases we have had to deal with a generalised inflammatory lesion of the respiratory apparatus involving all the histological elements, the bronchioles, the alveoli, the interstitial connective tissue, the pleura, and even the adjoining serous sacs. The lesion presents the anatomical characters of a simple rather than of a specific inflammation of the lung whereas, as I have elsewhere tried to show the word specific fitly describes the anatomical characters of the lesion in acute lobar pneumonia.[1]

The name 'capillary bronchitis is correct in so far as it indicates the serious involvement of the bronchioles But I do not think that it is satisfactory because it does not sharply enough distinguish the disease which we are considering from ordinary bronchitis and it gives no indication of the involvement of the other elements of the pulmonary tissue. Besides, it implies the opinion that the disease necessarily begins in the bronchial tubes, and while I am not prepared to say that it does not I think that there is at least a fair probability that in some cases the infection may be carried by the arteries

These are the critical remarks which I desire to make as to the nomenclature of this interesting and far too common and fatal disease of infancy I have not arrived at these views hurriedly During my whole career of 15 years as a practical pathologist my attention was constantly being directed to the matter and in 1899 on the invitation of the Glasgow Southern Medical Society I formulated my views as a contribution to a discussion on the subject. On that occasion I was not so clear as I am now on the misleading tendency of the word pneumonia as applied to the disease which we are considering and while I am well aware of the danger of attempting to upset a fairly settled nomenclature I would venture to suggest that the term acute infantile broncho-pneumonitis" would designate all the phenomena involved more correctly than either of the three names I have been discussing

ETIOLOGY

The acute broncho-pneumonitis of infancy may be classified as primary and secondary As Goodhart points out, the primary form is more liable to occur in infants beyond the age of infancy the disease is more likely to be secondary[2] The truth of this statement is supported by our first two cases, in which the patients were aged respectively nine and 15 months and in which the disease was apparently primary in the third patient, aged one year and 10 months the disease was secondary to measles. Among the exciting causes of the primary form chill from exposure to cold is certainly one of the most powerful It may cause the disease in quite healthy infants, but is perhaps more likely to do so in those who are weakly or have been suffering from a bronchial cold or from gastro-intestinal catarrh The association of acute broncho-pneumonitis in infants with acute gastro-intestinal catarrh and diarrhœa is a circumstance which has been frequently insisted upon by writers on the diseases of children. In the first and third of our cases there was marked looseness of the bowels under observation in the ward and in one of them green diarrhœa" at a previous date had been very troublesome In the first case the post-mortem examination revealed catarrh of the stomach and intestines and congestion of the Peyer's patches. In the second case the gastric mucous membrane was reported to be healthy and there had been no evidence during life of gastro-intestinal catarrh. Catarrh of the stomach and bowels must therefore be regarded as a powerful predisposing cause or a frequent associated condition, unless indeed the intestinal disorder is itself brought about by the same influences which cause the acute broncho-pneumonitis.

Of secondary acute broncho-pneumonitis whooping-cough measles, and diphtheria are probably the most frequent antecedent states and on the whole such secondary cases are perhaps properly to be regarded as complications or sequelæ. Perhaps too, such forms of broncho-pneumonitis are more likely to be subacute or chronic in their course than the primary forms and many of them terminate in tuberculous conditions.

This is all that need at present be said as to the clinical aspects of the etiology as to the infective agent we must appeal to the bacteriologist.

BACTERIOLOGY

Mr McCrorie, bacteriologist to the infirmary made cultures from the organs of the two cases in which post-mortem examinations were made and reported as follows —

Case 1 —The spleen yielded a pure culture of Fraenkel's pneumococcus. The inflammatory exudation from the inflamed pleura and pericardium yielded cultures of pneumococci and bacillus coli communis. *Case 2* —Cultures from the pleural exudation yielded no growth The spleen gave pure cultures of the pneumococcus of Fraenkel. Pus from the bronchial tubes contained the pneumococcus and tubercle bacilli

Two observations do not count for much in a complicated question such as that now before us but it is worthy of note that in both cases the pneumococcus of Fraenkel was obtained by a skilled bacteriologist. The presence of the bacillus coli communis was so unusual that Mr McCrorie was inclined to think that its presence was perhaps, due to contamination in the course of the necropsy but allowing for such a possibility the presence of the colon bacillus in the pleural and pericardial exudations is at least interesting and suggestive in view of the remarks I have just been making as to the association of acute broncho-pneumonitis and gastro-intestinal catarrh.

According to Ashby and Wright[3] the commonest micro-organism found is the Fraenkel Weichselbaum diplococcus—i.e. Fraenkel's pneumococcus. In the septic pneumonias following measles scarlet fever and diphtheria various organisms are found among others the staphylococcus and streptococcus pyogenes. But, they conclude, it seems exceedingly probable that there are several micro-organisms which if the conditions are favourable, are capable of giving rise to inflammation of the lungs. With this remark I am in perfect agreement, especially as I think that we cannot regard the acute broncho-pneumonitis of infancy as in any sense a specific disease—i.e as one due to a single specific microbe.

I cannot, however leave the discussion of the bacteriology of acute broncho-pneumonitis without directing your attention to a very important paper by Dr Henri Meunier entitled Dix cas de Bronchopneumonies infantiles dues au Bacille de Pfeiffer (Influenza Bacillus)[4] As the result of a long and most carefully controlled bacteriological research Meunier concludes that among the numerous microbic agents capable of infecting the respiratory system in infants we must include the influenza bacillus. In certain cases it would seem to have been the only organism present, at least in the earlier stages, and its presence renders the lungs more liable to the infectious influence of other organisms. The prognosis of influenza cases depends above everything upon this tendency to mixed infection, which must always be carefully guarded against. We have here, then, the demonstration of another important element in the bacterial etiology of acute infantile broncho-pneumonitis and another proof in my opinion that the disease is not caused by one (specific) but by many micro-organisms.

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[1] The New York Medical Journal, August 10th 1901 p 249; also Glasgow Hospital Reports, vol. iii., 1901.

[2] The Diseases of Children, sixth edition p. 315. London, 1899

[3] The Diseases of Children, fourth edition, p. 361. London 1899

[4] Archives Générales de Médécine 1897 vol. i. p. 129 et seq

The discovery of tubercle bacilli in the bronchial tubes of the second of our cases is also of the greatest interest in its bearing upon the well known tendency of many cases of acute broncho-pneumonitis to terminate in chronic pulmonary tuberculosis.

MORBID ANATOMY AND HISTOLOGY

Of the naked eye appearances, which were demonstrated to you on the post-mortem table, and the main facts of which have been recorded in Dr Workman's reports, the most striking feature was that the inflammatory lesion was not confined to one part of the respiratory apparatus. The inflammatory change was not limited to the bronchial tubes, as in simple bronchitis, or to the pulmonary alveoli and pleura, as in acute lobar pneumonia. In both of our cases the inflammatory process had almost equally invaded all the structures of the lungs, the tubes, the peri bronchial tissue, the alveoli, the interstitial tissue, and the pleural membrane. In one of them it had likewise spread to the pericardium. As to the minuter details of the naked eye appearances I need not further direct your attention—this is rather the duty of my colleague Dr Workman in his demonstrations on morbid anatomy—but for the sake of my argument I am anxious to insist upon the universal character of the inflammatory lesion and thereby to impress upon you what I think the bacteriology of the disease also indicates—the fact that in acute infantile broncho-pneumonitis we are dealing with a simple rather than a specific inflammation of the lung.

Under the microscopes on the tables I have placed for your inspection a series of sections from Case 1 prepared by Dr Walter K Hunter, my *chef de clinique*, and these sections will also, I think, clearly demonstrate to you the widespread character of the inflammatory process. The sections have been made from the consolidated apex and the base of the right lung and from the "small areas of collapse" in the left lung. Under one microscope a bronchiole has been placed. You will observe that its epithelium has desquamated and blocked the tube. The submucous tissue is infiltrated with leucocytes and round about there is a most intense peri bronchitis. A second microscope shows the condition of the pulmonary tissue in the neighbourhood of such a bronchus, and this can only be described as a very acute interstitial pneumonitis. These are the characters of the central parts of the consolidated areas. Under a third microscope you will see the marginal parts of the consolidated area, here, in addition to the interstitial changes, you will observe a catarrhal proliferation going on in the alveoli, although nowhere is this a very marked feature. A fourth microscope shows the consolidated apex of the right lung. Here almost all trace of pulmonary tissue is lost in the intense proliferation of leucocytes and connective tissue corpuscles that has occurred, so that at some points we have almost the appearances of abscess formation. Under a fifth microscope you will see that the "small areas of collapse" in the left lung are in reality small areas of interstitial pneumonitis, lying immediately beneath the pleura and in immediate association with blocked bronchioles. The last microscope shows the intense fibrinous pleuritis at the base of the right lung. In fact, the microscopes demonstrate a most intense inflammatory process involving all the structures of the lungs, and justify the use of the name "broncho-pneumonitis" in the sense I have already suggested. I have no doubt that had it been possible, as I fully intended, to have made a microscopic investigation of the parts in the second case very similar histological changes would have been discovered.

HÆMATOLOGY

In all the cases the blood was examined, and in each several differential counts of the blood corpuscles were made by my resident assistant, Dr Scott. The details of these examinations I have already read to you, and I now merely desire to point out that in all the cases a leucocytosis was demonstrated. In the first two cases the leucocytosis was not great but was quite distinct. In the third case the number of leucocytes was so excessive as to excite special attention. So careful was Dr Scott to avoid error in this case that he asked one of his colleagues, Dr R. Ramsey, who has also had special experience in blood examinations, to make an independent examination. Dr Ramsey arrived at the same result as Dr Scott, indeed, he made the number of leucocytes somewhat greater. In addition to their excessive number Dr Hunter pointed out to me that some of the leucocytes presented peculiarities in their staining reactions on being examined in blood films, but into this aspect of the case I need not enter. What the significance of this very intense leucocytosis in the third case may be I am quite unable to say, but the fact was so remarkable that I showed the blood films at a recent meeting of the Glasgow Medico Chirurgical Society, without, however, eliciting any further information as to its import. For our present purpose, however, the fact of a leucocytosis being present in all three cases is the important clinical fact, especially as all the cases terminated fatally. It is believed by some observers that a leucocytosis, especially if at all marked, is of favourable import as regards prognosis, but our present observations do not confirm this opinion.

SYMPTOMATOLOGY, DIAGNOSIS, AND COMPLICATIONS

It is unnecessary that I should dwell very long upon this aspect of our subject. The clinical features and the physical signs are well known and have perhaps been sufficiently described in the clinical reports which I read to you at the beginning of the lecture. One or two general remarks upon the symptoms and diagnosis, however, will form a fitting conclusion to the present exposition. Acute infantile broncho pneumonitis is usually sudden in its onset. The infant may have been weakly or suffering from a bronchial catarrh or a cold in the head, but when the more serious disease begins the symptoms at once assume a more urgent and grave character. High fever sets in and the child soon becomes prostrate. The change in the breathing is very striking, the respirations being very rapid and laboured, and the alæ nasi dilating actively with every inspiration. The cough may not be very urgent, sometimes it is suppressed, sometimes frequent, but generally not very vigorous or paroxysmal. Very often coincidently with the onset of generalised pulmonary inflammation there is disturbance of the function of the bowels, usually showing itself by diarrhœa, occasionally by constipation and tympanitic distension of the abdomen. Marked cyanosis or pale lividity soon sets in and the little patient is either listless and drowsy or languidly restless. The physical signs are often rather indefinite and, on the whole it must be admitted that the general condition of the baby to which I have just been referring is not infrequently of more value in the diagnosis of acute infantile broncho-pneumonitis than the signs made out on examination of the chest. There may or may not be generalised bronchial wheezing, but what does catch the ear on auscultation is the sound of sticky, medium, or fine crackling or subcrepitant râles on inspiration, which though fairly generally distributed tend to linger more persistently in particular areas of the lungs. Sometimes small patches of dulness are detected at various points, some of which may be of such extent as to suggest a lobar pneumonia or a pleural effusion. There may, however, be no dulness at all. The state of the infant is, as a rule, critical from the first and the prognosis is almost always grave.

As regards diagnosis probably the chief diseases from which we must distinguish acute infantile broncho pneumonitis are acute bronchitis, acute lobar pneumonia, and acute pleural effusion. In acute bronchitis the child is generally not so ill, the expression not so languid, the cough is more forcible and paroxysmal, the râles both dry and moist are of a more bronchial type, and there are no areas of dulness. Acute lobar pneumonia may be very difficult to distinguish but may be recognised if the signs on percussion and *auscultation are definitely limited to one* lobe of the lung. Often however it will only be at the crisis, which occurs about the seventh day, that we can be sure of our diagnosis. The prognosis of acute lobar pneumonia in an infant is probably more favourable than that of acute broncho-pneumonitis. In cases of acute broncho pneumonitis, where the areas of dulness are large and situated at the base, it may be very difficult to be sure that we are not dealing with a pleural effusion. It may be necessary to use the exploring needle, and even that may not suffice if the exudation be solid and fibrinous, as in our second case. But perhaps the precise distinction does not matter very much in the earlier stages, especially if I am right in supposing that a pleural inflammation of a severe kind may simply be part of the general pneumonitis as I certainly think it was in our first two cases

One of the chief complications of acute infantile bronchopneumonitis is empyema, though manifestly its presence implies that the child has to some extent rallied or even recovered from the earlier stages of the initial disorder It is quite clear to me that in both of our cases had the children lived a few days longer the thick fibrinous masses in the pleural cavities would have been converted into pus. Empyema should always be suspected if the febrile symptoms show no tendency to abate after a week or 10 days, if dulness persists over a single spot, and if with some alleviation of the more severe general symptoms an irregularly remittent type of fever sets in accompanied by sweating When pus has formed and has been found in the pleural cavity the case should be dealt with surgically at once and usually such cases do well. Another complication of acute broncho-pneumonitis is chronic pulmonary tuberculosis, but this only requires to be mentioned. Occasionally symptoms of acute meningitis manifest themselves towards the end, and sometimes, as in acute lobar pneumonia, death occurs with a temperature steadily rising into the region of hyperpyrexia, as in our third case.

TREATMENT

I shall conclude this already too long lecture by making some very brief remarks upon the general principles which should guide our treatment of acute infantile bronchopneumonitis.

Not the least important point in the treatment is the prophylaxis. It is to be remembered that every common cold or bronchial catarrh or gastro-intestinal disorder in a young infant may pass into the exceedingly severe and fatal disease of which I have been speaking It is obvious, then that everything should be done to prevent such an occurrence No indisposition of the kind I have indicated in an infant should be regarded lightly and the child should be carefully treated and not lost sight of till all symptoms of these initial disorders have passed away In particular the mother should be warned of the danger of exposing the child to cold and of the necessity of keeping him or her warmly though not heavily or tightly clad and gastro-intestinal derangements should be corrected by careful directions as to diet.

In the presence of the acute disorder itself the most important point to bear in mind is the fact that we are dealing with an acute generalised inflammatory disease of the respiratory apparatus the immediate tendency of which is to produce great exhaustion of the vital powers. The disease is very essentially one of debility and treatment should aim at maintaining nutrition and stimulating the failing heart. All measures tending to depress the child should be strictly avoided and for this reason emetics are not to be used. Place the child in an airy room well warmed and if it can be easily managed let the air near his bed be moistened by the steam from a bronchitis kettle. You will find that this will often have a marked effect in soothing the cough Do not load him with clothes but keep him warm and avoid compression of the chest and abdomen by flannel binders. Two or three plain linseed poultices in the course of the 24 hours applied back and front and not too hot are often of service as mild counter-irritants Feed the child by milk diluted or peptonised and check diarrhœa by subnitrate of bismuth, combined if necessary with one or two grains of Dover's powder Alcoholic stimulants are almost always necessary but they should be strictly supervised by the medical practitioner ordered by him as occasion demands and prescribed as Sturges[4] recommends—in minims not in drachms. A mixture containing from half a grain to a grain of carbonate of ammonia and two minims of tincture of digitalis in each dose, made up with syrup, may be given every three or four hours. The child should be constantly watched by a competent nurse and should occasionally be held up to relieve breathing

These, it seems to me, are the general principles which should guide our treatment of this very fatal disease of infancy

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[4] The Clinical Journal, June 6th, 1894 vol. iv., p. 93.

OCCLUSION OF THE LATERAL SINUS AND INTERNAL JUGULAR VEIN AN ESSENTIAL PART OF THE METHOD EMPLOYED BY NATURE, AND BY THE SURGEON IN IMITATION OF NATURE, FOR ARREST OF ACUTE GENERAL INFECTION HAVING ITS ORIGIN WITHIN THE TEMPORAL BONE[1]

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IT has been said of the speech of Burns that it was distinguished by always having something in it and that always when he did speak it was to throw new light upon the matter I know not, adds Carlyle why anyone should ever speak otherwise.'[2] When I received an invitation from your secretaries to open a discussion on the surgical principles which should be our guide in the operative treatment of an acute septic process arising in the temporal bone, with special reference to the question of operation on the vena jugularis interna, these words came into my mind and I asked myself how I could best conform to their standard. In presenting to you the fruit of personal observation and reflection I hope at least to avoid matter needless of importless burden[3] for men will listen to any Sermon or Sermo when it *is* a spoken Word meaning a Thing and not a Babblement meaning No-thing[4]

There can be no question that there is a wide divergence of opinion on the subject before us. This was impressed upon me during a flying visit which I made last summer in the pleasant and instructive company of Dr Barkan of San Francisco, to the otological clinics of Körner Lucae, Trautmann Jansen Schwartze and Grunert, Barth Politzer and Bezold. In one clinic the vein was always tied, in another it was never tied in a third it was not dealt with unless symptoms persisted after the temporal bone operation had been carried out, and in yet a fourth it was strongly urged that the lateral sinus and internal jugular vein should be slit open for the whole extent occupied by infected clot even should this mean an operation extending from the torcular to the subclavian. No one I think, will contradict the statement that in Great Britain a like divergence of opinion prevails.

'Tis with our judgments as our watches none
Go just alike yet each believes his own "[5]

There are few of us, I take it who have not been present at an operation during which the question has earnestly been asked Shall I tie the jugular?

"Heaven from all creatures hides the book of Fate.[6]

And the surgeon—

His wit all see-saw between that and this "[7]
Hangs between in doubt to act or rest "[8]

and trembles lest the momentous choice which is required of him may end or mend[9] the life of his patient. I not less than each of you have felt the pressure of this responsibility and conceive it to be your wish that the position should be frankly stated and so,

Without offence or with to friends or foes,
I sketch your world exactly as it goes.[10]

Differences of practice in matters of detail are advantageous and tend to progress, but chaotic views as to the bearing of surgical principles must lead to disaster and to death.

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[1] A paper prepared as an introduction to the discussion on the Indication and Contra indications for the Ligation of the Jugular Vein in Lateral Sinus Pyæmia at the annual meeting of the British Medical Association held at Manchester, August 1st 1902.

[2] Carlyle: The Hero as Man of Letters.

[3] Troilus and Cressida Act I., Scene 3

[4] Carlyle French Revolution vol. ii., Book III., Chapter vii.

[5] Pope: Essay on Criticism.

[6] Pope: Essay on Man Epistle I

[7] Pope: Epistle to Dr Arbuthnot

[8] Pope: Essay on Man, Epistle II

[9] The Winter's Tale Act II., Scene 3.

[10] Byron: Don Juan, canto viii. v 89

Want of agreement among serious surgical workers in a grave question of surgical treatment arises either from the lumping together of clinical conditions having an essentially different pathological basis or from the essential pathological conditions being not clearly understood All true and lasting surgical practice is based upon pathology and when once the pathology of an affection is clearly appreciated divergence of view as to its treatment ought to disappear

Where is now the discussion as to the indications for operation in strangulated hernia, ovarian tumour, or even appendicitis? The operation now before us has for its object the prevention or the arrest of acute septicæmia or acute pyæmia occurring as a further consequence of septic processes which have already begun in the temporal bone. The principle upon which the operation is based—namely, the occlusion of the main venous channel leading from an infected area—is not simply one of local application to the temporal bone It would be good practice, for example, to obstruct the deep femoral vein in septicæmia having its origin in acute necrosis of the femur

In this paper I propose to discuss, not details of cases, but fundamental principles, and it therefore appears to me to be of the first importance to survey the position from the widest standpoint of surgical knowledge and practice

The Universal Cause
Acts, not by partial, but by general laws [11]

And

"Of all the causes which conspire to blind
Man s erring judgment and misguide the mind [12]

there is none so common amongst us mortals as that lack of judgment that

'Still makes the *whole* depend upon a *part*" [13]

The surgeon's

very eyes
Are sometimes like his judgments blind [14]

for

something sure
Hath puddled his clear spirit and in such cases
Men s natures wrangle with inferior things
Though great ones are their object ' [15]

Septicæmia and pyæmia, which arise from infection of parts of the body other than the temporal bone, may present various clinical varieties (1) a fulminating general process without active inflammation at the seat of inoculation, as in acute septicæmia resulting from a puncture made at a post mortem examination without the occurrence of abscess in the finger which was pricked, (2) a fulminating general process with signs of inflammation at the seat of inoculation, (3) cellulitis rapidly spreading from the site of local inoculation with signs of violent general infection, as in acute traumatic gangrene, (4) acute local suppuration in bone with septic thrombosis of the venules, the infection being carried from these into the general circulation, as in acute osteomyelitis, and (5) infection from without of a local chronic suppuration, the pus putrefying and causing subsequent general infection, as in the cases of necrosis after amputation so commonly seen before the antiseptic era

SOME REMARKS ON VENOUS INFECTION

When the general infection is very acute it seems that the circulation must be primarily involved in the infection.[16] A clear statement of this important pathological fact was made by the ghost of a fatal case of aural septicæmia —

"And in the porches of mine ears did pour
The leperous distilment whose effect
Holds such an enmity with blood of man
That swift as quicksilver it courses through
The natural gates and alleys of the body
And with a sudden vigour it doth possess
And curd,
The thin and wholesome blood [17]

Why is general infection uncommon from a finger prick? Because the infective particles do not find a ready way into the general circulation but are dealt with by the cellular tissue. In slight wounds capillaries rather than venules are punctured Moreover, the superficial veins of the limbs run a long course before joining the large deep veins, and their valves are sites at which septic matter is not seldom arrested Why is general infection so common a result of septic infection of the uterus after child birth? Because there is a ready way into veins of large calibre, with but little protective cellular tissue intervening An illustration of the disastrous effects of sudden access of septic material to the general circulation is afforded by the violent septicæmia which occasionally follows operations involving the opening up of old and septic sinuses Again, unless the local anatomical conditions are specially favourable to the infection gaining the interior of a large vein, infected blood from a local infective area is largely diluted with pure blood before reaching the heart. Even with large collections of pus, as in empyema, unless the pus becomes putrid a considerable time usually elapses before the patient is seriously threatened with general infection. Varying virulence of the infection can only be judged of by its effects Independently of the nature of the micro-organism the manner of inoculation may influence the result. "Sinus phlebitis is most frequent in streptococcus otitis All infective agents which may give rise to otitis may on occasion cause a pyæmia spreading therefrom, but are only exceptionally observed in proportion to streptococci." [18]

The distinction of septic infection from septic intoxication is not often required, it is important, however, to bear it in mind. A few years ago I published a case of lateral sinus sapræmia which bears this out.[19] Brieger refers to cases of toxæmia and goes on to say "Eulenstein saw such a case of acute pyæmia in which metastases were absent, caused by mural sinus thrombosis, continued fever of several days' duration was alone present with sudden death in collapse, apparently a purely toxic effect." [20]

Free circulation of the infective agents in the blood stream is the essential condition of general infection This may be a primary result of the initial inoculation or may occur secondarily after local effects have been produced. The explanation of these differences is not clear A quite similar phenomenon occurs in certain of the acute specific fevers

In acute general infection coagulation of the blood in a large venous channel is not a common occurrence It is indeed accidental in the sense that its occurrence depends, as a rule, on the spread of inflammation from the primary source of infection to the wall of the great venous channel. In acute suppuration surrounding a large vein the vein is seldom affected, tension of pus and direct entry of small veins into the large vessel being absent, and the lymphatic sheath barring the infection of the venous wall For example, the internal jugular vein does not usually become thrombosed as a result of angina Ludovici. The conditions are the exact opposite in suppuration surrounding the lateral sinus, the pus is under great tension, there is abundant opportunity for small infection, and there is no lymphatic sheath In osseous tissue generally direct venous infection is more likely to occur than in soft tissue, but nowhere do veins from bone enter a large venous channel after a shorter course than in the temporal bone, and this, I think, constitutes a special source of danger

From much that has been written on the subject it might be thought that thrombosis of the lateral sinus or jugular vein is a necessary step in the development of septicæmia or pyæmia from temporal bone disease This is not so, the occurrence of thrombosis is here an accidental phenomenon due to the peculiar anatomical relation of the lateral sinus and the jugular bulb to the temporal bone, which has no exact counterpart in the rest of the body The lateral sinus being situated in a groove in the bone itself, in close proximity to, and in intimate connexion with, the diseased area, becomes involved in the local septic process and thrombosis results. The sinus thrombosis is really a *protective measure* and when the clot remains uninfected it is successful.[21] The thrombus, however, may become infected and the disease will then

'Break out into a second course of mischief" [22]

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[11] Pope Essay on Man Epistle IV

[12] Pope Essay on Criticism

[13] Ibid

[14] Cymbeline Act IV Scene 2.

[15] Othello Act III., Scene 4

[16] See Muir and Ritchie s Manual of Bacteriology page 153 and 'An Experimental Investigation of Pyæmia" by Gaertner American Journal of the Medical Sciences March 1902. The author produced pyæmia by introducing artificial thrombi, formed of infected pieces of cotton wick covered with gum arabic, into the jugular vein

[17] Hamlet Act I Scene 5

[18] Brieger: Verhandlungen der Deutschen Otologischen Gesellschaft auf der Zehnten Versammlung in Breslau 1901, p 67

[19] Allbutt s System of Medicine article 'On Certain Affections of the Ear," vol vii, p 604

[20] Brieger loc. cit. p 76

[21] See some remarks by Jansen Verhandlungen der Deutschen Otologischen Gesellschaft, 1901 p 15

[22] Henry V, Act IV, Scene 3.

Thus is set up an additional source of danger often of such gravity that it overshadows the primary disease.

Thrombosis occurring in a great venous channel like the sinus does not lead to its sudden occlusion. The clot which first forms in the vessel as the result of an alteration in its lining membrane lies along the wall of the vessel but does not occlude its lumen. By the addition of successive layers the clot may extend so as completely to arrest the stream of blood through the vessel. Blocking of the channel may however not occur in consequence of the cessation of the clotting process, or the block may fail to be permanent by reason of the contraction of the clot. From the close proximity to and intimate connexion of the vessel with, the infective area in the bone infection of the clot occurs, so that there comes to be an additional local centre of infection continuous with the primary one, from which not only micro-organisms but gross particles of infective clot may be carried into the circulating blood. Then there is present that most dangerous condition—an infective thrombus with a but partially obstructed blood current. It is here that the surgeon may happily complete what nature has failed to carry through. In the rare cases in which septicæmia or pyæmia occurs from temporal bone disease without obvious infection or obstruction of the sinus or vein the infection has been so virulent that no local protective thrombosis has even been attempted. It is the secondary infection of the clot and *not the occurrence of thrombosis* that constitutes the danger

Brieger appreciates the fact that thrombosis is an epiphenomenon. He says Such metastases without the intermediary of venous thrombosis occur in mucous membrane affections analogous to middle-ear suppurations. Such are the secondary manifestations of gonorrhœa which may be described as gonococcus pyæmia. The occurrence of this form of pyæmia without sinus thrombosis by means of purely bacterial emboli rendered probable by clinical observation is becoming unequivocally demonstrated by anatomical observations. It is especially in pneumococcus otitis that general infection of this nature occurs. [23] On rare occasions the blood may so teem with microbes that when clotting occurs in the sinus the thrombus may from the first be infected.

When thrombosis takes place in a large vein from the milder septic infections of the cervix uteri, though the local effects of the blocking of the venous channel are troublesome enough, there is not commonly breaking down of the clot and pyæmia, because the conditions leading to the secondary infection of the clot are for the most part wanting

Jansen[24] explains some rare forms of rapidly fatal general septic infection by referring the path of infection to the lymphatics. If this were so it would really be *venous infection* at *another point* but the narrow calibre of the lymphatics and the intervention of glands along their course render it difficult to understand how general acute infection can occur by way of the lymphatic system without intermediate local effects. In these cases a local gangrenous process of bone and soft parts sets in,[25] putrid pus exudes, and the surface presents a greenish grey appearance The examination of the bulb of the jugular has not always been made with such care as is needed to detect small circumscribed diseased spots in parts of the vessel wall which are only with difficulty accessible. In the cases of acute sepsis which I have observed I have found," says Jansen, thrombo-phlebitis of the jugular in which the septic thrombus was not shut off by firm uninfected thrombus. In this particular form of septic illness such (thrombotic) processes, or only mural thrombi, alone come in question and not the common form of occlusive thrombo-phlebitis. The observations found in literature are not all beyond doubt. Whether or how the bulb of the jugular was examined is mostly not apparent. So there still drags the decision of the question as to how far this particular clinical type of disease really occurs without the intermediary of involvement of the sinus or jugular vein "[26] By the pressure of an extradural abscess the sinus may be obstructed and the development of a thrombus brought about in a purely mechanical manner [as by an aseptic ligature which causes coagulation by inducing a proliferation of the endothelium] without any infection and without the possibility of a secondary pyæmia. The outer wall of the sinus is thin, being only the thin outer layer of the dura. The septic infective process much more readily spreads through this thin wall and reacts upon the endothelium and sinus contents than through the whole thickness of the dura. The immediate effect of an extra dural abscess is for the most part confined to the outer layer of the dura, the sinus is thrombosed, but the brain is found still covered by the intact inner layer of the dura. The thrombosis which is caused by compression of the sinus in a purely mechanical manner may when the focus of infection has been removed remain uninfected To attack such a thrombus by operation would be an error Even contact with the needle used for paracentesis [a futile procedure in any circumstances] might infect it. The earlier pyæmia arises in acute ear infections the more probable is it that the point of departure of the general infective process is to be sought in the bulb."[27]

The small mural thrombi alleged so often to have been overlooked in the bulb are not necessarily the cause of the pyæmia. They may in some cases represent an *abortive attempt at protective occlusion*. Too much stress has been laid on the lateral sinus and the jugular bulb as the sole seat of infective thrombosis. I have had a case of pyæmia due to superior petrosal sinus infective thrombosis, without thrombosis of the lateral sinus. This point is touched upon in certain of the text-books[28] and by Jansen.[29] Brieger[30] says Primary thrombi arise in the superior petrosal sinus, especially from suppuration in the labyrinth, and are also observed in acute suppuration in the tympanum in scarlet fever" The size of the lateral sinus concentrates the mind too exclusively upon it, while in pyæmia resulting from disease in other regions of the body no large vein being in near proximity to the disease, the attention is not distracted from the numerous small veins, each one of which may harbour an infective thrombus which may equally produce the disease.

The process of disease in the temporal bone and in the tissues around it is one *continuous* infective process. It is a mistake to think of the infection of the osseous, dural and blood tissues as separate pathological entities. The differences are anatomical and physiological not pathological. As the spread of the infection is by continuity of tissue the infection of the dura, for obvious anatomical reasons, precedes that of the blood The march of the infection will thus be in this order perisinusitis, sinusitis, blood infection. Infection of the blood suddenly brings into being a new factor for it is infection of a tissue the liquid texture of which confers upon it the physiological property of constantly travelling through all the tissues of the body

SOME SURGICAL AND PATHOLOGICAL REMARKS.

Nature s process for the prevention of general infection is sequestration of the infective material as is shown by the formation of local abscess. Thus nature surrounds the poisoned tissues, be they in bone, in dura, or in blood (by coagulation), with an inflammatory barrier and the surgeon, as the plan of nature for the saving of life is unfolded before his vision, learns the lesson of how and by what means, surgical art may successfully deal with acute septicæmia and acute pyæmia. These cases have one thing in common—they are always acute. The only subdivisions we can recognise have to do with their early history and are as follow (1) those in which the acute illness follows on and develops from a chronic suppuration, and (2) those in which the acute illness is but a further stage of a recent acute suppuration. But these differences in origin do not justify the notion that the surgical treatment suitable in the one case is not equally right and proper for the other I contend that the principles of surgery apply in either case without modification detraction, or alteration Körner[31] quotes from Schwartze that more than half of the cases of otitic pyæmia get well without ligature of the jugular by simply opening the antrum, with or without clearing out the broken down thrombus in the sinus", and he adds as a comment "Here cases of pyæmia with and without sinus phlebitis are confused together" I cannot but think that there is also confusion in Schwartze's statement between the cases with pyæmia and the cases which though acutely ill, had only a local affection. Just as a patient who has pus pent up beneath the palmar fascia, though he may be acutely ill, is not necessarily suffering from septicæmia or pyæmia, so it is true that a patient with temporal bone suppuration, though acutely ill, may also be the victim of a *local rather than a general process* This is a point upon which the surgeon's mind should be clear before he proceeds to operate. In the temporal bone there may be acute or chronic suppuration spreading from the tympanum and mastoid to the lateral sulcus without obvious thrombosis or severe inflammation of the lateral sinus and jugular vein. In such a case operation on the sinus or vein is not necessary unless there is evidence of general infection "When a periphlebitis has been exposed we are justified in stopping the operation and awaiting the result, if the patient is not already suffering from a severe pyæmia."[32]

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[23] Brieger loc. cit., pp. 39-41.

[24] Encyklopädie der Ohrenheilkunde von Louis Blau, Article Septicämie Otitischen Ursprunges p. 353

[25] See description of case by Ballance Transactions of the Otological Society vol ii., p 37

[26] Jansen loc. cit.

[27] Jansen Verhandlungen der Deutschen Otologischen Gesellschaft 1901 p. 14

[28] See Barr Diseases of Ear third edition, pp 295, 305 and 376; and Politzer: Lehrbuch der Ohrenheilkunde fourth edition p 495 "Less common paths of infection are the inflammations which spread along the internal auditory vein or the veins of the aqueduct to the sinus petrosus *inferior* ; and again: "The sinus transversus passing along the inner side of the mastoid process is most frequently attacked by the purulent inflammation; more rarely the sinus petrosus superior and inferior the cavernous sinus and the jugular bulb."

[29] Jansen loc. cit., p. 14

[30] Brieger loc. cit., p. 65.

[31] Die Otitischen Erkrankungen des Hirns second edition p 79

Even if suppuration has involved the dura mater and coagulated the blood in the sinus the opening of the local abscess in the groove or in the sinus may cure the case—i e, if nature has provided against general infection by occlusion of the sinus Brieger says "Even a thin layer of a sound clot may be an efficient barrier against embolic detachment of particles If the apparently healthy terminal portions of clot are allowed to remain suppuration may, however, occasionally arise therefrom. As I have demonstrated, not every apparently sound terminal portion of clot is really poor in bacteria The subsequent breaking down of these terminal portions has, however, scarcely any danger provided that there is such a free opening as to ensure the ready escape of the products of suppuration." [The danger is diminished if there is a free opening, but is it true that it scarcely exists? Do we in these cases obtain an opening which is surgically free? The danger would surely be much less if the jugular were tied.] "Certainly, if we restrict ourselves to the removal of the pus or the breaking down clot we may overlook a spreading 'disconnected' thrombus on the far side of the sound portion Against this the most complete clearing out of the sinus will not protect us."[33]

The sinus and vein constitute the main route by which the infective agents travel, whether thrombosis has occurred or not. If nature has placed an effectual block in the shape of an uninfected thrombus on the cardiac side of the infective focus the surgeon has been anticipated in the most efficient and effectual manner But as Viereck[34] remarks "Surely we should not rest content with the always doubtful evidence of occlusion which an apparently sound thrombus affords if we considered ligature (of the jugular) as entirely free from danger" It cannot, then, be true that in a given case there are indications and contra indications for operation on the vein

> Nature and wisdom never are at strife "[35]

The question is as to the *exact diagnosis*, not as to the right method of treatment, for in a particular morbid condition there are not two right plans of treatment but one right plan of treatment Yet in actual practice—

> So vast is Art, so narrow human wit [36]
>
> The lyfe so short the craft so long to lerne
> Th assay so hard so sharp the conquering [37]

there may be doubt as to the exact pathological condition present and then vacillation as to the course to be pursued may arise. From the experience, often dearly enough bought, of many workers certain valuable guiding principles of treatment can be with some precision formulated and much of the knowledge which has been gathered can be imparted The divine gift of judgment

> ('For judgment only doth belong to Thee') [38]

is, however, incommunicable, but I demur to the view that the possession of this gift is confined to the select few Pope says

> 'For if we look more closely we shall find
> Most have the seeds of judgment in their mind' [39]

We speak of some animals as being sagacious, and the sagacity of brutes is allied to the talent of instinctive judgment in men. Shakespeare might have written of brutes in a lesser degree, no doubt, what he did of mankind

> "By a Divine instinct men's minds mistrust
> Ensuing dangers as by proof, we see
> The waters swell before a boisterous storm "[40]

An acute observer once said to me of one of Britain's greatest physicians, now deceased, "He was the most sagacious beast I have ever known." It is true that in times of stress and doubt some exhibit clearer insight and greater courage than others In these the talent of judgment has been zealously nurtured The power of seizing the moment for decisive action in the presence of disease which puts a check on the thread of life winnows out the weak from the strong in judgment

> "The wingèd courser, like a gen rous horse,
> Shows most true mettle when you check his course "[41]

No surgeon would mistake a local abscess of the thigh for spreading cellulitis, but the differentiation of the cases under consideration is a more difficult problem In the thigh the whole condition is visible to the eye, but in the temporal bone a correct inference must be made of the state of parts not visible If after the operation on the temporal bone the signs of general infection persist an error of judgment has been committed and the operation has been incomplete It is true that the vein may now be tied and that some such cases have been successful

> 'Fortune brings in some boats that are not steer d' [42]

But less can be expected from the operation on the vein when done as a secondary measure than when carried out as a part of the first operation

> "Omission to do what is necessary
> Seals a commission to a blank of danger [43]

Greig Smith said in reference to the operation for the relief of intestinal obstruction "Let it be either drugs or operation and never that fatal compromise—operation when drugs fail "[44] "Conviction, were it never so excellent, is worthless till it convert itself into conduct."[45] So here let the surgeon be no "hovering temporiser,"[46] but let him make unflinching decision as to whether the case be one calling for operation on the vein as well as on the temporal bone and not adopt that equally fatal compromise, operation on the vein when operation on the temporal bone has proved insufficient

> "Mistrust of good success hath done this deed.
> O hateful error "[47]
>
> "For things bad begun make strong themselves by ill [48]

Such a compromise exhibits a stuttering state of the surgeon's belief in the efficacy of operation on the vein "When Belief waxes uncertain Practice too becomes unsound "[49] Carlyle defines "Belief to be the healthy act of a man's mind." 'We have," he adds, "our mind given to us, not that it may cavil or argue [and this is a splendid lesson to the surgeon face to face with a grave surgical emergency], but that it may see into something, give us a clear belief and understanding about something, whereon we are then to proceed to act."[50]

There may be also a fulminating general infection from the temporal bone quite comparable to the fulminating general infection from a post-mortem wound, when,

> "The life of all the blood is touched corruptibly "[51]

In these cases less can be hoped from operation on the vein or, indeed, from operation of any kind Not much could be expected from tying the axillary vein or amputating the limb in a case of acute septicæmia from a wound of the finger Serumtherapy and dilution of the affected blood with saline solution offer the main chance of recovery

Chronic suppuration of the temporal bone is a more frequent cause of acute general infection than is acute suppuration It has been remarked, and this is in accord with my own experience, that 'pus forming around the sinus seems more readily to induce gangrene of the sinus wall and septic infection of its contents when it has resulted from chronic suppuration in the bone than when it has resulted from acute [52] Thus we have again an acute condition to deal with but here superimposed upon a chronic. The acute symptoms may or may not be associated with coagulation of the lateral sinus blood. The remarks of Körner and Jansen as to the frequency with which clot in the bulb has been overlooked must be borne in mind. Jansen says In a case of severe septicæmia I found the upper part of the jugular vein necrosed as early as the seventh day after the first appearance of the fever and the acute influenza otitis while the sinus was absolutely intact." He adds that 'the phlebitic processes of the bulb present as a whole a graver prognosis as to systemic infection than those of the lateral sinus" and that 'frequently in acute otitis the bulb is in greater peril than the sinus, especially in inflammation of extreme virulence in delayed spontaneous perforation and under favourable anatomical conditions such as protruding jugular fossa with extended apposition of the bulb to the tympanic cavity [53]

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[32] Jansen loc. cit. p 28
[33] Brieger: loc cit, p 97
[34] Verhandlungen der Deutschen Otologischen Gesellschaft auf der neunten Versammlung in Heidelburg 1900
[35] Juvenal: Satire XIV line 321 (Gifford)
[36] Pope: Essay on Criticism
[37] Chaucer Canterbury Tales The Assembly of Foules.
[38] Henry VI Part II Act III Scene 2.
[39] Pope: Essay on Criticism
[40] Richard III Act II Scene 3
[41] Pope: Essay on Criticism
[42] Cymbeline Act IV Scene 4
[43] Troilus and Cressida Act III Scene 2.
[44] Abdominal Surgery sixth edition, vol ii p 661
[45] Carlyle Sartor Resartus, Book II, Chapter ix.
[46] The Winter s Tale, Act I Scene 2.
[47] Julius Cæsar, Act V, Scene 3
[48] Macbeth Act III., Scene 2.
[49] Carlyle The Hero as Priest
[50] Carlyle The Hero as Man of Letters
[51] King John, Act V, Scene 7

In spreading septic thrombosis when the blood of the sinus and vein

Is turned to an infected jelly "[54]

the clot may reach the subclavian or even the heart In this class of case no doubt can arise as to the urgent necessity of *operation on the vein*

Although the danger of infection by way of the blood stream cannot be said to be averted completely unless all the blood from the infected area is arrested (and as ligation of all the veins and lymphatics is impossible this condition cannot be realised by any measure short of complete excision of the whole diseased area, which is, indeed also impracticable) yet as the internal jugular vein is the direct highway along which in these cases highly infected blood is reaching the heart by a short route and with little further admixture with pure blood from uninfected regions, the establishment of a block in the highway must prevent direct access of infective material and so greatly reduce the risk from the primary source.

Experience has shown the great efficacy of the operation on the vein even though the whole of the local disease may not have been removed as in Case 4 of my first paper [55] It is, therefore, idle to maintain that the collateral circulation through the occipital and petrosal sinuses and the condylar and vertebral veins renders abortive the surgical occlusion of the main sinus and vein. These latter represent the wide *gate and broad highway that lead to destruction and when* these are obstructed if the poison finds a new pathway to the general circulation it encounters a narrow gate and a circuitous route which retard its progress and tend to dilute its virulence.

Brieger in a statement qualifying his recommendations for ligature, says It is questionable whether ligature is *needed for the obliteration of the jugular or whether its* obliteration may not be spontaneously brought about just as surely as by ligature through certain processes following sinus-thrombosis. [56] It might just as truly be maintained I think, that operation should be discarded in a case of empyema, since a collection of pus in the chest may be limited by adhesions and discharge spontaneously

It has *sometimes been objected* that the *operation* on the vein is a dangerous procedure and all sorts of bogies such as œdema of the brain and the entrance of air have been conjured up to throw doubt upon the wisdom and advisability of the procedure In general surgery the jugular vein is constantly removed in order to facilitate the ablation of glandular and other tumours of the neck and in my view the operation presents, in skilled hands, no danger and the loss of the vein does not make the slightest difference to the patient "[57] It must be remembered that in most of these cases the operation recommended does not block a still patent venous channel but *one which is already packed* with septic clot and more or less impermeable. The only objection that could be urged against the doctrine of dealing with an apparently uninfected clot in the radical way suggested is that cases not due to ear disease are known in which recovery has taken place after non septic thrombosis of the lateral sinus, and that in these cases canalisation of the clot may occur so as to allow of the passage of blood again along the once plugged sinus. This objection does not appear to me to have *any weight, and the risk* of leaving untreated a clot in the immediate neighbourhood of very virulent septic matter in the hope that it may remain uninfected seems so great that it puts out of court what is at best only an imaginary advantage—viz the chance of the sinus becoming patent again and thus functionally useful to the patient. [58]

STATISTICS AND OBSERVATIONS OF SOME SURGEONS

The appeal to statistics does not have so great weight with me as the matured judgment on the matter in dispute of an experienced surgeon. *This is in part due to the fact that* probably in most of the worst cases the jugular is tied and secondly because in the majority of cases in literature there is no such account as will satisfy a critical examination or will justify a critical personal judgment as to (*a*) the virulence of the disease, (*b*) the local conditions found at the operation and (*c*) the appropriateness of the measures employed by the surgeon. *Nevertheless*, some figures given by Viereck [59] are sufficiently instructive to quote. In 94 cases of uncomplicated thrombosis of the sinus the jugular vein was tied in 40, six died from pyæmia and 34 recovered (85 per cent.), and of these recoveries 28 (70 per cent.) were without complications and six (30 per cent.) were complicated with fever and metastases. Of the 54 cases in which the jugular *was not tied 13 died from pyæmia and 41 (76 per cent)* recovered and of these recoveries 14 only (46 per cent) were without complications and 27 (54 per cent.) were complicated with fever and metastases It therefore appears that ligature prevents metastases. Viereck sums up In ligature [of the jugular] we possess a method which prevents pyæmic infection more surely than does operation on the *sinus alone with which therefore it should always be* combined. In order to avoid the danger of detachment of fragments of clot and of entrance of air into the vein the operation on the vein should precede that on the sinu "

VIERECK'S TABLE

94 Cases of Uncomplicated Thrombosis of the Sinus

—	40 with ligation	54 without ligation
Died from pyæmia	6—i.e. 15 per cent	13—i e., 24 per cent
Cured	34—i e. 85	41—i e 76
Cured without complications.	28—i e 70	14—i e 46 "
Recovered with fever and metastases	6—i e 30	27—i.e 54 "

14 Cases of Thrombosis of the Sinus and of the Internal Jugular Vein

—	12 with ligation.	2 without ligation.
Cured without complications	12	0
With metastases	0	2

Brieger [60] says In the cases of pyæmia in which on account of the negative result of exploration of the sinus, I have believed that mural thrombi were present, I have seen recovery occur without ligature of the jugular although at least one of the cases was characterised by special severity particularly on account of the number and character of the metastases." Ligation, it would appear is most important when the sinus is not completely obstructed by clot.

At the meeting of the German Otological Congress in Breslau in 1901 Jansen, for whose judgment and operative skill I have the highest regard read a very important paper He stated that in pyæmia there was always a diseased sinus, in four only out of his 63 cases had he failed to prove the presence of sinus-thrombosis [61] He recommends ligature of the jugular —1 As the first step of the operation (*a*) in undoubted cases of jugular phlebitis and (*b*) in severe sepsis. 2. After exposure of the sinus (*a*) if the sinus appears sound and there is no perisinous affection, but rigors and marked oscillations of temperature are present, and (*b*) in periphlebitis and mural thrombosis under the same conditions. The sinus should be opened (*a*) on the evidence of the presence of septic broken down thrombus, when the result of puncture is negative, (*b*) in gangrene of the sinus wall, (*c*) in repeated rigors, marked oscillations of temperature, and poor general health, and (*d*) when optic neuritis is present, in most cases if not always 3. After incision of the sinus (*a*) if septic thrombus is, or was, situated in the immediate neighbourhood of the bulb, and (*b*) if after the incision of the sinus the rigors do not cease or the temperature materially decrease or should other cerebral symptoms persist Jansen's table of 50 cases is as follows Of 30 cases without ligation 22, or 73 per cent., of the patients recovered, and of 20 cases with ligation 13, or 65 per cent., of the patients recovered Notwithstanding Jansen's numerous successful cases which recovered without operation on the vein, yet his recommendations for operations on the jugular are so comprehensive that one can scarcely imagine a case of pyæmia which would not come within their scope.

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[52] Jansen: Encyklopädie der Ohrenheilkunde (Blau) Article Sinus der Dura Mater p. 367

[53] Jansen: Verhandlungen der Deutschen Otologischen Gesellschaft, 1901 p. 24 and 25; and Archives of Otology, 1900

[54] The Winter's Tale, Act I Scene 2.

[55] Ballance: On the Removal of Pyæmic Thrombi from the Lateral Sinus, Transactions of the Medical Society of London vol xiii

[56] Brieger: loc cit. pp 102, 103.

[57] W Watson Cheyne: Harveian Lectures p. 37

[58] Ballance loc cit

[59] Viereck loc cit. The account of the cases quoted is even more instructive than the figures from the point of view of operation on the jugular

[60] Brieger loc cit p 100.

[61] Jansen loc cit. p. 35 36.

Macewen[62] says "Where the infective thrombus in the sigmoid sinus has undergone such extensive disintegration as is unlikely to be reached by obliteration of the upper two thirds of the sigmoid sinus the ligature of the internal jugular is indicated. When in a thrombosed internal jugular giving the sensation of a hard cord like structure its upper part becomes soft from disintegration of the thrombus, and when this is followed by descending disintegration, ligation of the vessel below this point is in most cases necessary When one can foresee in the outset of the case that the vein requires to be ligatured it had better be done as the first step before clearing out the sigmoid sinus, as greater freedom may then be obtained while performing the latter In the majority of instances the obliteration of the upper two thirds of the sigmoid sinus is all that is necessary for the prevention of systemic infection."

Brieger[63] gives the following figures "Out of the total of 38 *cases* which I have observed 26 were operated on, in 10 the jugular was tied with five recoveries and in 16 it was not tied with eight recoveries, so that the percentage was the same in both series. A critical examination of the individual cases does not materially alter the result—is, perhaps, a little more unfavourable to ligature" The important thing must *be*, not whether a certain number of patients recover without operation on the vein, but whether a certain number of patients die who would have recovered had the operation on the vein been done. Brieger's recommendations respecting the operation are as follow "In my judgment the vein is to be exposed as a preliminary measure only in those cases where the diagnosis of primary bulbar thrombosis is possible with special precision, but after the exposure of the sinus the vein should be exposed in the following cases (1) *straightaway*, in immediate combination with the sinus operation only when the infective process cannot be completely commanded by the operation on the sinus, or does not appear to be, by *this* means, made completely accessible, that is to say—(*a*) if the cardiac end of the breaking down process cannot be reached through the open sinus, (*b*) if when *the sinus* is found normal there exist such local conditions as point, with some degree of certainty, to the presence of jugular thrombosis Further experience must show whether we are justified in endeavouring to determine the *permeability* of the jugular by Whiting's method and by compression of the jugular in the neck, and how far the measures to be adopted should depend on the result of this *investigation.*" [*This method of investigation must be highly dangerous if there is any clot in the vessel.*] "2. During the subsequent course of the case (*a*) if fairly positive signs of the extension of the sinus thrombosis into the vein should arise, (*b*) if with a normal sinus, after the evacuation of perisinous abscesses or other foci from which mural thrombi may *develop, typical* fever and the occurrence of metastases persist In all these cases the exposure is first the important thing, ligature can be combined with it if the nature *of the contents* of the vein allows of the immediate slitting up of the exposed portion Here, again, also, after the exposure of the vessel ligature is to be made dependent upon local indications arising from the inspection of the exposed vein, from the alteration of its degree of distension by compression and from the examination of its contents by exploratory puncture I sum up 1. Sinus phlebitis is always to be treated by operation. The presence even of severe complications or advanced metastases—meningitis, pulmonary abscess with pyopneumothorax—does not exclude the possibility of recovery 2. The operative treatment must always begin at the primary source of infection. The clearing out of this may suffice to bring about the resolution of a pyæmia caused by mural thrombi, and it is in every case indispensable in order to obtain permanent recovery 3 In the presence of unequivocal symptoms of primary thrombosis of the jugular bulb operation is best done on the jugular and not on the sinus 4 Ligature of the jugular cannot entirely prevent the occurrence of metastases and is often unsuccessful when carried out as a purely prophylactic measure 5 It should therefore only be employed upon particular indications"[64] It is worth remark that this summary begins "Sinus phlebitis is always"—it is not the sinus phlebitis which requires operation, on the vein at all events, but the pyæmia

Preysing,[65] in relation to the question of ligature of the jugular, divides the principal forms of sinus phlebitis into three groups (here, again, sinus phlebitis, not sinus-pyæmia) "1. Sinus thrombosis without symptoms—(*a*) quite fresh clot in the sigmoid sinus or (*b*) old occluding thrombi consisting of firm granulation tissue such as are commonly first discovered in the course of a temporal bone operation In both cases ligature should remain undone unless subsequent complications should arise 2 Cases characterised by clear and definite signs of participation of the jugular in the infection or definite pyæmia with metastases Here ligature should always be done and that before the temporal bone operation 3 Thrombi in the sinus softened in the centre but firmly shut off on both sides In these cases ligature should be done if rigors, fever, &c, persist or arise after the temporal bone operation has been carried out, but we can wait with a clear conscience when these threatening indications are absent If ligature must be done in this third group of cases it will naturally follow the mastoid operation, the right may, however, be conceded to every operator, if he believes he has diagnosed this third form of sinus thrombosis, to carry out the ligature before the trephining" This is in practical agreement, when the significance of the last sentence is considered, with the advice I gave when first I wrote on this subject, that operation on the vein should be done when pyæmia is present or is threatened The cases in Preysing's first group are obviously not pyæmia

In the paper, written in 1889,[66] I said "The diagnosis having been made there remains for discussion the question of treatment. This must *in all cases* be two fold—viz., the free exposure and removal of the focus from which pyæmic infection has occurred *or is threatened*, and secondly the establishment of a block in the highway along which the infecting agents are travelling from the local focus into the general circulation. With regard to the vein it should certainly be ligatured *in all cases* of thrombosis of the sinus associated with ear disease, and though it may not be possible to determine whether a given thrombus be septic or not septic, yet the probabilities are so great that if the thrombus be not already infected it will become so, that it would be foolhardy in such a case not to ligature the vein " In the same paper I dealt with the question of pyæmia arising from the temporal bone without obvious infection of the lateral sinus and I wrote "Under such circumstances it behoves us to inquire whether surgical interference offers any hope of life to the patient. The answer to this question is, for me at least, an emphatic affirmative. Whether the sinus be full of clot or moving blood it matters not, in either case the poison is being poured into the sinus, or, say, through the vein of the cochlea into the jugular, and the method which has proved efficacious in saving life in the one case will assuredly if promptly applied be equally successful in the other The local disease of mastoid or petrous must be freely exposed and antisepticised with sublimate solution. The vein must be ligatured in the neck and the sinus must be freely exposed in the usual way behind the ear, opened, and plugged. Thus an artificial thrombosis of the blood

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[62] Pyogenic Infections of the Brain and Spinal Cord, pp 310, 311

[63] Brieger loc. cit., p 101

[64] Brieger loc cit., pp 108–111

[65] Verhandlungen der Deutschen Otologischen Gesellshaft 1901, p 118.

[66] Ballance loc. cit

arrested between the plugged sinus and the ligature on the vein will be effected. It will then not be possible for any further infection to happen from the primary source of disease, for the collateral circulation is not sufficient to carry the infective material down the other jugular as is shown by the histories of the four cases on which I have operated. The whole or the greater part of the clot thus artificially induced would not at first be other than healthy in character but it might subsequently become infected with micro-organisms, in which event it would be easy to wash it out, especially if the lower end of the upper segment of the vein had been stitched to the margins of the skin wound in the neck. By these means the surgeon may erect an effectual barrier against further pyæmic infection from the primary focus, which may at once be successful in arresting the symptoms of danger, or may materially assist a patient in combating the symptoms of acute pyæmia until the chronic stage is reached which in this disease is always of hopeful import so far as life is concerned." In a paper written last year for Chipault s international work ' L Etat Actuel de la Chirurgie Nerveuse as yet unpublished, this position is modified by saying Nothing is more striking to those who have had much experience in these cases than the fact that in some the process rests purely local, while in others it rapidly extends in either direction. The pathological conditions being so diverse no absolute rule can be given as to whether or not the internal jugular vein should be tied. The course to be pursued depends upon the condition found. If the suppuration in the vein is localised and the sinus occluded on each side of the area of suppuration, incision of the sinus and drainage suffices for its cure. If, however infected clot is extending along the course of the jugular vein it is as clearly the duty of the surgeon to operate on that vein as it was his duty to operate on the original disease in the temporal bone he must, as we have already said, follow the disease to its utmost limits. That is to say in other words that if when you do the operation the conditions found are such as to make it quite sure that a pure block already exists in the highway you need not make a new one. The principle of the original statement is in no way modified by this concession since nature has then already done what would otherwise be demanded from art. Körner in reference to this question says The cause of the happy result of operations limited to the sinus lies in the fact that the sinus is in most such cases shut off on both sides by solid uninfected thrombi. Again most such cases are instances of early sinus thrombosis unexpectedly found in operating for extra-dural abscess, not yet of great extent and but little broken down. In most cases it cannot be known whether the thrombus has extended into the bulb of the jugular and there broken down from this situation detachment of particles and their entrance into the blood current can take place more easily than from the sinus. The ligature of the jugular is *justified* in all cases of sinus thrombosis and will be *necessary* when the diseased sinus is not firmly occluded on the cardiac side.

The question is more simple if it is known that the thrombus has extended to the bulb of the jugular vein itself Every movement of the head and every manipulation of the neck may cause detachment of particles of clot, and experience teaches us that under these conditions the occurrence of pulmonary metastases is almost constant. All authors are agreed that here the jugular should be tied and that before the sinus is opened."[67] If a considerable flow of ichorous fluid takes places on incision of the sinus," says Jansen,[68] it is to be inferred that the septic breaking down process extends to the bulb, and that the bulb if not already infected, is in immediate danger of becoming so. Under such circumstances the surgeon had best proceed forthwith to the ligature of the jugular" It is impossible, in many a case, to say that there is no reason to fear septic venous infection and in case of doubt operation on the jugular should be performed.

To fear the worst is oft to cure the worst."[69]

CONCLUSIONS

1 *Diagnosis of case before or during operation.*—The surgeon from his examination of the case must, if possible, come to a clear determination as to the condition from which his patient is suffering—whether (*a*) from an acute systemic infection or (*b*) from a systemic disturbance depending upon a local process. When this can be determined beforehand the plan of operation is clear If doubt exists as to the exact nature of the case the matter must be cleared up by careful observation at as early a period as possible during the progress of the operation on the temporal bone.

2. *The operation on the vein*—This should be undertaken (*a*) in acute pyæmia and acute septicæmia, whether the sinus is occupied by clot or by fluid blood (*b*) if the sinus wall is gangrenous or its contents are putrefying unless it is perfectly clear that on both sides of the area of inflammation the lumen of the sinus is completely blocked by non infected thrombi (how seldom this qualification will be operative will be obvious to those who have most experience of these cases) (*c*) if it is proved, or even suspected, that the blood of the jugular bulb is in part or wholly clotted , and (*d*) if the jugular vein is thrombosed.

It will be seen that, in my opinion operation on the vein is called for not only by general systemic infection, but also by certain local conditions. Some observers hold the opinion that the decision of the question as to whether operation on the vein should be carried through depends principally upon the local conditions found, while others think that the decision should depend more upon the state of the patient in general and the febrile conditions in particular The right course to adopt is clearly to give due consideration to all the facts.

When it has been decided to deal with the vein before beginning to operate, the operation on the vein should precede that on the temporal bone, and when operation on the vein is first decided upon during the course of the temporal bone operation it should be forthwith carried through without waiting for the completion of the operation on the sinus region

The vein when not thrombosed is exposed in the neck about the level of the cricoid cartilage, and the surgeon, tying its tributaries and dividing them between two ligatures should remove it completely up to the bulb Ablation of the vein is better than ligature. It involves ligature of the tributary veins and as the line of incision involves the external jugular that vessel is also necessarily tied In cases of thrombosis of the internal jugular the ablation will begin at its junction with the subclavian and it will be no difficult task in these circumstances to find on its inner side, lying on the scalenus anticus, the vertebral vein and to ligate and divide it also.

Lest it may be said that this is too desperate a measure to recommend I would say that in these cases

Strong reasons make strong actions, [70]

and

The only safety lies in the despair of safety "[71]

3 *The completion of the operation on the sinus region.*—Having dealt with the vein the operator returns to the sinus region and removes bone so as to expose the sinus towards the torcular for a distance of at least three-quarters of an inch beyond the area of inflammatory change, and the same treatment is adopted on the other side of the inflamed area, bone being removed in some cases, and probably better in all as far as the bulb, so that the whole area of possible infection of sinus and vein is exposed in one continuous wound

In general surgery an extensive septic suppuration is treated by laying the affected area open by one or several incisions, but in those cases in which it is possible to expose the infected tissues by one incision, however long the best results ensue. If one continuous wound is not made in cases of lateral sinus pyæmia the dangerous area of the bulb is not laid open and the presence here of even small particles of putrefying clot may determine an extension of the infective clot along the inferior petrosal sinus to the cavernous sinus, just as when a ligature has been left on the upper segment of the jugular a test-tube of pus" may form in it and produce a similar disastrous effect. The danger of this practice was pointed out in a previous paper[72]

Jansen[73] says that when he has reason to anticipate further suppuration in the sinus thrombus he exposes the sinus for a greater length so as to be able to extend his incision in it without the necessity for a further bone operation This seems however a recommendation which is not sufficiently thorough going since if further breaking down of the thrombus is likely to happen further incision of sinus is required at the first operation It is impossible to deal with the sinus as with the vein, by removal, as this would expose the intra dural space In acute foul suppuration of other parts of the body we do not curette away the pus and therefore the suggestion frequently found in otological literature, that we should curette away pus or putrefying clot through an opening in the sinus, is one that should be abolished from surgery The obvious proceeding is to slit up the sinus, if necessary from torcular to bulb, so that the whole area of infective inflammation may be exposed and dressed *secundum artem*

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[67] Körner op. cit., p. 80.
[68] Jansen, loc. cit. p 27
[69] Troilus and Cressida, Act III., Scene 2.

[70] King John Act III., Scene 4
[71] Conquest of Mexico, Prescott vol. I., p. 351 also "Una illis spes salutis desperasse de saluti," P Martyr de Orbe Novo Dec. 1st cap. 1
[72] Ballance: Allbutt's System of Medicine loc. cit., p. 603
[73] Jansen: Encyklopädie der Ohrenheilkunde loc. cit p 371.

Brieger[74] says "No doubt remains as to the measures to be carried out with respect to the sinus The sinus is to be slit up in the whole extent to which it is thrombosed and the tube of the vessel is to be converted into a groove, freely exposed on its outer aspect by the excision of the entire outer wall, and its contents for this portion of its extent completely removed The sharp spoon is not a permissible instrument for use in the sinus because, even when immediate injury is avoided clots may be detached which are serving to shut off from the infected area neighbouring vessels such as the petrosal sinuses, which are as yet intact. *The occurrence of hæmorrhage when clearing out the sinus is* not, *per se*, a proof that the removal of clot is complete By the removal of such portions of clot as block the entrance of the petrosal sinuses sharp bleeding may occur in spite of the lateral sinus or the jugular being full of clot."

4 *Some further considerations* —1 The radical procedure here described will, in certain cases, no doubt commend itself to all, but, as I have already pointed out, it is in the selection of cases that the judgment of the surgeon must come in Want of proper perspective in the selection of the operation suitable to a particular case is well illustrated by the following instance "The two practitioners in attendance had already chiselled away the mastoid a few days after the commencement of the pains in the ear, and that as far as the posterior border of its apex, for they had mistaken the posterior border of the mastoid for the linea temporalis As they had found no pus and as the violent pain persisted and the fever was still higher after the operation in their perplexity they sought my help I incised a boil which completely occluded the meatus, whereupon fever and pain immediately ceased The unnecessary wound in the mastoid healed in three weeks "[75] No one would use such a case as an argument against complete removal of all disease in the temporal bone, and no one, I trust, would select the operation I have just described on the sinus and vein for the relief of a local process in the temporal bone In dealing with a case our measures must correspond to the actual condition from which the patient is suffering

2 It has already been shown that the surgical treatment should be the same whether the disease has had its origin in an acute or in a chronic inflammation and that the dealing with the inflamed sinus and the inflamed vein in a manner comparable to the proper surgical treatment of acute inflammation in other parts of the body by free incision or ablation is not only not dangerous but highly beneficial and curative

3 In all great operations, in which

> All the shrouds wherewith my life should sail
> Are turnèd to one thread, one little hair "[76]

speed is an essential factor in success and grants to the eager surgeon

> ' Commandment on the pulse of life "[77]

In such an operation as I have described rapidity of skilled execution is as urgently needed as in general septic peritonitis from perforation or as in hæmorrhage from rupture of the spleen or the rupture of a tubal pregnancy As germane to the subject of despatch in operating I may quote from a writer who in criticising an operation which had been needlessly prolonged says "Such slowness is no result of justifiable caution but shows want of dexterity and imperfect knowledge of the operation region and the want of self confidence arising therefrom "[78] During an operation

> "Fearful commenting
> Is leaden servitor to dull delay "[79]

> "Away then! work with boldness and with speed,
> On greatest actions greatest dangers feed "[80]

To sum up may I again emphasise the fact that I am profoundly convinced of the value of arresting the current of venous blood which flows from the infected area I strongly urge its curative value, its imitation of the processes of nature, its harmlessness as an operative procedure, and its foundation on a true appreciation and knowledge of pathology It does not appear to me to be a moot question of surgical detail but is in accord with fundamental surgical practice The risk of leaving the vein unoccluded must not be run

On the walls of a famous clinic is emblazoned the legend—

> Ohne Glück und Gunst ist Weisheit und Kunst umsunst "[81]

There appears to be a hidden meaning in these words beyond that conveyed by the ordinary English translation—"Without luck and favour [grace or protection] knowledge and art are in vain"—perhaps somewhat akin to the thought expressed by the Psalmist

> "Except the Lord build the house: their labour is but lost that build it
> Except the Lord keep the city the watchman waketh but in vain "[82]

From the surface meaning of the words, as applied to surgical practice, I entirely dissent If under modern conditions a new wound heals by first intention the surgeon has but done his duty and luck and chance do not come in, but if the wound suppurates the surgeon has no justification in assigning the disaster to chance or luck. The circumstances of the operation must be carefully investigated so that the cause of the failure to obtain primary union may be discovered and that measures may be taken to avert the calamity of suppuration from future wounds

Körner[83] says "Experience disproves the dictum of Schwartze that for successful operation on brain abscess less depends upon method than upon luck, quite apart from the fact that there is absolutely no operation concerning which more depends upon luck than upon method."

In dealing with the lethal process of lateral sinus pyæmia and septicæmia luck and chance are poor substitutes for knowledge, skill, and determination.

> " In the reproof of chance lies the true proof of men "[84]

To you assembled here I would say—

> Out out, thou strumpet Fortune! all you gods
> In general synod take away her power '[85]

> ' First follow Nature, and your judgment frame
> By her just standard, which is still the same
> Unerring NATURE still divinely bright
>
> At once the source and end, and test of Art."[86]

"Between vague wavering capability and fixed indubitable performance," says Carlyle,[87] "what a difference." The conduct of the operation, no light matter even in the more simple of the cases under consideration, in the graver instances demands a sustained mental, and indeed physical, effort, the severity of which can only be appreciated by personal experience Too often when a patient is first seen

> A huge infectious troop
> Of pale distemperatures and foes of life [88]

have already wrought such havoc that

> ' Life is set at a pin s fee ' [89]

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[74] Brieger loc. cit p 94

[75] *Körner: Die Eitrigen Erkrankungen des Schläfenbeins* p 60

[76] King John Act V Scene 7

[77] King John, Act IV Scene 2.

[78] Körner: Op cit. p 18

[79] King Richard III Act IV Scene 3

[80] Marlowe: Lust s Dominion Act. II Scene 2.

[81] The Otological Clinic at Halle A friend informs me that this is an old German proverb dating from the fifteenth century It is one of a series of old sayings inscribed on the walls of a room in the Wartburg of Eisenach (in Saxe-Weimar) and there reads

> Ohne Glück und Gunst
> Ist Kunst umsunst "

It with the other sayings, is attributed to Luther, but the authorship is not considered certain Carlyle mentions a room in the Wartburg where Luther sat translating the Bible "

[82] Psalm cxxvii , 1, 2

[83] Körner: Die Otitischen Erkrankungen des Hirns, &c pp 149 and 150 Professor Schwartze a little further on in the paper from which Körner quotes makes this statement: ' Further in so far as concerns the recovery of a case of brain abscess which has been operated upon I once *more* emphasise that it is always a matter of luck (stets Glücks sache ist) if the operation brings about a lasting recovery "—*Archiv für* Ohrenheilkunde vol xxxiii p 119

[84] *Troilus and Cressida, Act I Scene 3*

[85] Hamlet Act II Scene 2

[86] Pope: Essay on Criticism

[87] Carlyle Sartor Resartus Book II Chapter vii

[88] Comedy of Errors Act V Scene 1

[89] Hamlet Act I Scene 4

But, the true path of treatment being revealed

> "It beseems not [that the surgeon] shrink with common fright,
> Nor by the brief cold touch of fear be chilled and stunned."[50]

For it is his privilege

> "To labour in his vocation"[51]

in the calm assurance that

> "In man's most dark extremity
> Oft succour dawns from Heaven."[52]

He must in every detail and throughout every complication fulfil his duty with a purpose as unwavering as the stream of

> "the Pontic sea,
> Whose icy current and compulsive course
> Ne'er feels retiring ebb, but keeps due on"[53]

Till that

> "The fire of life kindle again
> The o'erpress'd spirits,"[54]

and

> "The organs, though defunct and dead before,
> Break up their drowsy grave and newly move
> With casted slough and fresh legerity"[55]

or that, defeated but not dishonoured, for

> "Checks and disasters
> Grow in the veins of actions highest rear'd"[56]

he perceives that the hour is at hand when from

> "Such a desperate bay of death"[57]
>
> "Labouring Art can never ransom Nature
> From her inaidible estate."[58]

A NOTE ON ALBINISM, WITH ESPECIAL REFERENCE TO ITS RACIAL CHARACTERISTICS AMONG MELANESIANS AND POLYNESIANS.

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WHILE in Torres Straits and New Guinea in 1898 as a member of the Cambridge Anthropological Expedition the opportunity arose of studying a number of albinotic subjects who uniformly differed in certain characteristics from European albinos. Reference to the most authoritative records of observers in the Pacific Islands showed that these characters had been noted wherever albinism had been recorded among a Melanesian or a Polynesian population, so that it seems reasonable to suggest that the type of albinism occurring among the races alluded to is as much a racial characteristic as height, skin colour, or cephalic index. That it is less variable in different stocks of the above races than the qualities mentioned will appear when considering in greater detail its geographical distribution. It may be noted that leucoderma of an exceedingly definite type is very common throughout the whole of British New Guinea, including the Western tribe of Torres Straits who, although belonging politically to Queensland, are most certainly Papuans.

Albinism as seen among Papuans is always of the type referred to, for the choroid is never pink and the hair is more or less tow-coloured, the skin varies from a pink white colour to that of *café au lait*, while the eye is generally greenish, hazel, or brown. The hair is no finer or silkier than in the normal Papuan and being frizzly keeps strictly to the racial type except as regards colour. With a light greenish eye there is usually associated a pinkish white skin certainly pinker where unexposed than that of the normal North European. The obvious expedient of calling this condition "incomplete albinism" or "partial albinism" has been avoided since the latter term has already been applied by Ziemssen, Crocker, and others to those cases in which there is congenitally a complete absence of pigment over more or less limited areas of the body and which can only be distinguished from the far commoner leucoderma by their congenital history. Finsch,[1] who saw at Kerapunu and Bulaa (Hula) examples of the condition under discussion, at first called these individuals "*weisse Papuas*" but subsequently dropped this term and wrote of them as albinos.[2] These subjects show great intolerance of sunlight and certain albinos of this type suffered far more from photophobia than did a North European with apparently similar pigmented eyes under identical conditions. They may be noticeably duller mentally[3] and less active in their movements than their normal fellow-countrymen; they seem to possess more subcutaneous fat and their skin may feel thick and harsh.

Turning now to the geographical distribution of the condition, and ignoring for the moment my own observations, Finsch[4] met with such albinos near East Cape at the extreme south-eastern extremity of the Possession and also in German New Guinea.[5] As already mentioned he saw similar cases at Bulaa and Kerepunu in the Rigo district. While at Hatan in Dutch New Guinea D'Albertis saw "a man ... accompanied by a son of about 25 and a daughter of about 20, both of whom were albinos; their hair whitey brown, their eyes blue, and their skin white like that of Europeans. He afterwards met ... a third daughter of the same man who was equally white."[6] Unluckily he makes no mention of the ancestors of this interesting family. At Fiji the members of the *Challenger* expedition saw "an albino boy who was perfectly white, his skin having a peculiar look, almost as if covered with a white powder in places. His eyes ... appeared as if the iris were of a pale grey colour. His parents said he could see perfectly."[7] In 1840 the United States Exploring Expedition at Vaturua in Fiji met with an individual whose "skin was dirty white and fairer than that of a European would be if exposed to the sun; he was marked with many brown spots about the size of a sixpence or less; his hair was of the same colour as that of the natives who use lime water for cleaning it; his eyebrows and eyelashes were of a flaxen colour ... the iris was blue with no tinge of red."[8] Subsequently the same expedition saw at Depeyster Island near the Ellice group two individuals the colour of whose skin was a "reddish white, the hair of a flaxen white with light blue eyes. ... They were covered in many places with large brown freckles";[9] the other members of the family were stated to be in no way remarkable. Finsch saw at Waikato in New Zealand a Maori woman with "light blonde" hair whom he at first sight took for a European. He does not state the colour of her eyes, but while he mentions that her sight was somewhat weak, the context does not suggest that her eyes were red.[10]

Nystagmus and jerky movements of the eyes were absent in all the cases of albinism I saw in New Guinea, nor does any previous writer mention their occurrence. This may perhaps be correlated with the superior visual acuity of Melanesian albinos as compared with that of those commonly seen in this country. The visual acuity of two albinos I examined at Bulaa was above normal, being $\frac{6}{4}$ and $\frac{6}{5}$ respectively. The former of these was the one-eyed man mentioned by Finsch. Mr. Nettleship, who has very kindly looked through his old notes, tells me that almost all his albino patients were amblyopic and had nystagmus, but that one albino—a man, aged 28 years—had a visual acuity of nearly $\frac{3}{6}$—i e., he could read, say, three out of 10 letters in the appropriate test-type at six metres This man's moustache was nearly white, his hair was very light, and his irides were blue grey His eyes, which were said to have been even lighter during childhood, yielded a red reflex by daylight and by focal illumination—that is, they were characteristically albino There was no photophobia or nystagmus, but these were elicited by ophthalmoscopic examination.

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[50] Faust, Part II., Act III. Passage translated by Carlyle. See Goethe's Helena.

[51] Henry IV., Part I., Act I., Scene 2.

[52] Scott: Lord of the Isles, canto 1., stanza 20.

[53] Othello, Act III., Scene 3.

[54] Pericles, Act III., Scene 2.

[55] Henry V., Act IV., Scene 1.

[56] Troilus and Cressida, Act I., Scene 2.

[57] King Richard III., Act IV., Scene 4.

[58] All's Well that Ends Well, Act II., Scene 1.

[1] Zeitschrift für Ethnologie, Band xv., 1883, p. 206.

[2] Samoafahrten. Leipzic, 1888.

[3] This was especially noticeable in the boy Kilapelama and is not very uncommon in albinos of the Caucasian race. For the two following interesting family histories, which also bear on the heredity of the condition, I am indebted to Mr. E. Nettleship, whom I take this opportunity of thanking for placing at my disposal his notes on albinos lately attending his clinic at St. Thomas's Hospital. The first is that of a female, aged 10 years. Her parents, who are both described *as fair and* who are first cousins, have four children, the eldest of whom, a girl aged 12 years, has nystagmus and has suffered from fits. The next child, the patient, an albino, is dull and heavy but has not had fits. Her younger sister, aged eight years, is fair but not an albino; she cannot talk. There is also a brother aged *three months in whom no* peculiarities had been detected when the family came under observation. The second is that of a female, aged nine years. One of her maternal great-grandparents was an albino; *her mother is described* as almost an albino. The patient, who is semi-albinotic and suffers from hypermetropic astigmatism and nystagmus, is the eldest child. The next child, a boy, has been deaf and dumb *from birth*; two younger children show nothing unusual.

[4] Samoafahrten, p. 240.

[5] Ibid., p. 302.

[6] New Guinea. London, 1880, vol. i., p. 102.

[7] Report of the Voyage of H.M.S. *Challenger*, vol. i., p. 60?.

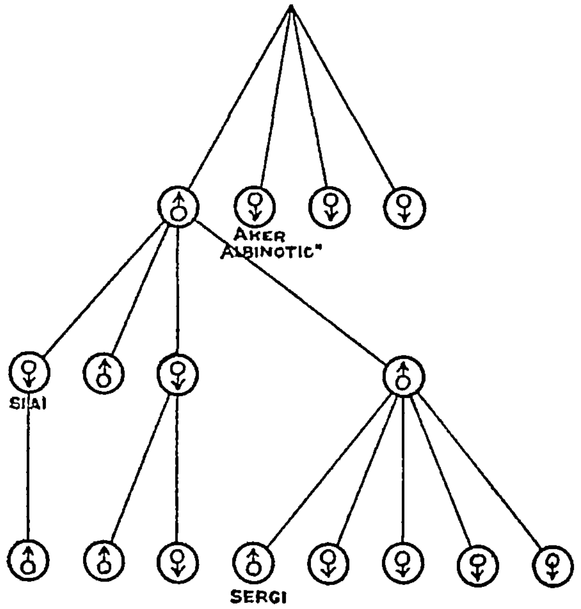
[8] Narrative of the United States Exploring Expedition, 1838-42, vol. iii., p. 214.

[9] Ibid., vol. v., p. 41.

[10] Zeitschrift für Ethnologie, loc. cit.

As in other races albinism among Melanesians occurs in special families and groups of families[11] Sometimes it is hereditary, as the following genealogical tree (Fig 1) obtained at Yam in Torres Straits indicates. This is, however, the only instance I have been able to find in which the most marked type of albinism among Melanesians has been described as affecting more than one generation (Fig 1)

FIG 1.

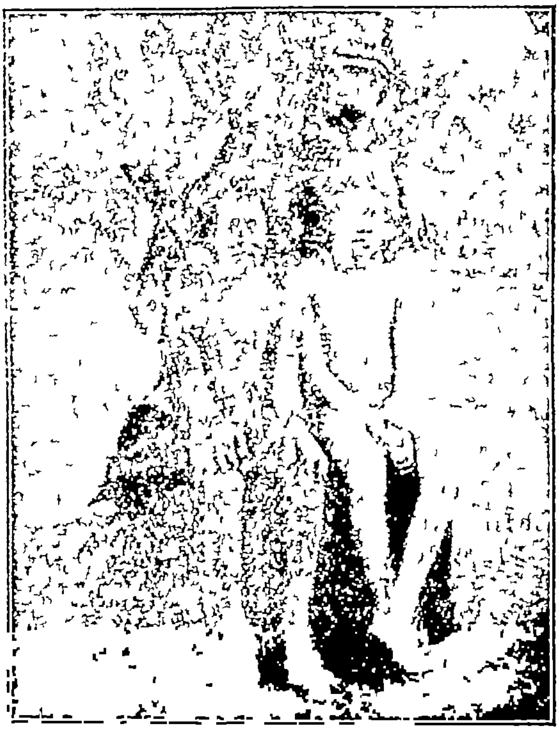


Pedigree chart showing albinos In this chart the individuals represented in each generation are probably not given in their correct order of birth.

The above scheme may almost certainly be taken as correct, for although Sergi's putative father does not belong to this albino family there is little doubt that Sergi does Siai and Sergi were seen, Aker—who is dead—was described as having been very light-skinned, though not a typical albino, and as having been affected with marked leucoderma beginning about puberty

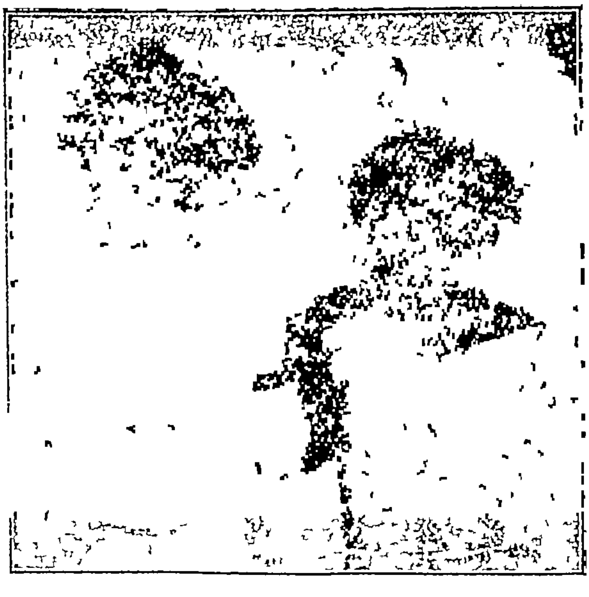
Siai, who was judged to be about 25 years of age, had tow-coloured hair and eyebrows her eyelashes were a trifle darker, while her axillary hair—in the normal native of a deep brown black—was light tow coloured. The colour of her skin[12] generally was about midway between No 5 and No 6 in the chart given in "Notes and Queries on Anthropology," that of her face was rather yellower, probably from the effects of exposure to the sun, and, perhaps owing to the same cause, felt somewhat coarse and harsh to the touch. The palmar surface of her hands and, to a less degree, the plantar surface of her feet, were remarkably pink, more so than is usually the case in white women.

FIG 2



Kilapelama and normal Bulaa boy (from a photograph by the late Mr A. Wilkin)

FIG 3



Kilapelama and normal Bulaa boy (from a photograph by the late Mr A Wilkin)

When seen she was suckling, her nipples were pinkish, their areolæ being rather darker, but both lighter than in many Anglo-Saxon brunettes Her irides were of a very light brown and photophobia did not seem to trouble her Her nephew, Sergi, aged about seven years, had hair, eyebrows, and eyelashes of the same colour as his aunt's The eyelashes were somewhat unusually long and curved upwards towards their free end. His body and forehead were covered with short very fine white hair The skin of his face was rather lighter than that of No 5 in the chart above referred to the skin on his body was darker and less yellow than that of his face. His irides were light brown He, too did not seem to suffer from photophobia.

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[11] Crocker (Diseases of the Skin, 1893) says Heredity is the only known cause of the complete form and this in the shape of family prevalence as where there are several children in a family more than one are almost sure to be albino and Lesser knew of a family where six out of seven were albinos" Dr E Stainer who has collected from literature the history of 61 European albinos tells me that these cases 37 of whom were male and 24 female occurred in 19 families In nine families brothers and sisters only of the observed albino were albinos, in five families other relatives were albinos while in the remaining five families isolated cases appeared without any family history In New Guinea, of 14 albinos seen by Finsch, D Albertis and myself 10 were male and four female. They occurred in nine families; in two of these brothers and sisters were affected and in five individuals only while in the remaining two the condition absent in brothers and sisters appeared in the next generation.

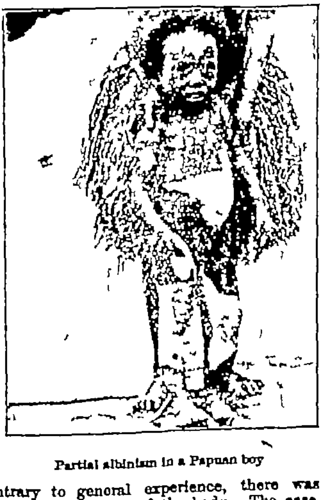
[12] The Yam women being Christians wear a loose dressing-gown like garment which incidentally protects the body from sunburn

An albino boy, named Kilapelama, aged about 10 years, seen at Bulaa on the south-east coast of British New Guinea, had, with a light, greenish brown iris, an especially pink white skin covered with short, fine, almost downy white hairs. Scattered over the whole of the body there were a number of irregularly circular patches of dark pigment, varying in size from that of a split pea to that of a sixpenny bit (Figs 2 and 3) The periphery of a certain number of these showed irregular dendritic processes of pigment On drawing the finger over the skin no difference in texture could be perceived between the general surface and the pigmented patches, the latter, which were, if anything rather darker and more bronzed than the skin of a normal Bulaa man, seem to be of the same character as those seen in the Vaturua case described by the American Expedition. Mr Norman H. Hardy has given me a photograph he obtained in Sydney of the head and upper half of the body of a man of Aoba in the New Hebrides in whom the black spots are so numerous as to produce a speckled appearance, the colour of the hair is not recorded, but judging from the photograph it was not of the usual black colour Other instances of the same condition have been described by Finsch. They were observed at Bulaa and in his paper already alluded to full details of Bulaa and Kerepunu albinos will be found.

There exists also a somewhat less-marked type of albinism in which greenish eyes and tow-coloured hair accompany skin of a pale *café-au lait* colour Two examples of this condition were seen at Jokea in the persons of a boy about 18 years of age and his paternal uncle. They were both lean muscular active, and energetic and the boy was of rather unusual intelligence. Neither suffered from photophobia to any marked degree nor was their skin harsh or thickened to the touch. This form would seem to denote a transition to those individuals not uncommon among the Papuans of Torres Straits in whom the skin is a shade or two lighter than is normally the case their eyes being brownish and distinctly lighter than the normal dark colour Their hair too is less dark and in the men this may be specially obvious in regard to their moustaches The condition tends to be hereditary all the children born to a Mabuiag couple, both members of which were of this type, were specially light-coloured.

Partial albinism is rare. Only one case was seen and in this contrary to general experience, there was marked symmetry on the two sides of the body The case was that of a Sinaugolo boy aged about four years (Fig 4) on whose trunk there was a large white patch, there was another somewhat diamond shape flare on his forehead reaching on to the hairy scalp, where the hairs were white. There were almost symmetrical patches just above the elbows on the back of the arm, while on both legs there were white areas extending from just above the ankles to the mid thigh. Dotted about these there were a few small roughly circular areas of normally black skin. There was no family history of albinism of any grade or of any unusual skin condition. My thanks are due to Mr A. C English, Government Agent of the Rigo district, who kindly photographed this case for me. The heaped up ulcer on the abdomen is the remains of a yaw tubercle.

FIG 4



Partial albinism in a Papuan boy

Leucoderma, which as already stated, is remarkably common and is generally distributed throughout New Guinea and Torres Straits as in other localities, tends to be symmetrical and is a disease of middle and advanced life. The borders of the white patches are always sharp and the bleaching is not as a rule preceded by an increased deposit of pigment. In one case only—that of an old woman one of the very few natives still left on the island of Nagir in Torres Straits—was the skin at the edges of and between the pale patches on the hand and forearm distinctly darker than over the rest of the body In all cases which were seen the disease was limited to the limbs, beginning always at the distal extremities and spreading slowly upwards, seldom reaching higher than the middle of the tibia in the lower limb or than the middle of the upper arm in the upper limb. The disease attacked the dorsum of the foot and the flexor surface of the wrist or hand far more commonly than the plantar and extensor surfaces respectively and very commonly began accurately opposite the flexure of the wrist, thence spreading up and down the limb In no case could any alteration of sensation or any trophic change be detected in the affected areas, nor was there any evidence of the change being due to vegetable parasites.

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PERSISTENT HEREDITARY ŒDEMA OF THE LOWER LIMBS

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I HAVE recently had under my care in St. George's Hospital a brother and a sister (patients of Dr H. Hollis of Wellingborough) who were both the subjects of a peculiar form of œdema of the legs. The œdema was permanent as long as they led an ordinary life and got more marked after exercise or a warm bath, but disappeared after rest in bed for some days. It was only troublesome from the weight and size of the swollen legs and did not give rise to pain or to any other bad results The mother aged 45 years, who had suffered for 35 years from the same condition, had long ceased to think of her own legs and was only concerned for her children. There were five other children, both older and younger but they were not subject to swollen legs or to chilblains. None of the mother's brothers or sisters survived infancy and this condition, which had apparently been transmitted from the mother to her two children could not be traced any further There was no history or trace of syphilitic infection in any of the patients. Some years ago a fatty tumour had been removed from one thigh of the mother by Mr A. A Bowlby There was no evidence of hæmophilia. The œdema was limited to the lower extremities and chiefly to the legs and feet. It varied, as already pointed out, gradually increasing when the patients were up and slowly receding when they remained for some days in bed, but there was no sudden appearance of the swelling as in [illegible] neurotic œdema. When the limbs were kept warm the [illegible] was natural in colour but the circulation was very [illegible] pressure on the skin leaving an anæmic area for [illegible] longer time than in normal persons. The œdema [illegible] pitted fairly readily and was distinctly cold [illegible] In appearance the skin was quite free from [illegible] change there was no thickening such [illegible] elephantiasis. The absence of any [illegible] mother in whom œdema had existed [illegible] remarkable. There was no tenderness [illegible] swollen parts There was no pain [illegible] or any part of the body except [illegible]

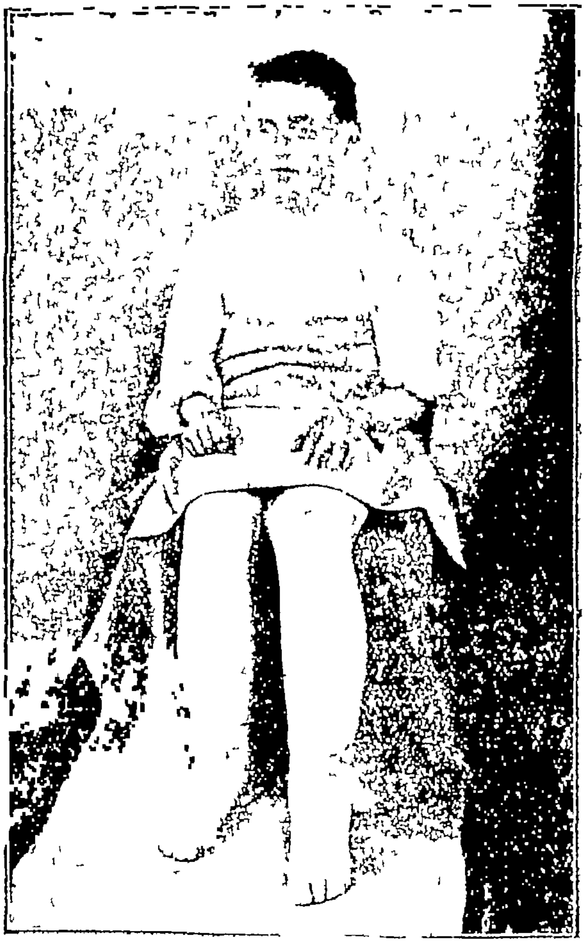
No recognised cause for œdema was forthcoming in any of the three patients Examination of the heart showed nothing abnormal and there was no anæmia, in fact, in both the brother and sister the number of red blood corpuscles was 5,800,000 per cubic millimetre. The urine was healthy, there had been no hæmoglobinuria and no signs of pressure on the inferior vena cava, or of lymphatic obstruction, venous thrombosis, or peripheral neuritis could be found They had not been out of England and had never had erysipelas, and they were not subject to urticaria or to any gastro-intestinal disturbance such as is common in angio neurotic œdema. There was, however, evidence of what was popularly called "a feeble circulation" At birth they were both "blue children," and were very subject to chilblains, both the feet and hands readily getting livid by cold When the skin was in this condition it resembled the stage of local asphyxia in Raynaud's disease The phenomena of local syncope, gangrene of the extremities, or hæmoglobinuria, had not, so far as history and observation went, occurred in these two patients The lividity and blueness of the hands were exaggerated, as in erythromelalgia, when they were allowed to hang down, and diminished when they were elevated But there was no pain or tenderness associated with the lividity, thus differing from erythromelalgia. Pressure on the congested skin left an anæmic area for a considerable time The patients were healthy looking, intelligent, thin, and perhaps a little small for their ages A few further details may be recorded about their condition

The girl was aged 16 years Swelling of the legs began three years ago and had been constant except when confined to bed for a few days When the legs had been bandaged the œdema had mounted to the thighs On July 8th the following measurements were taken the left calf, maximum measurement, 13½ inches circumference, the right calf, maximum measurement, 16½ inches circumference. A fortnight later, after being in bed most of the time, the right calf measured 12 inches and the left 11½ inches in its maximum circumference The urine was healthy The blood showed 5,830,000 red and 16 000 white corpuscles per cubic millimetre, a differential count showed a slight diminution of the polymorphonuclears and a corresponding increase in the lymphocytes Blood pressure at the wrist taken with Barnard's sphygmometer was 125 millimetres of mercury, or just about the normal

The boy was aged 13 years. His legs began to swell three years ago The œdema occupied both legs and ascended about half way up the left thigh. On admission, on May 28th, the following measurements were taken left calf, maximum, 12¾ inches circumference, right calf, maximum, 13 inches circumference On June 13th, after rest in bed with the end of the bed raised by blocks and treatment with ergot and digitalis in small doses, and galvanism, as practised by Sir T Barlow[1] in Raynaud's disease, the maximum circumference of the right calf was 11 inches and that of the left was 11¾ inches. The skin of the legs showed no structural change and no resemblance to elephantiasis. The creasing of the skin above the ankles shown in the photograph, kindly taken by Mr J W Mercer, was due to the pressure exerted by boots The knee jerks and sensation were normal. On exposure to cold the extremities became cyanotic, this was exaggerated when the hands were allowed to hang down The specific gravity of the blood was 1056 and the blood pressure, taken when the hands were warm by Mr Golla by Barnard's sphygmometer, was 95 millimetres of mercury, or below the normal The red blood corpuscles were 5 800,000 and the white 16 000 per cubic millimetre, with a diminution in the polymorphonuclear and an increase in the mononuclear forms. The urine was natural. On July 22nd he unfortunately developed scarlet fever and was transferred to a fever hospital.

Treatment consisted in rest in bed with elevation of the bed, and though drugs and the application of the constant current to the œdematous legs on the lines indicated by Sir T Barlow in Raynaud's disease were employed, position appeared to be the only thing which really had any definite effect on the œdema. Small doses of digitalis and ergot were given with the intention of improving the vascular tone.

Remarks—The occurrence of hereditary angioneurotic œdema is well known. Osler[2] has given a description of a family in which that disease was present in five generations, and quite recently Wardrop Griffith[3] has recorded a case of hereditary angioneurotic œdema which suddenly proved fatal from acute laryngeal œdema. The cases under my care differed entirely from angioneurotic œdema and superficially present more resemblance to the œdema of cardiac disease or of chlorosis. But there is no evidence that the œdema can be referred to either of these causes. The cases appear to resemble the remarkable family described by Milroy[4] of Omaha in which out of 97 individuals in six generations 22 persons (12 males, seven females, and three unknown) had solid œdema of one or both legs without any special inconvenience or progressive increase in the disease. The condition was congenital except in one case, in which it developed at the age of 12 years In one case only did the œdema disappear even temporarily. Crozier Griffith and Newcome,[5] in their paper on Types of Œdema in Infancy and Childhood, report a case which they regard as allied in some respects to Milroy's cases In a child, aged four years, œdema of the face and left leg developed at three months of age after measles Milroy, after very tentatively suggesting that the condition might depend on a congenital absence of valves in the veins, came to the conclusion that it was more closely allied to angioneurotic œdema than to any other known disease. My cases, however, differ from Milroy's in developing at or after 10 years of age They are therefore hereditary but not congenital in addition, as were all but one of Milroy's.



Shows persistent hereditary œdema of the feet, legs, and left thigh and cyanotic condition of the hands The creasing of the skin above the ankles was temporary and was due to the pressure of boots The patient had been up for some hours before the photograph was taken in order to increase the amount of œdema.

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[1] Allbutt's System of Medicine vol vi p 605

merican Journal of the Medical Sciences, vol xcv p 362, 1888

[3] Brit Med Jour, 1902, vol i p 1170

[4] An Undescribed Variety of Hereditary Œdema New York Medical Journal Nov 5th 1892.

[5] Transactions of the Association of American Physicians vol xii., p 411

The disease in some respects resembles both Raynaud s disease and erythromelalgia but differs from them as has already been pointed out, in many essential particulars

The pathogeny of this curious condition offers a wide and tempting field for speculation It might be suggested that the persistent tendency to œdema from gravitation depends on some inherent defect or peculiarity of the small blood vessels which allows excessive transudation to occur on very slight provocation. Isolated examples of œdema for which no satisfactory cause can be found come under observation from time to time. I had a case of this apparently idiopathic œdema in a healthy young woman, aged 24 years under my care in St. George s Hospital last year and I have heard of a few other cases in women. Œdema of obscure origin is less rare in the newly born and in very young children and may be due to a number of different causes, but some of the cases where no satisfactory cause is forthcoming may be sporadic examples of the condition described by Milroy

The object of this paper has been to attract attention to a definite group of cases characterised by persistent œdema of the lower extremities which is hereditary and may be congenital but does not depend on any of the factors ordinarily recognised as responsible for œdema.

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MUCIN AND MALIGNANCY FACTS AND THEORIES

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No substance in the animal economy has been more despised and neglected of medical men than mucin, but it may yet be destined to become the head of the corner Mucus has ever been the butt and *bête noir* of the physician whose every effort has always been strenuously put forth to brush, to wash and to dissolve it away as an evil thing serving only to harbour organisms and to retard and to jeopardise recovery from pathological conditions. How far wrong this depreciatory estimate of the value of mucin is an attentive study of its nature functions, and probable ulterior destiny will amply bear out. Mucin is the substance that gives the sliminess to mucus. It is very largely present in the system and is found under two conditions—first, almost universally distributed as the cementing material between cells—tissue mucin. This separates connective tissue cells and endothelial and epithelial cells even where most closely approximated. Normally there is always a layer however thin of muciginous material which separates the constituent cells in every tissue and membrane throughout the body and secondly mucin is found on all mucous membranes in mucous glands and in many epithelial and all special goblet cells, conspicuously so in the surface cells of the stomach wall where every cell is mucus secreting

There are probably several mucins in the body They are of a colloid nature, viscous, soluble in alkalies, but precipitable from such solutions by acetic acid. On boiling with dilute mineral acids they yield a substance which reduces Fehling s solution, and by appropriate processes mucin is broken up into a carbohydrate called animal gum and a nucleo proteid. Mucin has been specially investigated in the jelly like connective tissue of the vitreous humour the Whartonian jelly and in tendons While the part that mucin plays is doubtless largely mechanical in lubricating and protecting mucous surfaces, its peculiar chemical constitution and behaviour lend support to the belief that it has some further function. Physiologists mostly agree that mucin is not broken up in the digestive process but that it passes by the bowel unchanged. The very large amount secreted however and the comparatively small amount excreted would indicate that much is destroyed or absorbed in the small intestine, and the great additional supply in the large bowel supports this supposition and further nucleo proteid with its valuable percentage of phosphorus, being a result of mucin disintegration, the likelihood is that this is not thrown away but is absorbed from the intestine for ulterior use in the economy Where mucin is found fulfilling chiefly a lubricating function as in the gall bladder and bile ducts, in the pancreatic duct, and the lower bowel, it has a distinctly alkaline reaction and is mixed with the contents passing over the mucous surface On surfaces bathed by acid fluids, on the other hand the mucin is diminished in alkalinity and in this manner it is maintained on the surface proper for protective purposes this is well seen in the case of the urinary passages where much mucus is present and necessary Such is a wise provision for should the urine become alkaline the mucus present in it becomes then a serious factor in treatment. In the stomach again the acid gastric juice maintains the mucus on the surface the protective function being paramount. On the mucous membrane of the nose and other air passages the mucus plays a most invaluable part. It maintains moisture and conserves warmth, thus facilitating sensation both common and special. It also keeps the membrane fit both to catch foreign bodies (dust, bacteria, &c.) as the air filters through and serves to secure such until the leucocytes can annihilate or remove them.

One of the most important actions of mucin and one which has hitherto been altogether overlooked is as a bactericide This germicidal power was proved in researches I had carried out two years ago in the Laboratory of Clinical Pathology Queen Anne street, W by Dr G L Eastes. It was shown that mucin has a retarding influence on bacterial growth that sterilised solutions containing mucin remained sterile for a long time on exposure to the air and that bacteria ceased to grow in culture media when mixed with mucin. This is very interesting and instructive and proves that nature has in the secretion poured out on mucous membranes provided a ready means of suppressing bacterial growth. In the *British Medical Journal* of March 8th last there is an account (quoted from the *Lyon Médical*) of a research by Professor Fernand Arloing in which this work is repeated. From this he concludes that the mucus of red snails has a bactericidal action on the bacillus of Löffler and other bacteria and nasal mucus was found to be a bactericide for staphylococcus and pneumococcus, but not for coli bacteria or for Eberth s microbes. It must be evident, therefore, that mucin fulfils a potent part in the defence of the body against bacterial attack.

The essential lesion of carcinoma is the penetration of cells into the surrounding tissues, but whether this new departure on the part of the cells is a result of a cellular change or of some alteration in the intercellular resisting substance is not yet clear The probability is that there is a certain degree of both. In old age the intercellular material undergoes a wasting change and as a result of this its resistive power against the ingrowth of epithelial cells is lessened and thus the onset of carcinoma is favoured—particularly as the overlying epithelium remains much longer active and thus there is an influence inducing the cells to penetrate inwards among the tissues. The centrosome in cells on epithelial mucous surfaces occupies that part of the cell nearest the surface and therefore the part most exposed to injury and irritation. The centrosome is the dynamic centre and plays the leading part in the division of the nucleus and the proliferation of the cell and the regulation of movement.

A study of the distribution of mucous manufacturing structures reveals the striking fact that where mucus is least abundant their malignant disease is most located. This is the case where skin and mucous membranes meet at the edges of orifices as at the lips prepuce and anus, in the pharynx below the middle, as there are many fewer mucous glands in this situation than in the upper part and on the tonsil, where there are but few mucous glands or cells even in the crypts Malignant disease is common in the upper third of the œsophagus where there are few mucous structures and very common in the middle third, where there are practically none it is least seen of any part in the lower third where mucous glands are numerous. The œsophagus is peculiar in being dependent almost entirely for its lubrication and protective coating on mucus passing down from above—from the nose and vault of the pharynx. I have observed a number of cases of malignant disease of the œsophagus and in these there has been much diminution of mucous secretion from above shown by the deficient action of the mucous membranes of the nose and pharynx and always too, chronic dyspepsia due to the same cause—too little mucous protective coating in the stomach. Malignant disease is most frequently situated in the stomach at the pyloric end, but although there is much mucous secretion here there are special reasons for this selection, it is the most dependent part and most subjected to injury by lumpy and improperly masticated food and constant irritation by the acid gastric juice and from the fact that these patients are usually the subjects of deficient mucous supply from above, chronic hypo myxia nasopharyngia et gastrica, which accounts for the diminished mucous protective coating in the stomach

Cancer is most seldom met with of any situation throughout the whole extent of mucous membranes in the *small* intestine and in the *lungs* As I have pointed out in previous writings,[1] there is more mucus poured into the small intestine than is to be found anywhere throughout the system , and the lungs have an abundant supply in the secretions of the lining membrane of the trachea and bronchi. The inspired air is specially cleansed during its passage through the middle of the nose, the pharynx, and larynx, so that if malignant disease is set up by irritants from without there is small chance of such gaining access in any force into the lungs The urinary tract, again, is wonderfully exempt from cancer and mucus is plentiful on the surface lining It is pathologically proverbial how malignant disease attacks and spreads in the mamma, but in this gland there is no mucus whatever, not even in the ducts No protection is here necessary from irritating secretions unless the milk were to become acid from the formation of lactic acid, and lubrication is not needed as fat is the dominant element in milk. In the salivary glands how rarely is cancer encountered, but mucin is largely present in them and an element of their secretion, notably so in the submaxillary and sub-lingual When malignant disease is met with in salivary glands the parotid with its very meagre amount of mucus is much the most frequently attacked The exemption of tendon and cartilage and the frequency with which bone is affected are also noteworthy The mucous glands of the uterus are mostly found in the upper two thirds of the organ which is the least frequently affected by cancer, but I look upon a uterus prepared for carcinoma as an atrophic one or becoming atrophic just as atrophic rhinitis commonly follows on hypertrophic The circumstance of frequent pregnancies is a strong predisposing cause This is the hypertrophic stage in the case of the uterus, and it is at the menopause when the atrophy sets in that malignant disease comes on, when there is a hypo myxiatous condition set up

During the last few months I have carefully observed 15 cases of malignant disease (see below) and have been struck by the fact that all have shown evidence of hypomyxia in varying degree I am indebted to a scholarly article by Dr Walker Overend in THE LANCET, where he was kind enough to mention my former paper on Mucin, for

TABLE OF 15 CASES OF MALIGNANT DISEASE

No	Sex and age	Occupation	Disease	Common salt	Tobacco	Syphilis	Hypomyxia
1	M , 66	A ' backer of horses" much indoors and in close rooms	Malignant of the rectum	Taken an excessive amount over 40 years	Smoked cigars cigarettes and a pipe to excess	Yes	Has suffered from well marked hypomyxia naso-pharygea, gastrica et colica for 30 years
2	M 30	Labourer with the National Telephone Company much in dust at underground work	Sarcoma of the tonsil	Taken an excessive amount all his life, a great meat and bacon eater	An ounce a day for years	"	Well marked hypomyxia naso-pharyngea et gastrica et colica and a rapid eater
3	F , 45	Housewife much indoors	Malignant of the liver	Always takes a good deal of salt	No	"	Hypomyxia naso-pharyngea moderately marked, but gastrica et colica quite evident
4	M 69	Worked for many years in a very dusty sugar warehouse	Sarcoma of the left side of the pharynx with a mass of glands in the neck	Has consumed a very large amount all his life	At least one ounce a day for 50 years, often two	Doubtful but was exposed to infection in his younger days	Hypomyxia naso-pharyngea very well marked and also gastrica et colica very evident
5	M , 51	Cabinet - maker in door work and often very dusty	Malignant of the pharynx and parotid region	Has always taken a very large amount	One ounce a day but often got through one pound a week	Yes	Hypomyxia naso-pharyngea et gastrica et colica very evident
6	F , 45	Housewife	Malignant of the omentum	Has always taken a good deal of salt and has had a ravenous appetite for shellfish	No	Doubtful	Hypomyxia naso-pharyngea slightly but gastrica et colica evident.
7	M , 65	Piano polisher indoor work and often very dusty	Malignant of the œsophagus.	Has always taken a large amount of salt.	Smokes over one pound a week.	Yes	Hypomyxia naso-pharyngea and gastrica et colica very well marked
8	M , 68.	Indoor messenger	Malignant of the œsophagus	Very large consumer of salt all his life	Smokes very large quantity	Doubtful	Hypomyxia naso-pharyngea well marked and gastrica et colica
9	M , 59	Carman on the Midland Railway often in foul dust	Epithelioma glosso-epiglottidean region	Very large amount all his life. Put it on salt bacon.	One ounce a day	Yes	Hypomyxia naso-pharyngea et gastrica et colica very well marked
10	M , 35	Newsagent (dusty indoor work)	Malignant lympho sarcoma of the cervical glands	Had always been fond of salt with his food	Half an ounce a day at least.	Doubtful.	Hypomyxia naso-pharyngea et gastrica well marked
11	M , 71	Hairdresser in the city underground and dusty	Epithelioma with enlargement of the glands in the neck.	Taken salt in large quantities for 50 years	Over an ounce a day, often more, for all his working life	Yes	Hypomyxia naso pharyngea et gastrica et colica very well marked
12	M., 65	Engineer in doors worked in iron dust.	Malignant of the œsophagus	Taken salt with all his food in large amount all his life	Over one ounce a day	,	Hypomyxia in nose and throat and stomach well marked
13	F , 41	Housewife always in doors"	Epithelioma of the tongue.	Very fond of salt and had taken it in large amount	No	No	Hypomyxia in nose throat stomach, and bowels evident
14	M , 28	Broker s clerk underground dusty office	Sarcoma of the tonsil	Always taken salt in large amount	Smoked nearly one ounce a day	Yes	Hypomyxia naso-pharyngea et gastrica.
15	M., 43	Dustman (very dusty work)	Carcinoma of the pylorus	Taken an excessive amount of salt always.	Smoked one ounce a day for years	"	Hypomyxia well marked in all the usual situations

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[1] Mucin in Desiccation Irritation and Ulceration of Mucous Membranes THE LANCET, Oct. 12th 1891

the nomenclature which here I have adopted. The term ortho-myxia is used to express a perfectly sound and healthy state of the mucous membranes and their secretions. Quantitative change may be termed 'meta myxia, where the change is in excess the term 'hyper myxia is used The converse condition would be hypo myxia, where there is a profound qualitative alteration then 'para myxia" would be most expressive. Dr Walker Overend uses the term myxasthenia comparable to anæmia and to neurasthenia, and I think quite rightly because when the local hypo myxiatous conditions have continued long enough the state of myxasthenia is brought about. In hypo-myxia naso-pharyngia there is a history of the patient seldom or never using a handkerchief never having occasion to blow anything from the nose and there has in all seasons been a marked freedom from colds in the head. I have had cases where there has been irritation felt in the nose and frequent blowing induced and still with hypo-myxia present, but these have been instances of spur or deflection of the septum or other such condition I have usually *tested the hypo-myxiatous patient* by requesting a trial blow of the nose into a clean cloth nothing being expelled or at most a little watery fluid but never the healthy mucus that can usually be readily extruded by the ortho-myxiatous even when they happen to be octogenarians. An inspection of the interior of the nose in such hypo-myxiatous patients shows a general loss of turgescence and vascularity of the mucous lining it may even be distinctly dry and crusts may be detected. The turbinals are small and sometimes shrivelled, especially the inferior one, and this is most noticeable on both turbinals posteriorly where most of the mucous secretion takes place. The cavity of the nose is more or less roomy The fauces and pharynx display similar symptoms of lessened mucous discharge. Occasionally the posterior wall of the pharynx shows the para myxiatous change in the form of streaks and tracks of altered mucus This state of the naso-pharynx is often accompanied by a similar condition of the gullet and stomach—hypo-myxia gastrica, with its attendant symptoms of dyspepsia and flatulency and sometimes constipation, the constipation being due to a like alteration in the large bowel —hypo-myxia colica—but this varies greatly in degree.

Now every one of the cases of malignant disease that I refer to and made note of were hypo-myxiatous to a varying extent, and as most of these were instances of the mucous membrane of the alimentary or upper respiratory tract being affected, I am inclined to believe that there is a connexion between the two states, and that the hypo-myxiatous is a forerunner of the cancerous, especially in view of the fact that three-fourths of all cancer in man occurs in the alimentary canal.

Two features more I made out common to nearly all of the 15 cases of cancer—the first, that they were nearly all much addicted to tobacco-smoking consuming from one to two ounces a day and secondly were large salt-eaters. Two of them were so addicted to salt-eating that they even had it sprinkled on salt bacon. Both of these habits tend directly to bring about the hypo myxiatous state. The hot tobacco smoke for a time stimulates the mucous glands, but soon causes desiccation and atrophy and excess of common salt is pernicious, because it precipitates and coagulates the mucin and causes an impairment of secretion. The essential factor in cancer being intrinsic—a weakening of the inter-cellular resistance, so that the cells when proliferating can also penetrate into the inter cellular spaces and substance—it may be that a myxastheniatous condition of the tissues favours, if it does not cause, this loss of resistance. Normally as before remarked, there is always, even when reduced to a minimum a layer of mucinous material between cells everywhere in the body and it is possible that this is maintained in its natural tonic resisting state by an internal circulation of mucinous matter from the intestine to the tissues. If this be so a prolonged diminution of mucin in the alimentary tract would account for a deteriorative change upsetting the equilibrium between the cells and the inter-cellular tissues. With tissues thus prepared the effect of an *injury* or *chronic* irritation might be to determine such a morbid process as carcinoma or sarcoma, whereas in the healthy (ortho-myxiatous) these would induce no such changes however long continued, but might cause only a harmless inflammatory action. This theory might also be made use of to explain why carcinoma is an affection of the decline of life hypo-myxia being a senile change.

I have lately been examining a number of very old people mostly old men I have found them all wonderfully ortho-myxiatous having healthy naso-pharyngeal mucous membranes, good digestion, and regular bowel action. I am inclined to believe therefore, that such is an insurance of healthy old age. I certainly have not yet seen one healthy old man who was not ortho-myxiatous, so that one is warranted in reckoning this as a condition favouring longevity I recently examined a man aged 96 years, who was sent from a workhouse to the Central Throat and Ear Hospital for slight deafness and tinnitus. He expressed himself as perfectly well in every way His mucous membranes were in good condition and all to be made out was in-drawing of the tympanum of both ears. I had no doubt that this was due to a senile change in the middle ear from desiccation of the mucous membrane, thus also accounting for the tinnitus. This was shown to be the case by the success of the treatment—viz. injection of warm mucin solution up the Eustachian tubes with markedly successful result, as his hearing improved at once and the tinnitus abated and after a few injections disappeared. This man was a non-smoker and took very little common salt. Hypo-myxia is hereditary The tendency to a varying extent of impairment of the mucous-forming function is occasionally very evident in early life and when so it is almost always hereditary either from one parent or both This is most noticeable at special hospitals as rhinitis and pharyngitis sicca and atrophica, as early as from five to seven years of age. I have notes of two cases of sarcoma in the bones of children who were both quite hypo-myxiatous, as were both their parents before them. The question arises, does this help to explain the strange and unaccountable occurrence of sarcoma in early life, and of congenital sarcoma, hitherto a baffling problem? In the following table of cases of cancer it will also be noted that in nearly every instance there was a history of syphilis It is very remarkable how the stress of secondary syphilis mostly falls upon the mucous membrane. It is notable how many hypo-myxiatous patients have had syphilis. May this throw any light on the obscure but admitted connexion between syphilis and cancer? Cancer has been shown to be much more frequent among civilised than among savage peoples, among the denizens of town than in a rural population and in fact, to dog the footsteps of civilisation. This may be explained by the fact that much that is incident to town life is favourable to the development of hypo-myxia. Foul and often dusty air and bad ventilation especially in sleeping rooms are some of the most noxious influences. Although it has been found to be commoner in town dwellers, anyone with a hereditary hypo myxiatous tendency if in unfavourable surroundings will readily become hypo-myxiatous no matter how rurally remote he may reside. The Boers might be cited as a people well known to be very liable to cancer whose domestic sanitation is far from perfect but is most emphatically bad as regards the ventilation of their sleeping apartments. The immunity of the lower animals from cancerous processes is still unaccounted for Wild animals are very seldom affected and our domesticated animals but rarely It is proved that the domesticated animals most subject to cancer are not, as one might expect, the dirty feeding pig but those cleanly and affectionate friends and companions of man the dog and cat. They often share with man the same unhealthy surroundings and this doubtless to some extent explains their liability; another fact also helps to elucidate this obscure point, for the dog and cat possess much less provision for the formation of mucus than the horse, ox, sheep and pig Their turbinated nasal structures are excessively convoluted to enhance the sense of smell and so mucus secretion is a subordinate factor little or no mucin being ever formed in an olfactory region unless in very small amount. The fæces of the dog indicate but sparse mucous supply all along the alimentary canal. The horse ox, sheep, and pig have quite an extraordinary development of mucin forming organs

In the horse not only are both the anterior and posterior turbinated bones very well developed but each bone has a special fibro-cartilaginous *framework* extending to the external orifice of the nose. These turbinated bones are essentially so disposed as to furnish the mucous membrane of the nose with a vast surface and such flexible appendages are sometimes double. This free surface presents numerous glandular orifices and is constantly covered by an abundance of mucus that prevents desiccation. The upper one third only of this larger area is devoted to olfaction Racemose mucous glands are specially numerous on the area of the septum and the cartilaginous appendages (Chauveau) Besides this extensive secretory region solipeds have another special arrangement which also subserves mucus secretion, this consists of the so called guttural pouches, one on each side of the pharynx. They have each a length of four inches and a capacity of three-quarters of a pint Their mucous lining is thick and vascular and very thickly studded with racemose mucous glands Much mucus is secreted in these pouches and poured into the pharynx Few mucous glands are present in the horse's œsophagus, but it is well lubricated and protected by the copious supply from above, as all this mucus is swallowed, for the horse never has any discharge from the nose in health Jacobson's organ is five inches long in the horse and very thickly packed with mucous glands. The ox has also a vast development of the turbinated bones, especially of the posterior one, and besides there is an extra turbinal—the third turbinated bone of the ox. The sinuses of the head, particularly the frontal sinuses, which are very extensively developed, open freely into the meatus and afford an additional mucous secreting surface In the pig there is also a large mucous secreting area and the turbinated bones are very prolonged. The ox is constantly licking its muffle and thus swallowing the mucus escaping from the nose and removing the humid secretion with which it is always kept damp Chauveau in his comparative analyses of the domesticated animals gives the following table of the ratio of the area of the cranium to face 1 in 2 69 in the horse, 1 in 3 43 in the ox, 1 in 3 24 in the pig, 1 in 1 17 in the dog, and 1 in 0 68 in the cat Order cat, dog, horse, pig and ox. The face area may fairly be taken as a very good index of the mucus supply area. It will be noted that this area is much smaller in the cat and dog The horse s secreting area is very much supplemented by the secretion in the guttural pouches

TREATMENT

The first patient on whom mucin was used in malignant disease was a man (Case 5) who came to the Central Throat and Ear Hospital with a large mass of glands in the parotid and cervical regions and also a hard mass bulging into his pharynx. He was suffering great pain in the throat and up the neck to the head Mucin in the form of a gargle composed of soloid and tabloid mucin co, one of each dissolved in one ounce of hot water with a third of an ounce of lime water, gave him great relief and facilitated the swallowing of food Mucin feeding was ordered and he was told also to swallow the gargle. He thus consumed from 10 to 12 tabloids and the same number of soloids per day His appetite improved and his bowels—always very costive, only having an action about twice a week—soon became regular Although his case was a perfectly hopeless one from the first he certainly improved for a time and got great relief from this treatment. The mass in the neck broke down and a large ulcerated surface resulted This was dressed with a lotion similar to the gargle which kept the broken surface beautifully clean and sweet and greatly relieved the pain and diminished the discharges He lived three months and was able frequently to go out, but the growth spread to the lungs and he died from pneumonia The alleviation of the pain was certainly most marked, allowing the poor man to sleep, which he had been unable to do formerly

The second case was that of a man (Case 11) suffering from epithelioma of the pharyngeal wall in the lower part and having a mass of glands on the left side of the neck Mucin was ordered in a manner similar to that in the last case The pain was again greatly relieved and he was able to sleep well and had a good appetite and his swallowing was done easily The mass of glands diminished and at the end of one month s treatment there was a difference of two inches in the circumference of his neck Unfortunately he contracted a severe attack of influenza and died after three days' illness

A man (Case 2) had been under Dr P Abercrombie's treatment for one month at the Central Throat and Ear Hospital suffering from an induration of the right tonsil with a mass of glands in the neck. The case was going from bad to worse and Dr Abercrombie kindly allowed me to use the mucin treatment. The growth had extended on to the soft palate and had ulcerated, the jaw was fixed so that he could only separate the teeth a very little way, and the mouth and breath were very offensive He was also in great pain Mucin was used as a gargle and mouth wash and he was given mucin feeding The improvement was very marked indeed The pain ceased and the circumference of the neck diminished by three inches in one month (Feb 21st last) To hasten the process I injected one quarter of an ounce of a warm solution of mucin into the subcutaneous tissue of the back three times a week and occasionally into the mass of glands in the neck This treatment was continued for another month with good effect. The ulcerated throat cicatrised over and he could easily chew and swallow solids, so much did the jaw relax. He also gained seven pounds in weight. This favourable progress met with a check when the sites of two of the subcutaneous injections suppurated in succession. The reason for this I could not explain, as this condition had not occurred in the other cases, and every aseptic precaution was taken One singular thing was that, although the injections into the mass of glands were conducted in the same way and with the same fluid, yet never at any time had suppuration occurred There seemed to be a profound change in the tissues in the neighbourhood of the growth The growth continued now to increase both inside the throat and in the neck, although the mucin still gave him great ease from pain, not until May 30th last was it necessary to perform tracheotomy. Gastrostomy was done at the same time in St Thomas's Hospital, to which he was sent on May 28th The mucin treatment undoubtedly checked the growth for a time. This was proved to be sarcoma by microscopic examination The man is now home and still under mucin treatment.

Another case is that of a man (Case 4) who came to this hospital complaining of pains in the throat and up the side and back of the neck He has a mass in the right side of the pharynx, hard and elastic, bulging into the throat and there are glands on both sides of the neck. During the last three months he has been having mucin treatment with great relief to his pain and the enlargement has somewhat lessened His appetite has improved He is very hypo-myxiatous, but mucin spray and gargle have helped the pharyngeal discomfort, and his gastric symptoms are alleviated and his bowels are regular He is having mucin feeding but no hypodermic injections Dr Dundas Grant kindly allowed me to use mucin in this case

A man (Case 9) came to the Central Throat and Ear Hospital complaining of dysphagia, severe pain in the throat, and sleeplessness He was found to have an epitheliomatous ulcer in the glosso epiglottidean region, and there was a mass of glands on the left side of the neck The mucin treatment has given him great relief and enabled him to swallow much better and to sleep at night He is still under treatment.

Case 1 is one in which I have found mucin afford signal benefit One month ago I did an inguinal colotomy for malignant disease in the rectum on this patient As he is very hypo-myxiatous I had great trouble to maintain the bowels in regular action with soft stools, but mucin feeding to the extent of 12 tabloids a day—two before and two after each meal—has solved this difficulty most satisfactorily and also remedied the gastric irritation and flatulency This is a much better means of regulating the bowels in such cases than giving oily aperients, as it supplies the natural lubricant and never causes any griping pains or too much disturbance

These cases in which mucin was prescribed were all in an advanced stage before commencing its use, but yet there was improvement in each instance. In an early stage this improvement is likely to be better maintained, and in hypo-myxiatous patients who have been operated upon for cancer it might be tried to prevent the recurrence of the disease. Of course, tobacco and salt are peremptorily prohibited

Welbeck street, W

THE CANCER PROBLEM

By W V SHAW, B A., B M, B CH OXON,
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TUMOURS and new growths have their origin in the proliferation of tissues the cell elements of which retain most of their morphological characteristics All newly formed cells arise from equivalent tissue elements This is the fundamental fact of cellular pathology Tumour formation is a progressive process continually diverging from the state of health It may be asked What is the most prominent characteristic of tumour cells as opposed to normal physiological tissue? It is that their vegetative functions dominate all other functions of the cell. Their reproductive activity overpasses that in any other direction

Malignant tumours—e g carcinomata—are characterised by a cell proliferation that, in its biological relations enters into opposition with the physiological tissues from which they are derived The more malignant the tumour in its clinical aspects the more does this proliferation and reproduction of the cancer cells become a prominent feature of the growth This is especially seen in the peripheral growth and penetration of surrounding tissues. Another important feature of these tumours is that they never reach maturity, they are never fully-developed tissues, structurally or otherwise. Degenerations are extremely common and testify to the unstable nature of the new growth.

What, then is the biological aspect of these conditions and what is the biological position of the cells? That the life-history of cancer cells is atypical cannot be doubted when the nuclear changes in these cells are studied. Abnormal mitotic figures are extremely common. Asym*metrical division of the nucleus is frequently observed.* In certain forms of sarcoma giant cells are a prominent feature. Hyperplasia of the nucleus and hyperchromatosis of certain mitotic figures are also characteristic of these new growths. These facts point to changes in the life-history of the cells. Again in carcinomata certain bodies have been observed in constant and close relation with the nucleus of the cancer cells. Some have considered these to be parasitic organisms causally connected with the changes referred to above. Others claim that these are degenerate portions of the nucleus or some endogenous structure formed from the nucleus. Assuming this latter explanation these bodies give a further indication of the abnormal protoplasmic activity of the cell

How then do the above nuclear changes influence the life-history of the cell? To the nucleus alone is assigned the perpetuation of the type and characteristics of the cell from generation to generation and when any alteration takes place in the nucleus there are corresponding changes in the cell. The nucleus plays an important and controlling part, not only in the process of cell-division, but in the functional activity of the cell.

Recent experiments have shown that the stimulation of the *ova of certain lowly-organised animals will* cause the multiplication of cells and the ultimate development of free swimming larvæ from such ova without previous fertilisation of the ova by spermatozoa. Adult organisms do not develop, but larvæ capable of independent existence can be produced This result has been obtained by acting upon the ova with strychnine and also by mechanical agitation of the ova. The multiplication of cells in these larvæ is comparable with the attempts at reproduction of tissue in partially *damaged* structures of which the giant cells in tubercle and the vascular connective tissue of healing wounds are examples. The growth of cancer cells is then to be looked upon as an effort of reproduction in damaged tissue, the incidence of the damage falling upon the nuclear structures This damage alters the nature of these structures so that the vegetative functions of the cell run riot, and the cells become parasitic towards the organism in which the growth is taking place. The nature of the changes in the cancer cells and their life-history thus becomes the important point from which the origin of the cancer process must be determined

What is the cause of this vegetative activity? Is it an initial damage to the cells in response to which there is an over active attempt at repair? The peculiar frequency of such disease in organs once active but now undergoing involution would suggest this explanation and also the frequent origin of malignant growths in damaged tissue further supports this view This is in accordance with Weigert's observations on the *over production* of damaged parts in the process of repair Hence in considering the etiology of malignant growths the causation of this vegetative activity must be investigated. It may be chemical as in the experiments with strychnine referred to above, or it may be biological, as in the theories that have been advanced as to the microbic origin of cancer The actual epithelial cells are the source of the infective process, as shown by the reproduction of the type of cell in secondary growths, and the penetration of the surrounding tissues by the epithelial cells.

This view of the importance of the cancer cells in a malignant growth is hardly in accord with the views of those who maintain that it is the degeneration of the surrounding tissues, particularly the connective tissue, that allows of the overgrowth of epithelial cells. But such a degeneration of the connective tissue has never been clearly demonstrated as a cause, and in the case of most cancers there is a considerable increase of the adjacent connective tissue. This hypothesis then draws attention to the nuclear changes in cancer cells and the consequent increase in the vegetative activity of these cells.

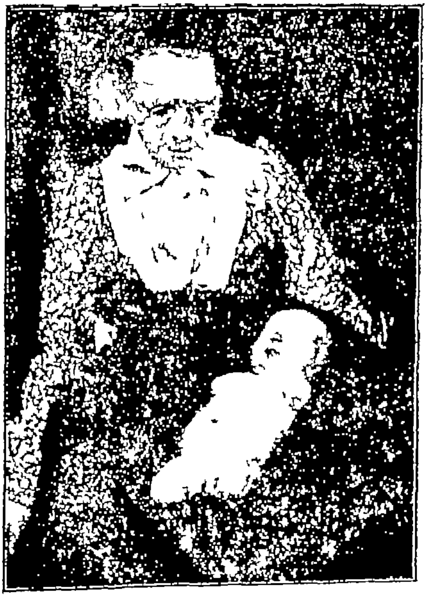
Beckenham, Kent.

Clinical Notes
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

A CASE OF ECTROMELUS

BY JOHN MCGIBBON M.B. C.M. EDIN

THE accompanying illustration shows a female infant in whom both the upper and lower extremities are almost entirely absent. It is a reproduction of a photograph taken on July 7th, 1902, the infant having been born five days previously The stumps of the lower extremities end in fleshy nodules, but those of the upper extremities are rounded as after amputation. Bones can be felt in all the stumps. The child is the fourth in the family There is no history of shock or maternal impression and no trace of deformity in the other children of the *family or their relatives.* During the latter stages of pregnancy the mother suffered a good deal from pain in the abdomen. False labour came on and *persisted for* 48 hours before the os uteri relaxed, and because of this I was called to see the case by the midwife in charge. The child is healthy and vigorous The nose is quite red from birthmark.



A case of ectromelus.

The case is a rare one and seems to belong to Saint *Hilaire's class* Ectromélie ”

Liverpool.

DEATH FROM THE BURSTING OF A TONSILLAR ABSCESS

By ALEXANDER LYONS, L R.C P & S, EDIN

THE following may be of interest. A man, aged 28 years, was admitted by me into the *Torbay Hospital* at 9 30 A.M on August 13th suffering from a very large suppurative tonsillitis on the left side. He was given a warm bath and put to bed where he partook of a glass of milk. About half an hour afterwards the nurse in charge of the ward heard him coughing feebly and on going to ascertain the cause was surprised to find him cyanosed. She sent for me and I went immediately but the patient was dead when I arrived I do not think that more than five or six minutes could have elapsed between the time when the nurse heard him cough and my arrival at the patient's bed side.

At the post mortem examination I found that the abscess had burst and that a large amount of pus had got into the upper part of the larynx.

On looking up the literature on the subject I find only one case of a similar kind recorded—viz., by *Hilton Fagge.*

Torquay

A CASE OF FOREIGN BODY IN THE NASO PHARYNX.

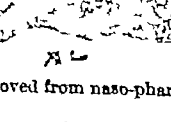
By RICHARD LAKE, F R.C S ENG,

SURGEON TO THE METROPOLITAN EAR NOSE AND THROAT HOSPITAL ETC

THE presence of foreign bodies in the naso pharynx appears to me, as far as I am able to ascertain, of sufficient rarity to justify the brief report of a case, although it is true that the symptoms did not amount to more than discomfort or inconvenience and that also in this instance the presence of the foreign body was not suspected

The patient, a married woman, aged 48 years, was sent to me in July, 1900, by Mr H. Beadnell Gill, who desired my opinion as to the question of involvement of any of the accessory nasal sinuses The history was peculiar For some years the patient had blown from the nose every morning either matter (probably muco-pus) or matter with hard offensive crusts At times these were, according to her description, covered with mildew The total duration of this trouble was about 14 years On examining the patient there was obviously rhinitis sicca et atrophica and the naso pharyngeal vault could be distinctly seen covered apparently with a crust of congealed mucus, blackish in colour The naso-pharynx was so irritable that it was impossible to get any view from behind

I did not see the patient again until March 3rd of this year, but when she came to see me, stating that she had a sensation of burning in the tongue, it was still impossible to get a look at the naso-pharynx. I then ordered the use of peroxide of hydrogen (10 volumes) to the vault of the naso-pharynx by means of a post-nasal syringe Three days later a large fragment of the wing of the seed vessel of the ash or sycamore was removed from the naso-pharynx by the patient. The accompanying figure represents the piece removed.



Foreign body removed from naso-pharynx (natural size)

It is impossible to say when this foreign body was introduced into the nose and it is also equally impossible more than to speculate as to whether the inflammatory condition of the naso pharynx was a result of its presence or whether the patient had suffered from some such condition before which had allowed of the foreign matter being more easily retained

It is hardly necessary to state that the patient's condition has been much improved now that it is possible for remedial agents to be directly applied to the vault of the pharynx.

Harley-street, W

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

> Nulla autem est alia pro certo noscendi via nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere et inter se comparare.—MORGAGNI *De Sed et Caus Morb.*, lib iv, Proœmium

SIDCUP COTTAGE HOSPITAL

A CASE OF SUPPURATIVE THROMBOSIS OF THE LATERAL SINUS, OPERATION, RECOVERY

(Under the care of Dr T M CALLENDER.)

THE treatment of the jugular vein in cases of middle ear disease is dealt with very fully in a paper by Mr C A. Ballance which appears in this number of THE LANCET, at p 795 Ligature of the jugular vein for sinus thrombosis appears to have been first suggested by Sir Victor Horsley [1]

The patient was a man, aged 38 years His previous health had been good His wife had recently died from phthisis He had three healthy children. He suffered from a "touch of the sun" six weeks before admission to hospital. On August 19th, 1901, he complained of a foul discharge from the right ear He also complained of general weakness but there was no pain in the head or tenderness over the mastoid The temperature on admission to hospital was 100 8° F, next morning it had fallen to 98 2° At noon of the following day he had a violent rigor and the temperature ran up to 105 8° and the pulse to 142. The patient became unconscious After consultation with Dr G W Davis and Mr H. A. Duffett of Sidcup Dr Callender decided at once to explore the mastoid and while getting ready to operate the patient was sponged with tepid water, with the result that the temperature was reduced to 102 2° and by the time he was on the operating-table he was conscious and consented to operation. A.C E. was administered. Dr Callender cut down on the mastoid, gouged away the bone, and found a quantity of foul pus in the cells, free communication was made between the wound and the auditory canal. The wound was douched and a gauze drain was put in The patient seemed better for 24 hours after operation, but on the following evening his temperature was 104° The discharge from the wound and ear was free and with cold sponging the temperature fell to normal. Next morning (two days after the operation on the mastoid) the patient had another very severe rigor and the temperature ran up to 104° He complained of stiffness of the neck, but there was no pain or tenderness over the internal jugular and no sickness. His breath was foul Dr Callender resolved to operate again and to explore the lateral sinus as it was evident that the entire source of the mischief had not been reached, the rigors and foul breath which were assumed as being due to pyæmic pulmonary complications (though no definite physical signs could be made out in the lungs at this time) making the diagnosis of suppurative thrombosis of the lateral sinus probable. A C E was again administered. Bone was gouged away over the lateral sinus A hypodermic needle was thrust into the sinus and a little sero pus was obtained, but no blood. The internal jugular vein was then cut down upon and ligatured, cutting between a double ligature. The sinus was opened freely, an opening was made in the upper end of the jugular into which was inserted the point of a No 8 gum elastic catheter, a ligature was put round the vein and catheter to prevent escape of the contents of the vein into the wound The lateral sinus was gently syringed from below upwards through a catheter with 1 in 4000 solution of perchloride of mercury A large quantity of very foul pus and clotted blood came from the lateral sinus The internal jugular vein was then ligatured above the opening made for the catheter, cut short, and the wound in the neck was closed. The lateral sinus was packed with iodoform gauze. The wound was dressed each day, douched out with 1 in 4000 perchloride, and packed with gauze The patient improved wonderfully after the second operation but several complications delayed convalescence. He developed a large pyæmic abscess in the back and a fœtid bronchitis. He had also an abscess in the base of the right lung which he was able to empty per mouth each morning the expectoration being very offensive A few tubercle bacilli were found in the sputum. Dr Callender endeavoured to strike the abscess in the lung with an aspirating needle without success, however as regards reaching the abscess, but a pneumothorax developed and this, Dr Callender presumed by making the lung contract helped to obliterate the abscess cavity and also gave the lung rest. The patient expressed himself as feeling much better after the pneumothorax appeared the amount of expectoration became much less and not so fœtid. An abscess formed in the wound in the neck which healed after being freely opened. Seven weeks after the operation on the lateral sinus the patient got a letter for admission to St. Mary's Hospital London where he was kept for a short time, and after being at a convalescent home at Ramsgate for a month he returned home in good health and able to resume his work. The facial nerve was unfortunately damaged and has not recovered its function though improvement is apparent.

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[1] Jacobson and Steward: Operations of Surgery, fourth edition, vol. i p 256

Remarks by Dr CALLENDER.—There are several points of interest in the case 1. The few subjective symptoms the patient never complained of pain in the head or neck. There was stiffness of the neck but no pain or tenderness. 2. Persistence of rigors and high temperature after the mastoid had been freely opened made the diagnosis of lateral sinus mischief probable. 3. The foul breath and expectoration pointed to pyæmic pulmonary complications though at first, there being absence of physical signs in the lungs, it was thought that the foulness of the breath might be due to pus from the Eustachian tubes. 4 The improvement of the pulmonary abscess after pneumothorax had been produced was interesting

Reviews and Notices of Books

The Diseases of Children. By JAMES FREDERICK GOODHART M.D Aberd. with the assistance of GEORGE FREDERICK STILL, M.D Cantab. Seventh edition. London J & A. Churchill. 1902. Pp 813. Price 12s. 6d

THE preparation of the seventh edition of Goodhart's "Diseases of Children" has evidently entailed a very considerable amount of revision certain sections have, indeed, been almost completely rewritten. Among the subjects which are now added for the first time or which are so completely remodelled as almost to defy recognition those which deal with the feeding of infants, with the diseases of the nervous system, with hypertrophic pyloric stenosis, and with achondroplasia are perhaps the most important. The chapter on rheumatism has also in several notable respects been subjected to the process of revision with the result that it constitutes one of the most interesting and enlightened chapters in the book. However we do not feel altogether convinced that a student will gain such a clear clinical picture of what Dr Goodhart calls the composite of the disease as he would do had he to rely for his instruction on any one of the former editions. To draw a clear line of demarcation between the 'status rheumaticus and acute rheumatism has strained the intellectual resources of other authors besides Dr. Goodhart and Dr Still, and it is instructive to follow the ingenious generalisations and circumlocutory processes whereby all direct solutions of the problem are shelved or evaded. Children," we are told, do indeed suffer from typical acute rheumatism with its fever its pain, its swellings of the joints its sweating but to circumscribe it (i.e. the term rheumatism) by these limit would be to ignore the larger part of the field of its workings" For the purposes of establishing a diagnosis it is suggested that we should rely on the family history and a record of small and insignificant ailments. Growing pains, skin lesions, nervous irritability, and anæmia—in fact, the same group of symptoms which certain authorities, and notably French writers, refer to the arthritic diathesis—are the hereditary conditions which, according to the authors, constitute the status rheumaticus, and they are to be ascribed to certain inherent faults of the nervous system and to certain disabilities of nutrition. The authors admit, indeed, that the pathology of rheumatism is still a much vexed question and proceed to explain that of late evidence has been collecting which would seem to show that it may possibly be of microbic origin." We may be quite wrong in the assumption but after carefully reading this chapter on rheumatism we cannot help thinking that Dr Goodhart and Dr Still are not in absolute agreement on its essential pathology and that there have been mutual antagonisms as there have been mutual concessions. At all events, there are indications of a distinct disinclination on the part of the writers, metaphorically speaking to burn one set of boats behind them and to abandon the neurotrophic diathesis before adequate transport of a bacteriological character has been provided there is, in fact a tendency to halt between two opinions.

In the chapter on tuberculosis the authors incline to the belief that infection in infancy is chiefly by way of the respiratory tract without denying that the germs of tuberculosis do occur in milk they do not regard milk as a frequent medium of infection However it must be remembered that the lungs can become infected through other channels than through the air-passages and whether lungs or bowel become demonstrably infected may be merely a question of local resistance. The alimentary tract must indeed be endowed with considerable power of resistance or from the swallowing of sputum it would almost invariably become infected in all cases of pulmonary tuberculosis. We do not think that, as far as tuberculosis is concerned the authors have established their case against milk infection or indeed, against infection generally by way of the gastro-intestinal tract.

The chapter on the feeding of infants, especially with reference to that part of it which concerns the preparation of milk mixtures, is, in our opinion, altogether inadequate and, in view of the importance of the subject, it is disproportionately short. Moreover nearly a page of valuable space is taken up by a table which is quite useless as it stands, without instructions as to how to employ it. This table, which appears on page 47 gives in detail the percentage composition of milk suitable for the various ages of infancy and it might just as well have been omitted

We are glad to notice that the vigorous and refreshing style which rendered former editions of the work such pleasant reading still retains its directness of expression Although in his preface Dr. Goodhart says he gladly remits to Dr Still the chief responsibility for the additions and improvements," it is clear that the latter has found some difficulty in overcoming the literary troubles of dual authorship. For instance, there is no consistency in the use of the first person singular or of the first person plural and it is difficult in places to understand whether I" means I Dr Goodhart, or I Dr Still just as there is ambiguity about the meaning of the we's. We do not know which author is responsible for them but we cannot help drawing attention to the following sentences and asking for a literal and literary interpretation The life of the child is balancing" (p 433) and I think that rheumatism taints more than an average of such." Again, we would ask how a new born infant can sit up (p. 21) or how it is that the healthiest children" are liable to show symptoms of infantile paralysis (p. 527) Might not also the frequent references to the late Dr Sturges indicate in some way or other that this lamented physician is no longer with us! To be still further critical we would call attention to formula 45 on p 784 It would pass the understanding of most druggists to dispense this medicine Ingredients which in themselves total three ounces and one drachm cannot by the addition of water be made up to three ounces only In the treatment of chronic constipation in childhood the continued use of enemata and glycerine suppositories is favourably regarded For our part we regard these therapeutic procedures as most objectionable A rectum is a good rectum or a bad rectum according as its capacity for expelling its contents is physiologically normal or the reverse. If the rectum is to be trifled with by nurses using enemas and glycerine suppositories indiscriminately how can it retain its delicate sensitiveness or its powers of expulsion ?

In reviewing a book so well known and so highly appreciated as Goodhart's "Diseases of Childhood" we feel confident we can in no way detract from its well recognised merit by recording the few blemishes which a thorough and careful reading has divulged. We can, we believe, bestow no higher praise than by saying that this last edition is in all important respects superior to any of its predecessors

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Diseases of the Organs of Respiration. By SAMUEL WEST, M A., M D Oxon, F R.C P Lond., Assistant Physician and Lecturer on the Principles and Practice of Medicine at St. Bartholomew's Hospital, Senior Physician, Royal Free Hospital, Consulting Physician to the New Hospital for Women, formerly Physician to the City of London Hospital for Diseases of the Chest, &c. In two vols With numerous Diagrams and Illustrations London Charles Griffin and Co 1902. Vol. I, pp 398, Vol. II., pp 399–913. Price 36s

THE fuller description on the title page informs the reader that this work is "a treatise on the etiology, pathology, symptoms, diagnosis, prognosis, and treatment of diseases of the lungs and air-passages" The book is divided into sections and not chapters and the relative importance of its parts is indicated by types of different kinds We agree with the author that such an arrangement renders reading and reference easier It does not, however, follow that those sections which stand in small type are of little importance, they are in many cases, as in the article on Pleural Tension, of special rather than of general interest. The satisfactory plan of printing the report of clinical cases in small type is also adopted and the same type is used with matter which is added to illustrate or to explain the conclusions stated in the text.

The "introductory" section deals with the anatomy of the lungs and the physical examination of the chest. Dr West makes some interesting remarks on two points in connexion with auscultation of the chest. All physicians connected with teaching hospitals realise the difficulties experienced by students in learning the "physical signs" connected with diseases of the lungs This is in great measure due to the confusion of terms adopted by various writers Some authorities use the words "bronchial," "tubular," and "cavernous" as applied to breath sounds as synonymous terms while others impart to them differences as regards signification which they scarcely possess The real confusion is however, not in facts but in words If physicians would determine a definite nomenclature the difficulty would be lessened. Dr West attempts to describe in words the various varieties of breath sounds and adventitious sounds This is a difficult task, but he has succeeded well He has, however, omitted one point which is of considerable importance—namely, the comparative pitch of inspiration and expiration To those practitioners who possess a musical ear the observation of alteration in pitch of expiration (more particularly) is of great service in determining the variety of breath sounds. Dr West also dwells on a second term which is a source of confusion—namely, "râles." The student who carefully studies the author's remarks will derive a clear idea of the nature and signification of adventitious sounds

The diseases of the air-passages are next discussed and a comprehensive account is given of "respiratory obstruction." The classification of causes of obstruction to the air-tubes is both complete and practical

We recommend Dr West's remarks on the serum treatment of diphtheria to those who are not even yet convinced of the immense utility of the antitoxin injections He rightly insists that in every case of diphtheria where laryngeal symptoms are present, whether pronounced or not, the serum treatment should be commenced without a moment's delay, for the success of the measure depends largely upon its being commenced in good time.

The sections on bronchitis, empyema, and bronchiectasis are all well written and thoroughly up to date The student will also find useful information in the section dealing with "hyperæmia, congestion, hypostatic congestion and œdema" of the lungs. These terms are frequently misapplied and therefore likely to lead to confusion The remarks on the "bacteriology of pneumonia" will also attract attention. After a brief historical review of the subject Dr West concludes that though the pneumococcus is the pathogenic organism of the ordinary or idiopathic croupous pneumonia many other organisms also can excite an acute inflammatory infection of the lung, which so far we have no clinical means of distinguishing from pneumococcus pneumonia—e g, the pneumo-bacillus, streptococcus pyogenes, staphylococcus pyogenes aureus, bacillus tuberculosis, bacillus anthracis, and possibly many others We agree with the suggestion that perhaps the peculiar course which many cases of pneumonia run may depend upon the nature of the infecting germ or upon some mixed infection, and some day it may be possible to recognise these different forms of pneumonia by their clinical signs, but at present science has not progressed so far

One of the most interesting sections in the first volume is that on broncho-pneumonia. Dr West maintains that there are three clinical varieties of broncho pneumonia (1) that in which the disease is of gradual onset and preceded by some affection of the air-tubes, the course prolonged and interrupted by frequent relapses, and the termination by lysis, (2) that in which the history and symptoms are similar but the disease is of sudden rather than of gradual onset, and (3) that in which there is no antecedent affection of the air-tubes, the affection is of sudden onset and short duration, the termination is by crisis, the clinical symptoms are, in fact, those of croupous pneumonia but the lesions those of broncho-pneumonia. In other words, the secondary and primary broncho-pneumonias are clinically and pathologically different diseases, and while the secondary stands in close relation with bronchitis and similar affections of the air tubes the primary stands in close relation with lobar pneumonia. In order to prove these contentions Dr West examines closely the work which has been accomplished in regard to the bacteriology of broncho pneumonia Without entering into detail on this point we give the conclusions to which the evidence adduced points The primary and secondary broncho-pneumonias are shown to have a different bacteriological origin. Secondary broncho-pneumonia is for the most part due to streptococcus infection, derived from some source connected with the air tubes, throat, or mouth It is further shown that primary broncho-pneumonia is of pneumococcal origin and that pneumococcus inflammation occurs with almost equal frequency in the child and in the adult. This second fact is not generally recognised, there being a general opinion (now shown to be erroneous) that the pneumococcal inflammation is much more common in adults than in children The inflammation however, takes a different form in each—in the adult producing massive consolidation and in the child disseminated patches of consolidation These remarks merit most careful consideration, for if the conclusions prove correct the term broncho-pneumonia must be reserved for those affections of the lung which follow antecedent affections of the bronchi and must not include the idiopathic forms

Volume II. commences with the subject of phthisis." We are somewhat doubtful whether Dr West has acted wisely in retaining this term. Pulmonary tuberculosis" is more exact and more scientific Dr West defines phthisis as a specific disease caused by the tubercle bacillus," and adds, It *is the commonest form of tuberculosis of the lungs*, though not the only form. Phthisis simply means wasting Some authorities still maintain that there are destructive diseases of the lungs which can neither be recognised as tuberculous nor referred to any other well known group, for such ' phthisis pulmonalis may for the present be the most appropriate name. By adopting the term pulmonary tuberculosis" the nomenclature of tuberculous affections is more brought into line, tuberculous meningitis and tuberculous peritonitis are terms universally employed and we think that Dr West would have done better service to nosology by heading the section pulmonary tuberculosis than by retaining the ancient and unscientific term ' phthisis.

The description of the pathology and etiology of the disease is excellent, as is also the clinical consideration. The remarks on treatment, too are thoroughly in accord with modern ideas. We are quite in accord with the remarks on climate, especially do we support the contention that the English climate frequently seems to fail because *patients are left too* much to themselves and for the want of institutions where rules must be kept, live in their own lodgings or hotels, do much as fancy leads them and are often most imprudent.

The sections on affections of the pleura will be read with considerable interest. Dr West s views on intra pleural pressure, more particularly in connexion with pneumothorax and serous effusion are *well known and the reader* will find them fully discussed in this volume. The account of the clinical phenomena observed in cases of pleuritic effusion is also excellent. We are glad to observe the author's views on washing out the pleura after the pus has been evacuated in cases of empyema. Washing out the pleura is often objected to as being a risky or even dangerous operation We agree with Dr West that this is not the case. It is quite true that disastrous cases have been recorded and have been attributed actually to the washing out Most of these cases have been instances of sudden death but it must be remembered that death may take place suddenly in cases of pleural effusions in which the pleura has not been washed out and has not been even incised. The usual precautions must, of course, be *taken to* be sure that the fluid is warm and the vent free so that the fluid may flow out readily Some surgeons prefer to swab out the pleura and this procedure may be adopted without fear of danger The volume concludes with descriptions of the rarer affections of the lungs, such as syphilis actinomycosis, pneumonomycosis, hydatid disease, and new growths of the lungs and pleura.

In conclusion we can speak in the highest terms of praise of the whole work. It will be found useful both by the practitioner and by the student and we can confidently recommend a perusal of it to our readers.

Trades Waste its Treatment and Utilisation. By W NAYLOR, F C S A.M.I.C.E With 21 Plates 27 folding Diagrams and numerous Illustrations in the text. London Charles Griffin and Co 1902. Pp. 267 Price 21s.

THE prosperity of a country may be fairly gauged by its trades waste, but unfortunately trades waste is generally synonymous with the pollution of rivers It cannot be gainsaid however, that great improvement has been made during recent years in regard to the prevention of the pollution of rivers and for this desirable state of things we have mainly to thank the Rivers Pollution Commission which was appointed in the year 1867 This Commission found that the rivers were grossly polluted and it pointed out that a good deal of this pollution could be stopped and that there was no reason why it should not be stopped Admirable, however, as the provisions of the Act may have been it is the fact that those possessing powers under this Act have not exercised them with that assiduity which in such a *case was very desirable.* Luckily however officials have been appointed to watch over the possibility of offence being committed who, zealous for the purity of our streams and for the public health have compelled the manufacturer to adopt some means of preventing outrage on the purity of the stream. It is satisfactory to be able to record year by year however that waste is a diminishing factor appearing elsewhere as valuable material. *One remarkable example* is that of alkali waste For years alkali manufacturers could do nothing with the residue from the manufacture of alkali by the Leblanc process but to dump it down in waste places until the accumulation was such that the works became surrounded by small mountains of the waste. By Mr Chance s process this waste is now made to yield sulphur in a pure state and an inoffensive material is left instead of one which was most offensive and which yielded a poisonous yellow liquor that not infrequently found its way into rivers.

The book before us gives a number of interesting examples of the difficulties met with in dealing with trades waste and of the methods employed in the various trades to overcome these difficulties. The work is essentially one for the chemical engineer but it is also of great interest to the economist and to the sanitarian It is written by one who possesses great practical experience of the pollution of rivers and of the practicable means that can be adopted for its prevention. Probably Lancashire as a polluting area has been a most difficult tract to deal with. The Manchester Ship Canal though less offensive than it used to be, is as black as ink, and the Ribble and Mersey have been notoriously maltreated by manufacturers Mr Naylor is the chief inspector of rivers to the Ribble joint committee and therefore he must have been face to face with some of the worst trade problems offered for solution, indeed it is obvious from a perusal of his book that the field which he has explored is a wide one. The subjects treated comprise woollen mill waste, waste from tanning and fellmongery brewery and distillery waste, waste from calico bleaching dyeing, and printing papermaking waste, and general chemical waste. Special processes of purification are fully illustrated

We *regard* this book as a contribution of considerable importance not merely because it will prove a valuable and instructive guide to borough engineer surveyors analysts, and others, but because in setting forth clearly the causes of the pollution of rivers and the best known practical means of preventing such pollution it is calculated to assist in the attainment of a much better state of things an end which is *of* the utmost concern to the whole country

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Gibson and Russell's Physical Diagnosis. Third Edition Revised and Rewritten by FRANCIS D BOYD C.M G M D F R.C.P Edin Assistant Physician Edinburgh Royal Infirmary Physician to the Deaconess Hospital. Edinburgh and London Young J Pentland 1902. Pp. 448.

THE third edition of *this excellent* manual has been revised, and in great part rewritten, so as to bring it up to the requirement of modern medicine. Several new sections have been added describing in detail new or improved methods employed as an aid to diagnosis Many of these are now fully recognised and may be made use of either in the ordinary routine of practice or in the investigation of unusual cases of disease

The chapter on the Examination of the Blood contains the results of the investigations which have recently been made in the pathology of the blood It is now well recognised that a clinical examination of the blood is of the highest importance and will frequently afford considerable help in the elucidation of cases of doubtful diagnosis The manner of obtaining the blood for examination is described as are the various methods which are employed in fixing and staining the films The processes which were formerly employed to demonstrate the varieties of the white blood corpuscles were clumsy and intricate and required a long time for their completion Now, however, the films may be rendered ready for examination in a few minutes and with a little practice may be satisfactorily employed in ordinary professional work

Another method of clinical investigation has lately been much used, especially on the continent—namely, the investigation of the contents of the stomach. This procedure has not been largely adopted in this country owing probably to the discomfort experienced by the patient in the frequent passage of the stomach tube Nevertheless, in certain cases valuable information may be derived by administering a "test meal," and then after an interval drawing off the contents of the stomach and submitting them to examination In the volume now before us brief but explicit directions are given as to the carrying out of the necessary operations.

A section has also been added on Intestinal Parasites. Directions are not given, however, as to the examination of the stools for the ova of the parasites, unless the dejecta are suitably treated these bodies will very probably be missed.

The section on the Cranial Nerves will also prove a valuable addition to the book. The description of the phenomena produced by paralysis of these nerves is clear and lucid. The symptoms are detailed in comparatively few words so that the practitioner will find this section very handy for the purposes of reference.

A short chapter is devoted to the subject of Clinical Bacteriology It seems needless to state that the important position which bacteriology now takes in medicine renders a certain knowledge of the methods employed in diagnosis essential to the physician The isolation and recognition of micro organisms are, it is true, necessarily carried out in the laboratory by an expert, but the student should know how to obtain material for examination, how to examine the material when obtained, and how to stain and to recognise the commoner pathogenic organisms The author wisely refrains from attempting to give a complete description of the many processes now employed in clinical work, but those more frequently required are explained The examination of the sputum for micro-organisms is well described and a few remarks are made on the examination of the products of inflammatory exudation

The practitioner and student will find this volume very useful for reference and study when engaged in clinical work.

Rhinology, Laryngology, and Otology and their Significance in General Medicine By E P FRIEDRICH, M.D, *Privat-docent* at the University of Leipsic Authorised translation from the German. Edited by H. HOLBROOK CURTIS, M D, Consulting Surgeon to the New York Nose and Throat Hospital and to the Diphtheria and Scarlet Fever Hospitals Philadelphia and London W B Saunders and Co 1900 Pp 348 Price 10s

DR FRIEDRICH in his preface makes the pertinent remark that a speciality should not be regarded as a thing apart and a kind of appendage, but that it should take an active part in all problems in the solution of which general medicine is concerned, to do which active coöperation between general medicine and the various specialities is indispensable, and that, should this be lacking, a speciality runs the danger of becoming a mere source of revenue and of losing its scientific interest. He considers the influence of diseases of the nose, throat, and ear with those of the respiratory organs, of the circulatory system, of the digestive system, and of the blood, with constitutional diseases, with infectious diseases, acute and chronic, with diseases of the kidney, with diseases of the skin and of the sexual organs, with diseases of the eye, with intoxications, and, lastly, with diseases of the nervous system, to which he adds an appendix dealing with nasal reflex neurosis, the significance of some of the cranial nerves, and diseases of the meninges and cerebral sinuses in rhinology and otology

Dr Friedrich, in examining the relationship existing between the nose, pharynx, and larynx, and between them and the lungs, alludes to the most interesting experiments made by Paulson and others as to the respiratory pathways of the nose, with whose views he expresses a thorough concurrence, concluding that we are quite justified in assuming that the respiratory current passes principally through the middle and lower parts of the nose and hardly touches the interior meatus in normal conditions Whilst discussing the action of the nasal mucosa Dr Friedrich considers that at present we do not possess sufficiently exact proof to say more than that the nasal mucosa is not a favourable soil for the development of micro organisms and that it does, more or less, hinder their development He also incidentally remarks that the larynx is not entirely occluded during deglutition by the epiglottis and that the bolus of food glides easily into the œsophagus from the arched dorsum of the tongue, which guards the entrance of the larynx, an observation which is not devoid of significance with regard to that moot point, the function of the epiglottis As regards the question of the connexion between diseases of the lungs and morbid conditions of the upper air passages he favours the views of Störk and Sticker that fœtid atrophic rhinitis in all probability bears more than a casual relationship with syphilis, that in patients suffering from this disease there is a general xerosis of the mucous membranes of the respiratory tract, and that the tendency to a dry catarrhal condition extends into the smaller bronchi. The author states that the most frequent complication of lung disease in the larynx consists of paralysis, a statement which is open to question, considering Kidd's estimate that 50 per cent. of all tuberculous patients suffer from a secondary laryngeal infection, though apart from this the statement is correct. In discussing the effects of disturbances of the normal functions of the Eustachian tube due to alterations in the upper air passages Dr Friedrich very truly says that the various views advanced by text-books on the conditions found in disease of the middle ear, whether due to a chronic catarrhal middle-ear inflammation or to middle ear disturbance by obstruction of the Eustachian tube, have never clearly differentiated between these two conditions, and have, in fact, only tended more to confuse matters

The author carefully analyses the various opposing theories regarding the paralysis of the recurrent nerve, and after a very fair and impartial statement thoroughly endorses Semon's theory In discussing secondary infection of the larynx in cases of tuberculosis of the lungs he expresses himself in the following terms 'In view of our clinical and anatomical experience, we recognise infection of the larynx by way of the lymph channel as probably more frequent and reserve infection by contact for those cases which manifest themselves in the form of erosion ulcers ' This definite expression is particularly valuable in view of the tendency to consider infection by contact the more usual mode of infection in this disease.

Dr Friedrich has presented the profession with a work of great interest, the value of which will be acknowledged by all scientific students of medicine The book has lost nothing in the translation, for the language is clear and the translator has freed himself entirely from any tendency to *adhere to German construction.* Dr Friedrich has a wide knowledge of diseases of the nose, throat, and ear besides being a good general physician, and his readers cannot fail to appreciate the close reasoning that he exhibits. His book will, we trust, find its way into the hands of both general physicians and specialists in diseases of the throat, nose, and ear, for they will find much in it which will prove of value and much which is placed in a new light. We may safely say that no one can read the book without deriving a large amount of intellectual pleasure as well as extremely valuable information

LIBRARY TABLE.

The Method of Cuignet or Retinoscopy By E H. LENDON M A. M.D Oxon London Baillière Tindall and Cox. 1902. Two volumes crown quarto Pp 66 in the first volume , 52 in the second volume. Price 10*s* 6*d* —The first of these volumes contains some 66 pages of letter press describing in wearisome detail the well known method of retinoscopy We cannot agree with the author that the theory of the subject is either complicated or difficult. It is fairly well described in most of the text-books on refraction and ophthalmology Sir William Bowman used this method to discover regular astigmatism some 14 years before the publication of Dr Cuignet s paper on Keratoscopie in 1873. It is to Dr Parent s contribution in 1880 that we owe our first true explanation of the phenomenon so that the very title seems open to criticism. We should expect in a work devoted entirely to this subject to find extreme accuracy in the details, but this is far from being the case. The author for instance, says that if a concave mirror is used of 25 centimetres focal length and a lamp is placed 120 centimetres from it, a real inverted image of the lamp is formed at about 30 centimetres distance. It would really be formed at a distance of *more than 31¼ centimetres* The second volume is merely an atlas of 13 diagrams of the familiar principles of retinoscopy their purpose would have *been amply served by two figures incorporated* in the text. With reference to the notation of the angles at which cylinders should be set, Dr Lendon says By far the best way is to have two nasal zeros, as in Fig 13 " The standard notation in which 30° indicates that the right end of the axis is raised 30° from the horizontal is far preferable, for no further specification is then required and it is in complete accordance with the notation that is universally accepted in mathematics. We *have nothing* but praise to give for the printing paper and binding of these somewhat unnecessary volumes

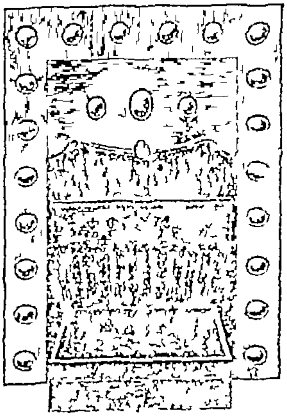
The Key to Sight testing By H. L. TAYLOR and W S. BAXTER. Birmingham J and H. Taylor 1902. Pp. 355. Price 6*s* —This book is written by practical opticians for the use of opticians and not of ophthalmic surgeons. It is divided into three sections, the first dealing cursorily with the Eye as an Optical Instrument, *its physiology and even* with its pathology We fail to see what an optician has to do with ocular affections peculiar to anæmia, diabetes, gout, kidney and brain *disease.* These few affections are taken at random from the 20 diseases dismissed in as many paragraphs. We note, however that syphilis is not mentioned. The book would be more useful to the optician if more information were given about the optics that are daily required by the working spectaclemaker instead of confusing him with using the same symbol (D) to denote the curvature of a lens and its refractive power in dioptres. The second section is on the Testing room and on the recognition of ametropia, heterophoria, and other points which are the special subjects of the ophthalmic surgeon This section describes well the use of the pinhole diaphragm, the stenopaic slit, the ophthalmometer and the case of trial lenses. The method of retinoscopy is shortly but fairly well described, but we must protest against opticians using the ophthalmoscope to recognise optic neuritis optic atrophy choroiditis, and hæmorrhages even if such observations are ' mentioned to the oculist taking the case over ' Five pages are devoted to the use of the perimeter and four and a half to ophthalmoscopy the reader being referred to Haab's Atlas of Ophthalmoscopy for further information. *The third section is on the Workshop and deals with* spectacle-frames and the tools and appliances required for fitting them. This section appears to be good and we note with pleasure the strong recommendation of the standard notation for the determination of the angle at which the axis of a cylinder should be set This is one in which the angles are measured *in both eyes in the counter clockwise* or positive direction from the horizontal meridian.

New Inventions

THE WESTMINSTER ECONOMIC STOVE.

MOST stoves intended to bring about the complete consumption of coal, that is, without the production of smoke, involve alterations in the ordinary domestic heating methods to such an extent as to put them beyond the bounds of practical application. By the arrangement suggested in the Westminster Economic Stove, however *the change does* not require any severe structural alteration. The efficiency of the stove is patent from the fact that by its means even refractory anthracite or coke may be lighted just as quickly as ordinary bituminous coal. In fact, the stove *has been designed* essentially for burning smokeless fuel, although by its construction the formation of smoke from smoky coal is decidedly minimised. A glance at Fig 1 will explain the principle upon which the successful working of the stove *depends. Instead of a fixed*

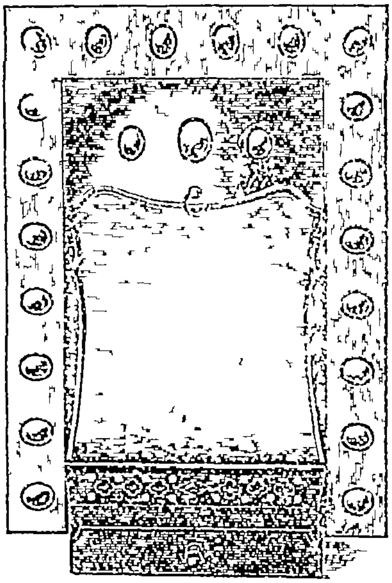
FIG 1



Stove with the fire grate up.

grate a pivoted movable one is adopted, which may be lifted up at a little less than a right angle with the ash-pit at a point quite close to the dome at the top In this position it is obvious that the whole of the air supply must pass through the bars and through the fuel. That is to say, at lighting there can be practically little air passing up the chimney which is not concerned in the combustion of the fuel The result is a powerful draught which soon produces a sort of blow pipe flame which will readily ignite anthracite or coke, while in the case of coal the air is so heated that the combustion is very effective The lighting of the fuel occurs with great rapidity As soon as the active combustion of the fuel is established the grating may be lowered to its ordinary position over the ash tray The stove works with a decided economy and with a minimum production of smoke and soot, as is easily observed from the state of the chimney after the stove has been in use for some time. The appearance of the stove with the fuel alight is shown in Fig 2. Certainly the stove is very powerful in producing radiant heat—a fact which shows that the combustion is active and not sluggish, in spite of which the consumption of fuel is distinctly economical The Westminster Economic Stove is the invention and property of Messrs Bostel and Sons of Ebury-street, London, S W

FIG 2.



Stove after lighting with the fire grate down

Royal Edinburgh Hospital for Sick Children —The forty third annual report of the Royal Edinburgh Hospital for Sick Children states that during the year ending December, 1901, 1616 cases were treated in the wards and 7015 out-patients attended at the dispensary The surgical operations numbered 1434 The financial report shows a large deficiency in the ordinary income, but notwithstanding an increase in the number of patients treated during the year the expenditure has fallen The directors are gratified to notice that there is a growing interest taken in the hospital by Sunday scholars a sum of over £129 having been collected in Sunday schools for the charity

Donations and Bequests —The late Mr W H Loder of High Beeches, Handcross, Sussex, bequeathed £1000 to the Cheyne Hospital for Children for the endowment of a "Winifred Cot" which had been previously maintained by Mr Loder and his wife, and £500 to the Sussex County Hospital.—Under the will of the late Mr H. K. Hebb of Lincoln £500 are bequeathed to Lincoln Hospital and £50 each to the Lincoln General Dispensary, the Mabelthorpe Convalescent Home, and the Royal Bath Hospital at Harrogate The *Hertford Infirmary* benefits by a sum of £200 under the will of Mr A. P MacMullen of Hertford.

THE THAMES CONSERVANCY

The general report of the proceedings of the Conservators of the River Thames for the year 1901 shows that they have carried out an enormous amount of useful work The chief part of the funds at their disposal is spent on the lower river but the amount of money at their command is quite inadequate for the execution of all the work which ought to be done During the last year some unusual expenses had to be incurred in connexion with the Royal Commission on the Port of London It may be hoped that the recommendations given in the Commissioners' report will be so far adopted as to ensure that the Port of London shall not lose all its trade, and it is perfectly obvious that the Conservators of the Thames have never been able to carry out the work they thought necessary because they have always been hampered by want of money Amongst the various duties of the Conservators the purification of the upper river, however, is the only question with which it is incumbent upon us to deal from a sanitary point of view Under the Thames Act of 1894 the powers of the Conservators in regard to river pollution were extended to embrace the whole of the Thames watershed above the western limits of the metropolis In carrying out their duties, as most riparian owners and as all the local sanitary authorities know, the Conservators have been most persistent, but they have never taken legal action unless and until it was quite evident that no attempt was, or was likely to be, made to remove an existing cause of pollution The inspecting staff of the board constantly visit all the centres of population within the area which is under their supervision and the sewage effluents which discharge into the river are frequently analysed During the year 1901 26 towns and villages diverted the pollutions with which they had previously defiled the water, and amongst these places were Cranleigh and Woking, Wendover and Thame, Newbury and Hemel Hempstead At some other towns the requirements of the Conservators have not yet been complied with, and amongst these are Witney, Chipping Norton, Marlborough, Kingsclere Rickmansworth, West Drayton, and Leatherhead , but in most cases steps are being taken to effect improvements In some places nothing was done because difficulties supervened in regard to the acquisition of land for the purpose of sewage disposal. At Amersham, Watlington, and Hungerford the local authorities have at length reached the stage at which "schemes" are proposed. The Aylesbury sewage effluent has been improved During the year legal proceedings against peccant local authorities and individuals have been taken in only 11 cases. In two instances the persons summoned thought it wise at once to comply with the Act and in six other cases they promised to do so In a large number of instances (263 in all) pollution has been diverted from factories, farms, and private houses. The inspection of house boats and launches on the Thames has been regularly carried out with a view to ensure that the sanitary arrangements on board are in a satisfactory condition Considerable improvement has been effected in this respect since attention was first prominently called to the matter in the columns of The Lancet some years ago

There is still an important matter over which the Conservators at present have no control, the absence of which is a distinct flaw in the Conservancy Act of 1894 At any distance greater than three miles from the Thames they have no authority to enable them to prevent the passage of trade refuse into the streams The Conservators suggest in their report that their general powers for preventing these pollutions above the metropolis should extend over the whole of the watershed without limitation. We entirely agree with this recommendation.

The Thames Conservators have constantly carried out their duties with efficiency, with tact, and with economy They have never wasted the money entrusted to them in vexatious litigation No public body possessing sanitary control in this country has ever done anything like so great a work with so little fuss and with such constant care They may safely be entrusted with the increase of power for which they ask , it is indeed evident that the purity of the Thames cannot be effected whilst trade pollutions are permitted to defile the waters of its tributaries

THE LANCET.

LONDON SATURDAY SEPTEMBER 20, 1902

Virchow as Pathologist

IN estimating the influence of VIRCHOW'S work on the evolution of contemporary pathology and in appraising the practical value of his labours in the interpretation of *disease it would be unjust to his genius to enumerate* merely the roll of his positive achievements. His victories lay rather in his fearless exposure of the many false premisses and conceptions which obscured and paralysed the progress of medical knowledge, in redeeming from all suggestion of mysticism our understanding of the essential processes of disease, and in establishing for all time on the firm basis of truth the principles which should guide us in every biological inquiry In organic evolution it is ever interesting to hazard a speculation as to what might have been the ultimate term of any particular series had any one of the factors in the chain of events which produced such a series been different in kind or in degree. What, for instance would have eventuated in the evolution of the animal series had there been no glacial period? or what would have been the ultimate effect on the development of man had some great upheaval of nature destroyed our first vertebrate ancestor without giving him an opportunity of stamping his individuality upon succeeding generations? And in like manner the speculation is not without interest to consider what would have been the trend of evolution in pathology had not VIRCHOW arisen with almost superhuman omniscience to knit together the tangled threads of divergent opinion into a homogeneous fabric of rational medicine? Would progress have advanced along the discordant lines of humoral pathology? would the embittered strife of opposing schools still sap the energy of giants and direct the stream of genius into profitless and barren channels? should we still be seeking for the essence of disease in the Archæus of PARACELSUS? and would the grosser problems of pathology still remain unsolved, tarrying for the unfolding of the secrets of life? However without indulging further in vain speculations as to the possible fate of present-day pathology had not the genius of VIRCHOW indicated the path which leads to the haven of truth we will proceed at once to a consideration of the positive results of his investigations and arguments and of his influence in the determination of the universal theory of disease which to-day is accepted in every quarter of the civilised world

Concisely stated, this theory is that all disease presupposes life and that life is the property of the cell The activities of the cell are the expression of this life, and they are evoked by stimuli of various kinds which reach the cell from without. The activities of cells individually or collectively are called physiological or normal as long as the general equilibrium of the organism is not disturbed They become pathological when they overstep this limit. The conception of the identity in kind of these two vital processes—physiology and pathology—we owe largely to VIRCHOW His discovery that all animal tissues which gave physiological or pathological evidences of life were composed of individual cells which responded to stimulation made it possible to apply this universal law of disease to every organ or structure in the body He proved with the inadequate means at his disposal that bones and cartilage and connective *tissue were anatomically constructed* on the same cellular plan which applied in the case of muscles or secretory glands. He further showed that under the influence of appropriate stimuli each individual cell was capable of dividing and becoming two, and thus he not only explained growth regeneration of tissue and tumour formation but, to use his own words, he was in a position to give utterance to the dictum, *Omnis cellula e cellulâ* and to close the great gap which HARVEY'S Ovistic theory had left in the history of animal organisation. The far reaching applications of this great truth were probably hardly realised by VIRCHOW at the time when he formulated his immortal aphorism and it is possibly *no hyperbole of speech* to say that even to-day its significance to a considerable number of minds is little more than a denial of the possibility of spontaneous generation. The conception of disease as a process and not as an entity is founded on a recognition of the law that cells respond to stimuli by the manifestation and transformation of energy and there is no branch of medicine or pathology which has not been profoundly affected by the application of this general principle. We can recognise in the protean symptoms of syphilis the consequences of cell excitation *due to the circulation* of some intangible poison which we cannot isolate and which we have never seen, but which by the particular application of VIRCHOW'S teaching we know must exist. We can recognise in tuberculosis the effects of constitutional poisoning and the formation of granulations and cells of distinct morphological structure due to the presence of living and organised stimuli which indirectly he *has enabled us to* isolate, recognise, and define. The insistence on the part of VIRCHOW that specific stimuli produced specific results that the character of the pathological *lesions* are dependent on the specificity of the stimuli—that is to say on the qualitative rather than on the quantitative properties of the irritant—brought him into direct antagonism with HUEPPE and his school and exposed him to the satirical eloquence of that philosopher and bacteriologist. The study of the life-history of bacteria as occasional causative agents in the production of disease is a comparatively new albeit a highly fruitful, line of research which in the light of VIRCHOW'S cellular pathology has been opened up and placed upon a rational basis. It is perhaps not too much to say that the development of our knowledge with regard to immunity to the formation of toxins and antitoxins is founded on principles which have been directly evolved from the fundamental conception that the cells in the animal body react mechanically and chemically to foreign stimuli. On no other physiological basis could their significance be intelligible or the part which they play in the determination of disease be logically explained

In 1858, when VIRCHOW published his "Cellular Pathology," the work, for which his memory will be for ever immortal, was in a sense complete, and it is a curious coincidence that another work, which won its author everlasting fame and was also in itself almost a complete system of biology—namely, DARWIN'S "Origin of Species" —was likewise published about the same time. VIRCHOW, like DARWIN, sprang into fame with startling suddenness, both of them commenced their illustrious careers by propounding a unitary theory of life which revolutionised their respective departments of biology, and both of them spent the rest of their lives in substantiating details which, though of individual value and interest, were almost entirely of secondary and subsidiary importance in comparison to the limitless possibilities of the great arguments which were outlined and unfolded in these monumental volumes The record of VIRCHOW'S published writings has probably never been equalled by any other scientific investigator The mere titles of his contributions to pathology, quite apart from other subjects, fill more than 20 pages of SCHWALBE'S closely written bibliography, a volume which was published to commemorate the veteran pathologist's eightieth birthday and which was a complete record of all his published works Among the more important results of these prolific labours must be included his early investigations into the conditions of vascular inflammation and the refutation of the then accepted theory of phlebitis, while our knowledge of embolism owes its origin and a large measure of its further development to his histological and experimental researches. In this connexion it is interesting to note that PAGET, to whom VIRCHOW undoubtedly owed certain inspirations for his "Cellular Pathology," should have noticed the same morbid changes in various forms of embolism which VIRCHOW subsequently described and to which he attached a true pathological significance. He further indicated the difference between leukæmia and pyæmia and paved the way for the brilliant results which have more recently been achieved in the differential diagnosis of kindred conditions by the finer methods of hæmatology We further enjoy the fruits of his labours in a better understanding of the puerperal condition, of animal pigments, of lardaceous disease, of trichiniasis, of syphilis, of leprosy, of cholera, of diphtheria, and of tuberculosis, in fact, there is no branch of pathology which has not benefited by his labours and by his research, and for the most part that famous series of volumes, VIRCHOW'S "Archives," keeps the record. Like other great men, VIRCHOW made his mistakes, but as often as not it was his own hand that led to his own undoing His view that the cells of connective tissue were able to take part in the pathological new growth of epithelial cells was based on erroneous observations and his explanation of the deformities and symptoms in cases of cretinism is founded on a pathology which is peculiarly narrow, while his opinion that the pathology of chlorosis could be explained on anatomical defects in the circulatory system and blood forming organs is clearly at variance with ascertained facts

RUDOLPH VIRCHOW is destined for ever to be remembered as the father of rational pathology and the first initiator of a philosophic system of medicine. Although his conception of disease has in no way elucidated the secrets of life or of protoplastic activities it has nailed the interpretation of the grosser phenomena of disease to the mast of cellular physiology

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The Present Position of Chemical Physiology

IN the lucid and suggestive Presidential Address delivered by Professor W D HALLIBURTON, F R S, before the Physiological Section of the British Association at Belfast, and published on p 787 of this issue of THE LANCET, he points out the important part which chemical and physico chemical investigation has played in physiological and pathological research within recent years and the increasing practical application of the results obtained. He deprecates the tendency of some observers to revive the vitalistic explanation (or so called explanation) of imperfectly understood physiological phenomena and suggests that our knowledge of physical laws cannot be regarded as final and complete—that the apparent failure of these laws to explain some phenomena in living tissues may be due to imperfect knowledge of those laws rather than to the operation of some "vital" force

Professor HALLIBURTON pleads for bold experiment and "bold theorising from experimental data" to stimulate and to suggest further ideas for investigation and further generalisations of scientific and practical interest, and herein lie a danger and a difficulty The danger is in the tendency, unconscious, no doubt, of some theorists to invest the theory with the importance of the experimental facts, the difficulty lies in the peculiar relation of the subject of chemical physiology (or rather of bio chemistry, to adopt the more comprehensive term recently introduced) to the medical practitioner's curriculum, for while a knowledge of certain elementary properties and reactions of the more important substances occurring normally or abnormally in the body or in its excreta is absolutely essential for the rational diagnosis and treatment of disease, and a practical study of such now finds a place in the course of work of every medical student, the majority of the substances are of such complexity, and the problems involved so abstruse, that the knowledge of chemistry and physics necessary for their comprehension is likely to be almost limited to the expert—chemist or physiologist. At the same time, the results obtained are of such fundamental importance and the generalisations deduced of such practical value that while theoretical considerations and the technical details involved in the investigations may well be left to the expert, a knowledge of the generalisations and applications is necessary to the practitioner This practical aspect of the subject is well brought out in Professor HALLIBURTON'S address, for example, he gives a brief review of the work of PAWLOW and the St Petersburg school on the chemical processes of digestion and a very interesting summary of recent work on certain reactions of the blood—namely, its bactericidal, globulicidal, antitoxic, agglutinating, and precipitating properties. PAWLOW has demonstrated that the process of digestion is a continuous one in which the various actions are adjusted to the needs of the organism—e.g the acid gastric juice stimulates the proper discharge of pancreatic juice and the chemical constitution of the juices may vary with the composition of the food to be digested this in addition, or as a corollary, to his well known work on the composition and secretory mechanism of the digestive juices

Another result of recent chemical research has been to bring into harmony various conflicting observations and as in the notable instance of internal secretions to demonstrate the inter dependence of the various organs of the body in respect of their functional activities and further to add to medicine some exceedingly valuable therapeutic compounds. To return to the blood reactions dealt with in the address they are largely the result of a combination of chemical and microscopical methods in research, a branch of the science of comparatively recent development but of widespread utility and the well known staining reactions of the blood corpuscles and other cellular elements of the body afford another example of this depending as they do upon differences in chemical composition brought out by micro-chemical methods. The five reactions obtained with the blood referred to by Professor HALLIBURTON in his address are all of practical importance that of the bactericidal and antitoxic properties in their relation to immunity active or passive is well known and the existence of alexines or *bacteriolysins* and *antitoxins* respectively has been demonstrated and their mode of action to some extent elucidated, since each seems to consist of two substances—an 'immune body and a 'complement." The agglutinative reactions of the blood with various bacteria are now matters of every-day routine in the diagnosis of certain bacterial infections notably typhoid fever The more recently discovered precipitation reaction in blood in which for the first time we have a delicate test for distinguishing between human blood and that of other mammals is probably destined to be of great medico-legal importance, since it is extremely sensitive and is obtained with dried blood or even with human blood mixed with that of other animals. This precipitating substance or *precipitin* is produced in the plasma of any animal by repeated injections of human blood, and is specific for human blood, though a slight reaction is obtained with that of monkeys. Similar *precipitins* can be prepared for the blood of other animals. The globulicidal property of the blood or its power of destroying red corpuscles injected from another animal, though of less direct practical value, has its importance in relation to transfusion of blood. The facts that none of these substances has yet been prepared in a pure state that their known chemical properties are few and that their mutual relations are practically unknown do not constitute a bar to the practical utilisation of the reactions which they produce, but only afford an indication of the necessity for further research

The present position of chemical physiology is in short, in the front rank of the collateral medical sciences and it is not too much to hope, in the words of Professor HALLIBURTON, that in the future not only physiology but also pathology pharmacology and even therapeutics, will receive new accessions to knowledge the importance of which will be enormous.'

Low Temperature Studies

THOSE who have carefully read Professor DEWAR'S Presidential Address to the British Association for the Advancement of Science, the substance of which we published last week, must acknowledge that he has been engaged in a fascinating though very difficult, field of research. The results so far gained however show that after all even when pursued with the utmost patience and skill, the ultimate aim is probably beyond human realisation. Again we have to recognise that finality is beyond our grasp All along the lines of scientific research there seems to be clearly indicated a limitation of human attainment, all that has been unfolded coming in the middle of a quite short scale, so to speak. We are able to discover and to discern only that which lies between narrow limits, all beyond being merely indications, mere shadows of a something which does exist. In regard to extremely low temperatures we are bound to acknowledge, at any rate, in accordance with Lord KELVIN'S clever deductions and experiments the existence of a definite zero of temperature as a fundamental scientific fact. And yet, with all the wonderful perseverance and skill with which as is well known Professor DEWAR has attacked the problem he admits that all efforts to attain a temperature lower than 13° absolute have met with failure and he goes even further and expresses the opinion that it is extremely improbable that the absolute zero will ever be reached by man. This is a somewhat disappointing conclusion in view of the extraordinary number of highly interesting facts which Professor DEWAR in his admirable researches has been able to add to our knowledge of the subject.

It is not too much to say that for all practical purposes. the real history of the subject commenced with Professor DEWAR'S determination to attack the problem Speculations as to the position of the zero had been considerable, as he shows, from the time of BACON to the present, but definite experimental work beyond the use of salt and snow the agents employed by BOYLE and others had not been made until in 1759 Professor BRAUN of Moscow succeeded in solidifying mercury by the use of a mixture of snow and nitric acid. The result was of course looked upon as a wonderful achievement, seeing how strongly rooted was the idea that fluidity was the essential quality of mercury Gradually the conclusion gained ground that whether a given substance was gas, liquid, or solid was a matter of temperature. The so-called permanent gases had however so far not been made to resign their normal physical state and BOYLE in studying the action of cold upon air made the quaint and remarkable observation that cold does not weaken the spring by anything near so considerable as one would expect" AMONTONS in 1702 and LAMBERT in 1779 by ingenious arguments based on the contraction of air under the withdrawal of heat, concluded that it may be inferred that the gaseous condition is caused by heat. What was the limit, then, under which gases would fall to be or in other words, what was the zero of temperature? Theory has given the answer, but practice has not yet enabled us to realise it because of the enormous difficulty—nay, impossibility, according to Professor DEWAR'S dictum—of preparing and preserving frigorific agents The problem, however, is not so much how to produce intensity of cold as how (to use Professor DEWAR'S words) to save it when produced from being *immediately* levelled up by the relatively heated surroundings By adopting vessels having a double wall, the annular space between being very highly exhausted, Professor DEWAR has been able to keep liquefied gases under much greater control Further, the high degree of vacuum necessary for the purpose may be obtained by filling this space with an easily condensable vapour and freezing it out Thus liquid hydrogen collected in such vessels with the annular space full of air immediately solidifies the air and thereby provides itself with a high vacuum. Machines are now made capable of producing liquid air for industrial purposes and liquid air has thus become a cheap commercial commodity Its use has already been advocated in our columns to supersede ether or other volatile liquids as a frigorific agent in surgery According to recent announcements, it is highly probable that the production of liquid air and hydrogen will be effected most economically by the use of machines producing cold by the expenditure of mechanical work.

Though absolute zero never has been reached and, as Professor DEWAR says, probably never will be reached, yet the successful production of excessively low temperatures has yielded results which are of the greatest importance. The cold so far produced has been sufficiently intense to involve the solidification of all known gaseous substances with the exception of helion. Low temperature *research, again*, has deduced that under the influence of intense cold the great majority of, and probably all (if the temperature be sufficiently low), chemical interactions are entirely suspended. And yet, paradoxical as it undoubtedly is, many varieties of micro-organisms *can* be exposed to the temperature of liquid air for a period of six months without any appreciable loss of vitality Seeds, also, steeped for hours in liquid hydrogen—that is, at a temperature within 20° of absolute zero, show a similar persistence of life—their vitality is unaffected, as is shown by the fact that after their immersion in this intensely cold fluid they germinate when sown as actively as seeds that have not undergone such treatment. It is clear that the conception of vitality based upon the maintenance of chemical activity must give way In such a case we appear to be face to face with a third state, as Professor DEWAR says, a new and hitherto unobtained condition of living matter, for at such a low temperature the ordinary chemical processes must cease. Another remarkable biological application of the results of low temperature research has been the freezing of bacteria cells into hard breakable masses from which it has been possible to express the cell plasma. Thus the typhoid organism has been submitted to the process with the result that the cell plasma has been obtained for the purpose of determining its toxic or antitoxic properties. This line of research is calculated to throw fresh light on the nature and treatment of disease Though, therefore, the absolute zero may never be attained, yet the exploration having that object primarily in view has yielded results of the highest value, inasmuch as, amongst other things, it has given us further insight into the nature of vitality and possibly a fresh means of determining the physiology of the specific disease producing organisms

The broad physical question, however,—What is the chemistry of extreme heat and extreme cold?—remains unanswered. It is but another example of our range of observation being limited to within the appreciable, the "ultra" is still beyond and probably will for ever, humanly speaking, remain beyond And it is so with the whole cosmos What is the range of space? What is matter? What are the number and kind of vibrations which set the waves of ether in motion? The human view of these things must necessarily be very narrow But this fact should not deter the work of unravelling some, at any rate, of nature's secrets so far as it is humanly possible to do so Even within these narrow limits there is an infinity of truths to bring to light. If the goal is not reached the reward is great, as Professor DEWAR'S researches on the attainment of low temperature abundantly show, and we may surely take heart that thus far we may (and should) go albeit no further The pendulum inevitably swings back.

Annotations.

"Ne quid nimis"

FUNERAL OF PROFESSOR VIRCHOW

IN our issue of Sept. 13th we briefly alluded to the funeral of Professor Virchow, which took place on Sept. 9th, and we now supply some additional details On Sept. 8th the body lay in state in the great hall of the Rathhaus, which had been draped in black for the occasion and everywhere displayed mourning emblems, the banners of the city and of the university being placed on either side of the catafalque and students with drawn rapiers forming a guard. At the funeral the Government was represented by the Minister of Education accompanied by the entire staff of his department, the Minister of Finance, the Minister of the Interior, and the Imperial Secretary of State for Foreign Affairs The Imperial Chancellor also sent a representative. The members of the Royal Academy of Science and of the university were present "*in corpore*" and delegates from the great majority of the German universities were among the company, together with many officers of the Army Medical Corps, in which Professor Virchow had served at the outset of his medical career The municipal council attended on behalf of the city and the presence of deputations from political and other societies testified to the active part which the deceased had taken in the public life of his country and to the reality of his political influence Large as the assemblage was, the number fell short of what it would have been but for the circumstances that the university vacations had already commenced, that Parliament was not in session, and that many public bodies were having their annual adjournment, moreover, the shortness of the interval between Professor Virchow's death and his funeral prevented not a few of his friends from paying him the last tribute of respect. The spacious town hall was, however, overcrowded, so that many of those who were invited had to remain outside, being unable to gain admission. The ceremony commenced with singing by the cathedral choir after which the Rev Mr Kirms preached a sermon. Professor Waldeyer then delivered an address in the name of the university the Academy of Science and other scientific institutions. Addresses were also delivered by Herr Träger on behalf of the political party with which the deceased had been connected and by the chief burgomaster on behalf of the city The funeral procession then started on its way headed by numerous associations political and other with their banners while the representatives of the Government and of the learned societies and corporations walked behind the coffin, together with the members of the municipality The procession which was over a mile in length, in its progress through the streets on the way to the cemetery of St. Matthew was everywhere received with signs of public sympathy and tokens of the esteem in which the deceased was held by his fellow-citizens

FISH AS FOOD

THE fact that fish is an important article *of diet is one* which will be universally admitted, but it is not generally realised that the British people make so little use of the opportunities which nature has provided for them in the rich supplies which are to be found off the coast. Some statistical tables[1] which are published by the Board of Trade give a good deal of information, and although in their present form they are of little interest to those who have not a general idea of the way in which the fishing industry is carried on, they very clearly show that a large quantity of the fish caught is sent abroad, instead of being used in this country and those who buy fish will be struck at the great difference in the price which is paid to those who catch it and the price which has to be paid to the fishmonger The total value of the fish caught and landed in the United Kingdom during the year 1901 was over £9 000 000 Haddock and herrings produced £2,237,196 and £2,028,781 respectively A little over a halfpenny a pound only was received for herrings (0 62d.) and three halfpence a pound was received for haddocks. Whether considered from the point of view of quantity or of money value these two fishes are the most important of those caught off our coasts. It is to be feared nevertheless that a small proportion only of the poor of the country have been able to obtain either of these in an appetising form at a low price. It is usually said that the poor are not fond of and will not eat, fish. This is a very old idea. It was stated in a series of articles written on the fishing industry more than 50 years ago It is said to-day It is perfectly true that the poor of London are not partial to fish which they have to cook for themselves. If any unprejudiced observer possessing a keen sense of smell will walk down the streets in which fish is exposed for sale on barrows he will not be surprised that this is the case. It is by no means true that the poor who live in fishing towns and villages object to fish It forms the most important part of the nitrogenous food which they take. The partiality for fish extends also amongst the people as far inland as the supply of fresh caught fish is obtainable at a moderate price. There are, of course, many parts of the country which by the nature of things cannot be so cheaply or so well supplied as the places near to the sea. For this reason it is a matter of national importance that the curing and preserving of fish should be well carried out. In this matter there is room for much improvement. To those acquainted with the common haddock of London it is only necessary to recall its iridescent appearance and ammoniacal odour Many of these fishes are in a state of partial decomposition when they are cured and the methods adopted are neither wholesome nor cleanly The local sanitary authorities are often disinclined to interfere with the arrangements of fish-curers sometimes perhaps, because they look upon their industry as the mainstay of the place, sometimes, doubtless because things have been so carried on time out of mind and what was good enough for their fathers ought, as they say to be good enough for them, for they are a conservative people. THE LANCET has had occasion to call attention to cases in which obvious sanitary rules were disregarded in the process of curing We wish that the authorities in fishing centres would realise that it is to their true interest as well as their duty to carry out the law in regard to nuisances If the fish-curers were more careful to ensure a good and uniform quality in their output they would enormously increase their trade and their profit. It is because fish preserved in this country is of such uncertain quality that the fashion of relying so much on foreign produce has become so very general and that sardines are so highly esteemed. *It is said that the English sprat tinned* in this country is now transported to France that it may be duly labeled and consigned to England for the benefit of those who eat sardines and practise ' economy at the same time. Good bloaters and kippers are superior in all respects to the cheaper sorts of sardines,' but at the present time they are not readily obtainable although nearly 2,000 000 barrels of herrings were exported last year chiefly to Germany

THE USE OF CHLOROFORM IN PARTURITION

WE publish in our correspondence columns a thoughtful letter from Dr T W Parkinson dealing with the use of chloroform in labour It is probable that Dr Parkinson has exaggerated somewhat in saying that the use of chloroform is at the present time much restricted in obstetric practice but none the less we commend his judicious remarks to the notice of junior practitioners. All medical students, in London at all events, now have to receive instruction in the use of anæsthetics, including chloroform, and we doubt not that among the cases which they have to conduct there would be no difficulty in including those attended in the maternity departments of the hospitals The objections to the use of chloroform have been of two kinds (1) the sentimental now happily set to rest by the more healthy tone of religious feeling and (2) the practical Dr Parkinson discusses these and we are in harmony with his contentions. It cannot be too *strongly insisted upon* that the administration of chloroform in labour differs in many particulars from that required for surgical operations hence the importance which Dr Parkinson rightly attaches to the need of giving students an opportunity of learning the special requirements of a woman in normal labour The gravamen against chloroform is we are sure not its use but its injudicious and ignorant employment. In most stages of labour chloroform should be given as an analgesic, not as a means of inducing full narcosis and the degree of narcosis required is the lesson to be learnt by the practitioner before he can obtain satisfactory results. The commission appointed by the Royal Medical and Chirurgical Society which presented its report in 1864 dealt with the assumed increased danger of post partum hæmorrhage and of peril to the child and its finding was that no such danger arose. This, we believe, is also the experience of all who have used chloroform largely in maternity hospitals. With regard to the supposed failure of tonus of the uterus and abdominal muscles in cases in which chloroform is employed the following points are worthy of notice. The influence of chloroform upon muscular tissue is not, according to most experimental results, very marked and is certainly far more delayed in the case of the musculature of viscera and the internal organs than in that of the skeletal muscles. Further, it is a well-known fact among surgeons that the abdominal muscles are among the last "to give" under chloroform In abdominal sections a most profound narcosis is required before complete relaxation of these muscles can be obtained—a far more profound narcosis than is ever needed for women in childbirth When these facts are borne in mind it is hard to understand why any experienced accoucheur should hesitate to spare the patient the pangs of labour It is quite probable that the casual way in which chloroform is given in many cases of parturition by nurses or persons quite uninstructed, or even by the patient herself, has caused the dread of ill consequences Chloroform so given may cause ill effects, and fatalities even have arisen, but it is quite unfair to attach the blame of such accidents to the use of chloroform.

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[1] Statistical Tables and Memorandum relating to the Sea Fisheries of the United Kingdom in the year 1901, including also a Return showing the Quantity of Fish carried by Railway from each of the Principal Ports of England and Wales, Scotland and Ireland in each year from 1898 to 1901 inclusive.

ECTROMELUS

THE interesting case of ectromelus reported by Dr John McGibbon, which appears on page 811 of this issue, is not so very uncommon. Dr Gould and Dr Pyle in their "Anomalies and Curiosities of Medicine" give a number of instances, together with some curious illustrations A celebrated case of ectromelus, and one not mentioned by Dr Gould and Dr Pyle, was that of Matthew Buchinger He was a native of Nürnberg in Germany and was born on June 2nd, 1674 His upper extremities, to judge by his portrait, were somewhat longer than those of the child whose portrait we reproduce He is said to have been very accomplished, being able to play various musical instruments, including the flute. He could also write and draw coats of arms which were executed in Indian ink with a pen. He could moreover juggle and shave himself He was married four times and had 11 children and his total height was 29 inches He died in 1722. Possibly, however, the most remarkable example of this condition was the late Arthur Kavanagh, M P, a review of whose biography appeared in THE LANCET of March 14th, 1891, p 608 He suffered an intra uterine amputation of both legs and arms just below their upper third, and when little more than a boy he could write, draw, ride and drive, shoot, and fish He became a very fair amateur draughtsman and wrote legibly As to the use of this condition in fiction it will be sufficient to remind our readers of the recently published novel, "Sir Richard Calmady"

THE PROSTITUTION OF THE POST-OFFICE

WE received this week from a correspondent to whom it was sent a pamphlet describing and illustrating the use of a certain remedy prepared by a chemical manufacturing company in the United States of America. It has coloured illustrations of a young woman, more or less dressed in a frilled nightdress, with the remedy being applied to various portions of her body Our correspondent wants to know if it is decent that such illustrations should be dropped into the waste-paper basket of an ordinary household. He considers that some steps should be taken to lessen the burden of actual work entailed upon medical men in England by having to tear up the various advertising pamphlets which they get from St. Louis and elsewhere in the United States before casting them into a waste paper basket. We have upon many previous occasions referred to abominable advertisements issued on a post-card which can be read by anybody and everybody and containing flaming details about disorders of menstruation and other sexual complaints, and we cordially sympathise with our correspondent. It is perfectly disgraceful that the post-office should make itself the medium for the dissemination of abominations such as we have referred to and for the still more disgusting effusions sent out by the *soi disant* Dr Bell, the Reverend David Jones, the Reverend John Wilson, and other swindlers and quacks A new Postmaster-General has recently been appointed and we earnestly beg of him to introduce some method of stopping the dissemination of filth. It is useless to say that the post-office officials have not time! They have plenty of time to inspect envelopes containing invitation cards and to surcharge them as being in the nature of a letter, and if they can do this they can certainly stop "Dr" Bell and the other blackguards whom we have mentioned We are glad to see that our contemporary *Truth* refers to the matter in the current issue, but both *Truth* and ourselves have been trying for so long to get either the police or the post-office to interfere in the matter that we begin to despair of any remedy

THE DISTRIBUTION OF PLAGUE

A TELEGRAM from the Governor of Mauritius received at the Colonial Office on Sept. 12th states that for the week ending Sept. 11th there were 3 cases of plague with one death As regards Egypt the weekly return issued by the Director General of the Sanitary Department states that from August 25th to the 31st there was but 1 new case which occurred at Alexandria The number of deaths was 3 and 3 cases remained under treatment. With regard to sanitary measures there were 10,474 rooms disinfected and 398 limewashed. 247 sacks of effects were disinfected and 2137 sacks of rubbish were burned The number of rats killed and burned was 242 As regards Hong Kong, a telegram from the Governor, received at the Colonial Office on Sept. 16th, states that for the week ending Sept. 13th there was 1 case of bubonic plague.

THE AGAPEMONITES

THE recent occurrences at the headquarters of the almost forgotten sect of the Agapemonites lead us to remark that in nothing is the definition of insanity—viz., that it is a condition out of harmony with the environment—more justified than in the victims of religious enthusiasm and fanaticism. On the face of it Mr Pigott, who claims to be the Messiah, is either fraudulently deceiving his followers or else he is suffering from a delusion or from that form of religious exaltation which cannot be distinguished from it Now it is a peculiar fact that all historical accounts are clear about the admixture of the sexual element with ecstatic religious exaggerations, and the very name and the past revelations concerning the "Agapemonites" harmonise with the perverted cant, the spurious religious demonstration, and the sexuality which are so familiar to those conversant with the epileptic wards of asylums. In the desire for publicity, in their personal disregard of criticism and even of injury or violence at the hands of those who dissent from them, these fanatical upholders of morbid Christianity carry on their incoherent ravings with the same fervour as the Anabaptist dupes of John of Leyden and the befooled believers of Joanna Southcote It is very probably true that the action of some of the newspapers and of a section of the public in making these persons notorious is just what they desire and that the best way of treating them is to ignore them severely, but there is still a danger to society in the toleration of these enthusiasts, for of all people they are just those who recruit their ranks from the large number of hysterical and neurotic folk who are only too ready to fasten on to any cult of the moment which excites their impulsive organisations In Germany such a pretender would share the fate of the Faith Healers" and be promptly suppressed but the forcible extinction of any sect, however absurd, would in this country lead to indignant protest and to a rapid increase in the number of adherents to the persecuted cause, so easily is the insanity of sanity brought into evidence. In the present instance as in the past, we can but indicate the medical man as being the only means by which Mr Pigott and his co-delusionists can be properly dealt with A thorough medical examination by experts in the investigation of mental obliquity would probably result in the transference of impostors of this class to the seclusion of an asylum where their vagaries could only be carried on under restricted conditions. To deal with them as seriously deserving of logical treatment is as impossible as is the attempt to argue a general paralytic out of his fool s paradise

MASSAGE AND ' MASSAGE

IN that much perused romance of the last publishing season 'Kim" its author Mr Rudyard Kipling gives an elaborate description of the cure of the said Kim when suffering from general malaise, induced it would appear by prolonged fatigue, mental and bodily The Sahiba, in whose hands he was a half-comatose and wholly unresisting patient, began the treatment with what seem to have been very drastic emetics— drenches that smelt pestilently and tasted worse. She stood over Kim till they went down and inquired exhaustively after they had come up. Then, when the body was cleared she called in a sister practitioner— a cousin s widow skilled in what Europeans, who know nothing about it, call massage. Thereupon, the two of them, laying him east and west that the mysterious earth currents which thrill the clay of our bodies, might help and not hinder took him to pieces all one long afternoon—bone by bone, muscle by muscle ligament by ligament, nerve by nerve. Kneaded to irresponsible pulp half hypnotised by the perpetual flick and readjustment of the uneasy chudders that veiled their eyes, Kim slid 10 000 miles into slumber—36 hours of it—sleep that soaked like rain after drought. On emerging from this, the Sahiba fed him on fowls, vegetables, spices, milk, and onion, with little fish from the brook—anon, limes for sherbets, quails of the pit, then chicken livers upon a skewer with sliced ginger between. As the result of this massage (which Europeans know nothing about), followed by the strangely-compounded meal (of which they are equally ignorant) Kim,' we are assured, sat up and smiled. The terrible weakness had dropped from him like an old shoe." He had it is right to say youth on his side"—such an allowance of it, in fact, as enabled him to survive first the massage" and then the meal." What, indeed but youth and a general resisting power as abnormal as the treatment can explain the fact that, already semi-comatose with histolytic waste in the system, he could yet find room in his circulation and excretive energy in his kidneys for the accumulation of still further waste contributed by a kneading process, uninterrupted for a long afternoon, and practised by two sinewy hags who did not leave off till every tissue in his body was reduced to pulp?" Kim s services to British rule in India were, Mr Kipling tells us, of signal value The bequest of his body to the museum of the Calcutta Medical College, in the remote contingency of his death would be of no less value to pathological science. But, persiflage apart, Mr Kipling s claim for the superiority of Hindoo massage, as practised by the Sahiba, over the European massage, as performed by an expert under duly qualified medical advice, is but another instance of the loose talk in which even clever men indulge on subjects outside their competence. Massage, in fact, since its revival by Dr Mezger of Amsterdam in 1853, has come to be employed in medicine only in a well defined class of cases—employed moreover by persons specially qualified and certified and acting under the direction of the physician or surgeon in attendance. In the training of such persons the Swedish schools—notably Stockholm and Upsala—have, greatly to their honour taken a lead, granting a diploma to aspiring 'masseurs and masseuses only after thorough examination. So practised and medically controlled massage is an important adjunct to treatment, steadily if slowly living down professional disfavour and misgiving due to such disastrous products as the mas age kidney"[1] and other such lesions which we hope Hindoos as well as ' Europeans will ere long know nothing about."

PTOMAINE POISONING

CASES of ptomaine poisoning have occurred in several places in addition to those which were mentioned in THE LANCET of Sept. 13th, p 756 and in each instance the source can be traced to pork pies purchased from the same pork butcher at Derby Six persons were seized at Sheffield, of whom one has since died. Several people were also attacked at Uttoxeter, one case proving fatal A family of seven persons at Walthamstow were taken ill after having partaken of a pie sent from Derby and at Cheltenham a number of persons were reported ill from a similar cause. Dr Sheridan Delépine has presented his report to the Sanitary Committee of the Derby Corporation on the samples of pork pie entrusted to him. He had succeeded in isolating a bacillus belonging to the colon group which he considered had produced the symptoms observed. The full report has not yet been published, but we understand that Dr Delépine is of opinion that the meat or the jelly, or both, used in the pies became infected in the course of preparation, whilst the flour, lard and seasoning of the pies were not contaminated. He further shows that animals inoculated with the bacillus have died and the same variety of bacillus has been isolated from the blood of those animals. If these statements have been correctly reported, the present outbreak cannot accurately be termed one of 'ptomaine" poisoning The symptoms were caused apparently by the toxins eliminated by the colon bacillus, and their pathology would materially differ from previous outbreaks which have been due to alkaloids formed by decomposition of organic substances due to putrefactive organisms

EXTRANEOUS DEPOSITS IN URINE

STRANGE errors occasionally are made in determining the nature and source of urinary deposits. Quite recently we received a communication from a correspondent who stated that he had been attending a patient suffering from subacu e muscular rheumatism and who had been taking a teaspoonful of sulphur in milk every night. The urine was slightly turbid and deposited amorphous sulphur Our correspondent had eliminated the usual sources of accidental contamination such as cleanliness of the collecting vessel and purposeful addition and asked for information as to whether sulphur could be eliminated by the kidney in a solid form. In a subsequent letter however he stated that he had questioned his patient more closely and he found that she had been in the habit of using a dusting powder containing sulphur for local irritation. A similar ca e was also brought to our notice in which a specimen of urine was sent for examination under the supposition that it contained amyloid corpuscles," bodies which somewhat resemble starch granules in appearance owing to their concentric variations. They occur in the semen and hence the practitioner who sent the sample thought that they might occasionally find their way into the urine. In this case also, questioning the patient showed that the source of the deposit was a powder containing starch In another instance, in which a urine contained a sediment of "uncertain character," microscopic examination revealed the presence of the threads of leptothrix buccalis together with fragments of meat and vegetable fibres, thus plainly indicating that the deposit originally came from the mouth Patients occasionally add substances to the urine for purposes of deception, but the above cases show how important it is not only to make sure that the collecting and examining vessels are perfectly clean, but that in doubtful cases the patients themselves should be carefully questioned as to possible sources of error Other extraneous matters also lead to mistakes and we have seen a fragment of pine wood from the floor mistaken for an epithelial cast, moreover, particles of silk, cotton, or linen fibres frequently puzzle students who are not conversant with their nature

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[1] THE LANCET Oct. 2nd 1897 p. 878.

SNAKE-BITE AND SNAKE-LORE

THE subject of snake bite may occasionally engage the individual practitioner in a moorland country side where, especially in the summer and autumn, cases are not unknown of infants dying from collapse after being bitten by vipers We have recently been informed that the "infallible remedy" used by "Brusher" Mills, the well known New Forest snake catcher, for the bite of the adder or viper is the fat of the creature itself melted, bottled, and applied a drop at a time to the wound The cure, he asserts, is an affair of two minutes Mills has, of course, had immense experience with snakes, having in his day killed or taken more than 4000 venomous and 27,000 harmless specimens He has, in fact, practically devastated his own field of operations round Lyndhurst. His belief in his remedy is shared by Wiltshire and Hampshire rustics and is doubtless universal in the country districts of England. The question is whether this treatment is merely a survival of the old savage homœopathy which ordains a hair of the dog that bit you as a cure for the bite, or whether it is a rude form of serum therapy Vipers are exceedingly quarrelsome from the moment they break the egg and unless immune against venom would long ago have ceased to exist as a distinct species Hence their fat may be a kind of antitoxin. Of course, all fatty and oily substances are useful against poisons, which they doubtless absorb and isolate. The old fashioned "London viper catchers," mentioned by White of Selborne and others always employed hot olive oil as a cure or treatment for snake bite, and this with ammonia continues to be recommended We read ot the oil cure in works on natural history but find no mention of the peasants' use of fat. How came it to be used in the first instance? Probably in accordance with the savage theory that fat, blood, sputum and so forth, contain the life principle or "soul" of men and animals and are therefore a cure for any lesion. Fat was anciently used to frighten away serpents from gardens and houses The "suet of deer strewed up and down where they [adders] come will cause them to depart," says Agrippa of Nettesheim, whose ideas, despite his scepticism, were often those of the tribal medicine man. Bacon fat, mixed with the brains of a weazel, is recommended by him to scare away rats and mice. Drugs and charms obtained from snakes are, of course, very ancient The witches in *Macbeth* make a baleful viper-broth, but the same mixture was also a medicine and cure for many diseases. The sloughs of snakes had also singular uses. The sixteenth century Jérôme Cardan is quoted in an old chap-book as saying, "If any do sprinkle his head with the powder of a skin that a snake doth cast off, gotten or gathered when the moon is in the full, being also in the first part of Aries the Ram, he shall see terrible and fearful dreams And if he shall have it under the sole of his foot he shall be acceptable before magistrates and princes"

SCOTTISH POOR-LAW MEDICAL OFFICERS

SOME little time ago Mr Galloway Weir, M.P, asked for a return of those Scottish Poor law medical officers who had been dismissed by their parish councils The report is now published and shows "the number of medical officers dismissed by parish councils in each crofting county during each of the seven years 1895–1901, name of the parish council, and the cases in which a cause of dismissal was assigned." We publish this return with pleasure It will serve to show intending applicants for Scottish Poor law appointments which parishes should be avoided It will be remembered that English and Irish Poor law medical officers have a right of appeal to their respective Local Government Boards but the Scottish Poor law medical officer has none

County and parish	Number of medical officers dismissed	Date	Whether cause for dismissal was assigned
Argyll—			
Kilfinichen	1	1897	No
Caithness—			
Halkirk	1	1896	No
Inverness—			
Ardorsier	1	1902	Yes
Barra	1	1898	No
Croy	1	1902	Yes
Patty	1	1902	Yes
S Uist ..	1	1898	Yes
Orkney and Shetland—			
Eday	1	1899	Yes
Evie	1	1898	No
Rousay	1	1900	No
Stronsay	1	1898	Yes
Ross shire—			
Kincardine	1	1896	No
Uig	1	1899	No
Sutherland—			
Durness	1	1898	No
Kildonan	1	1899	No
Loth	1	1899	No

GENERAL PARALYSIS AND ITS TREATMENT BY THE MIXED METHOD

M DEVAY of Lyon published in *Le Progrès Medical* of August 23rd a communication regarding the treatment of general paralysis of the insane by the "mixed intensive" method of mercury and the iodides, a method allied to the treatment with benzoate of mercury published by Professor Lemoine and to which reference was recently made in these columns[1] He has treated in all 90 cases and gives the results obtained in 21 cases, the latter consisting of patients the course of whose illness was watched for some length of time The results obtained by M Devay are summed up by him under the headings of amelioration, remission, and morbification of the symptoms of general paralysis, and on the whole the issues were favourable Although accepting the theory of the "parasyphilitic" nature of the disease he does not regard the prognosis as altogether hopeless but thinks that patients should be submitted to treatment as early as possible. The treatment consists of injection of calomel into the muscular tissues daily for a week the single dose being one centigramme (one sixth of a grain) per injection. Potassium iodide in doses of from 10 to 15 grammes (from 150 to 225 grains) is also given daily by the mouth. Treatment is continued until improvement begins to appear

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[1] THE LANCET Sept. 6th 1902, p 690 annotation On the 'Intensive" Mercurial Treatment of General Paralysis and Tabes Dorsalis

THE PHENOMENA ATTENDING STATES OF CEREBRAL COMPRESSION

IN an important paper published in the September number of the *American Journal of the Medical Sciences* and dealing with the subject of cerebral compression and its attendant symptoms as observed both experimentally and clinically Dr Harvey Cushing of the Johns Hopkins University attempts to correlate the symptoms with the nature of the lesion and to explain the mode in which death may result in severe cases. The pressure exerted by a foreign body such as a neoplasm or a blood-clot is mainly local and is partly transmitted irregularly to distant parts of the encephalon. In cases of increase of cerebro-spinal fluid as in acute hydrocephalus, generalised meningitis, and hæmorrhage into the subdural spaces at the base of the brain, there is a general increase of intracranial pressure. By making a trephine hole in the skull and fitting it with a glass plate the condition of the cerebral convolutions as regards their blood vessels and capillaries can be easily observed under varying degrees of induced intracranial pressure. The pressure on the brain in these experiments is exerted by a bag of indiarubber filled with mercury and inserted into the subdural space through a second trephine hole near or remote, varying conditions of pressure being obtained by connecting the bag with a tube attached to a pressure-bottle of mercury which can be elevated or lowered by a pulley This method, first used by Francois Frank and later by Horsley and Spencer is one that allows of all degrees and gradations of pressure being used. On watching the convolutions through the glass "window" Dr Cushing noticed the following results. First, when the pressure was slight a distinct dilatation was produced in the pial veins of the exposed convolutions. Secondly as the pressure was increased the venous dilatation increased further and at this stage ophthalmoscopic examination showed dilated veins in the optic papilla (stauungspapilla). Thirdly when the compression was further increased so that it equalled the capillary blood pressure or slightly surpassed it the convolutions lost their rosy colour and became blanched while the veins remained dilated as before and filled with dark blood Such a condition of the cortical substance, says Dr Cushing may account for the apathy or stupor which is associated with marked increase of intracranial pressure such as may arise from a subdural hæmorrhage and for the associated "stauungspapilla" which von Graefe was the first to explain correctly On producing pressure by a pressure flask charged with warm normal saline solution and connected below with the subdural space the three grades of pressure appearances produced in the convolutions as before mentioned could be reproduced In both kinds of experiments, however stimulation of the circulatory and vaso-motor centre followed, and after a short interval, the carotid blood pressure rose, the capillaries were forced open by the incoming blood, and the circulation was restored in the convolutions. Dr Cushing points out that the reflex mechanism which thus operated *vid* the vaso-motor centre was a compensatory one which permitted the circulation to be restored in the brain after temporary arrest had been produced by increase of intracranial pressure. It was also noticed that whereas the cardiac centre in the medulla oblongata held out longest the respiratory centre soon succumbed and grew paralysed if there was any considerable increase of pressure. Hence in cases of death from such pressure as produced both experimentally and clinically, arrest of respiration preceded that of the heart, a fact previously noted by Horsley and Macewen. Indeed Dr Cushing records a case of a man who had sustained a severe cerebral injury with hæmorrhage and great pressure upon the medulla and in whom the respiration ceased entirely Artificial respiration was constantly maintained for 23 hours, *during the whole of which time the heart continued to beat feebly* but the respiration was never restored. Dr Cushing also points out from his experiments (mainly on dogs) and from clinical observations that the failure of the respiratory centre is marked by an early stage of slow and shallow breathing and by an intermediate stage of the Cheyne-Stokes type before it becomes totally arrested, these conditions being therefore valuable prognostic signs.

SKIMMED MILK AND MORTALITY AMONG CHILDREN IN FRANCE.

FOR some time it has been observed that mortality among infants and children resulting from unsuitable or insufficient nutrition is far more prevalent in the north than in the south of France. Dr Girard and Dr Bordas have published a map on infant mortality giving the proportion of deaths due to athrepsia and gastro-enteritis. Of every 100 deaths among children 69 are attributed to these causes at Troyes, 63 at Rennes, 49 at Boulogne-sur Mer 62 at Amiens 56 at Lille and only 36 at Paris. Then going south of the Loire the proportion falls at once to for instance 31 per cent. at Toulouse, 12 per cent. at Béziers, and 6 per cent. only at Clermont. What seems at first sight a strange paradox is the fact that it is precisely in those provinces where there are the richest pasture lands and the most abundant supply of excellent milk that the children die from starvation. The reason is, however very simple. These provinces have a large home and export trade in butter and all the milk is skimmed to make butter In the south where there is no such trade the children are able to obtain some milk that has not been skimmed hence the startling difference in the death rates. In the great towns also though there are many other causes tending to produce athrepsia, still the milk supply is more strictly controlled by the local authorities and is therefore of a better quality than that which is obtained in the butter producing countries. In Normandy and Brittany notably the authorities seem afraid to interfere with the great local industry by insisting that skimmed milk shall not be retailed to the public as pure milk. According to the law milk should be sold in bottles with labels stating whether the milk is pure, slightly skimmed, or very much skimmed. Of course, it is impossible in practice to enforce such distinctions and indeed, this rule has done much harm, for under the cover of a label skimmed and perhaps adulterated milk has been sold which certainly was not fit for consumption under any pretext whatsoever The stress of poverty creates a strong temptation to buy the cheaper skimmed milk and thus the children are starved. Skimmed milk and flour or bread are boiled together and sometimes a spoonful of coffee or even of alcohol is added to it and very young children or infants are fed on this The nutritive part of the milk is exported abroad as Normandy or Brittany butter It is the skimmed milk that aids in "the manufacture of angels" which is the most lucrative phase of the baby farmer's business The peasant proprietor also is so eager to make the utmost profit possible that he cannot resist removing the cream from his milk even though he has young calves and pigs to feed. But he is careful to add to his skimmed milk some maize potatoes, and other substitutes for the cream before he gives this milk to his cattle He is not always so careful in regard to the children. All these abominations cry aloud for a more strict supervision and widely read papers like the *Matin* are now taking up this grievance. Statistics abundantly prove the great excess of athrepsia in those parts of the country where it is the custom to skim all the milk. Measures must be taken so that, in spite of the butter trade, children and infants may be able to obtain milk that has not been deprived of its nutritive qualities

THE PROGNOSIS OF PLEURISY WITH SEROUS EFFUSION

IT is now generally admitted that most cases of pleurisy with serous effusion are of tuberculous origin. Hence the question arises, What is the ultimate prognosis of cases of serous pleurisy? In *American Medicine* of June 7th Dr Richard C Cabot has published an important paper on the subject He has investigated the sequels of 152 cases of serous pleurisy in which there was no evidence of tuberculosis in the lungs or other organs Cases of dry pleurisy and of empyema were excluded He draws the following conclusions 1. 80 per cent. of the patients whose history was followed for five years or more were in good health (In more than half of these the history was followed for 10 years or more) 2. 90 per cent. of the patients were in good health from two to five years after the attack—that is, the pleurisy was not immediately connected with any other affection. 3 15 per cent developed tuberculosis of lung or bone, but in only 3 per cent. did the tuberculosis manifest itself within two years of the pleurisy 4 The type of tuberculosis which occurred was usually mild and the course was slow In half of the 23 patients who developed obvious tuberculosis death did not occur until five years after the pleurisy 5 In two cases a very rapid form of tuberculosis developed many years after the pleurisy (nine years and 16 years respectively) 6 Only one-fourth of those persons who remained in perfect health five years or more after the pleurisy had a family or personal history of tuberculosis, while of those who became tuberculous two-thirds had such history Hence the importance of the history in the prognosis 7 Recurrence of the pleurisy after recovery occurred in 3 per cent. of the cases Re accumulation of the fluid immediately after tapping was rare Dr Cabot made no attempt to ascertain in what proportion of his whole group of cases the pleurisy was tuberculous. His figures show that whether pleurisy is tuberculous or not the prognosis is good provided there is no family history of tuberculosis, that when the pleurisy is tuberculous the tuberculosis is of a mild form from which recovery usually takes place, and that even when the lungs are attacked later the type of the disease usually is mild.

THE ROYAL VICTORIA HOSPITAL, NETLEY

ATTENTION having of late been directed to the shortcomings of the large and imposing looking hospital at Netley we are led to offer some remarks on the subject. The present site was selected and the designs for the hospital and Army Medical School were prepared at the time of the Crimean war and there can be but little doubt that the choice of the position was influenced by the fact that it was close to, and easily accessible from, Osborne. Her late Majesty always manifested a keen interest in her soldiers, especially in those of them who happened to be sick and wounded, as Her Majesty's frequent visits to Netley showed. The hospital must therefore be regarded as an old one and it was erected at a time of transition when the present acknowledged principles of sanitary construction were not established or even generally recognised as they now are. It consists of a large undivided hospital building designed on the corridor instead of on the pavilion principle It may suffice to state that while the glass corridors occupy the sea front the wards, which are, of course, the essential part of a hospital, are at the back and have a northern aspect and are consequently deprived of sunshine In addition to this and to the deterioration consequent upon age and occupation the building has numerous structural defects and inconveniences in other respects so that as a hospital it is much below the standard of modern sanitary requirements The desirability of having an army medical college in London is also no new idea, but, as may be readily understood, it was a very difficult one to get carried out Now that this has been, or is being, done, however, it becomes a question as to how the Netley Hospital and institution as a whole can be best dealt with and utilised. Pending the settlement of this matter it may be well supposed that the Government cannot, for financial and other reasons, take any step The projected scheme for a new military hospital about to be erected on an open and admirable site near Portsmouth was not undertaken, we believe, with any view to the relief of Netley, but in order to provide an efficient substitute for the old military hospital at Landport at present used for the accommodation of the sick of the Portsmouth garrison As regards London, the site at Millbank is a large and open one and well suited, we should imagine, for the erection of a military hospital or medical staff college, or for any other similar purpose.

THE Senator Dr Enrico Bottini, professor of operative surgery in the Paduan School, is making a good recovery from the paralytic seizure described in THE LANCET of last week. From Freiburg-Breisgau, whither he was removed, we learn that he is slowly but steadily regaining motor and sensory power in the affected side, while his speech has returned and his mind has lost none of its clearness Accompanied by two of his colleagues in the University, Professor De Tora and Professor Carli, he has made the journey successfully to his villa, "Il Riposo," at San Remo, on the Ligurian Riviera.

THE winter course of post-graduate clinical demonstrations given at the Westminster Hospital will be held at the hospital on Tuesdays, commencing Oct. 7th and finishing Dec 9th The fee for the course is one guinea, but holders of the conjoint post-graduate ticket are admitted free Practitioners desirous of joining the course are requested to communicate with either of the honorary secretaries, Dr J Purves Stewart, 7, Harley-street, W , or Mr William Turner, 53, Queen Anne street, W Particulars of the meetings week by week will be found in our Diary

THE annual dinner of the old and present students of the Faculty of Medicine of University College, London, will be held at the Hotel Cecil, Victoria Embankment, on Wednesday, Oct. 1st, at 6 30 for 7 P M Mr Rushton Parker, professor of surgery in University College, Liverpool, will occupy the chair

CENTENARIANS —Mrs Betsy Moore died at Bishop's Teignton, Devonshire, on Sept. 14th, at the age of 102. She was born near Salcombe on Nov 22nd, 1800, and had lived all her life in Devonshire She was married 80 years ago and had had nine children, the eldest of whom is 77 —Mrs. Kirby of Preston, who is 103 years of age, went for a drive through the town in a carriage on Sept. 4th for the purpose of seeing the decorations displayed in connexion with the Guild Merchant celebrations The greater portion of her life has been spent not in Preston but in Elswick.

IMPUDENT QUACKS AND THE NAME OF *THE LANCET*

SOME time since we received a courteous letter from Dr W Irving honorary secretary of the Canterbury Section of the New Zealand Branch of the British Medical Association, forwarding to us a copy of an advertisement which is being circulated in New Zealand and which is attached to each bottle of the "Lancet Influenza Cure.'" We append below a reproduction of a portion of the cardboard case containing the bottle (Fig 1) and also the circular sent to us by our correspondent (Fig 2). It will be noticed that, although figures of a lancet and of a stethoscope are printed above, the type and general appearance would lead readers to infer that the quack "remedy" in question had the sanction and recommendation of this journal, especially when taken in conjunction with the words, "introduced and prescribed by Sir William Broadbent, &c. &c. &c" who of course, has not in any way sanctioned the use of his name. We thereupon wrote to our representative in New Zealand, requesting him to put himself in communication with the firm whose name was stamped upon the circulars. This he accordingly did and received the following replies —

KEMPTHORNE PROSSER AND CO'S
N Z DRUG CO LTD.

Wellington, N.Z. July 30th, 1902.

DEAR SIR,—In further reference to your letter of the 14th inst. concerning a preparation called "Lancet" Influenza Cure, we have been informed by our Head Office in Dunedin that a preparation so called has *been put up by our Christchurch House.*

Our Head Office is now taking this matter up and we hope in a few days to be able to send you advice, which we trust will be perfectly satisfactory to yourself and also to your London friends.

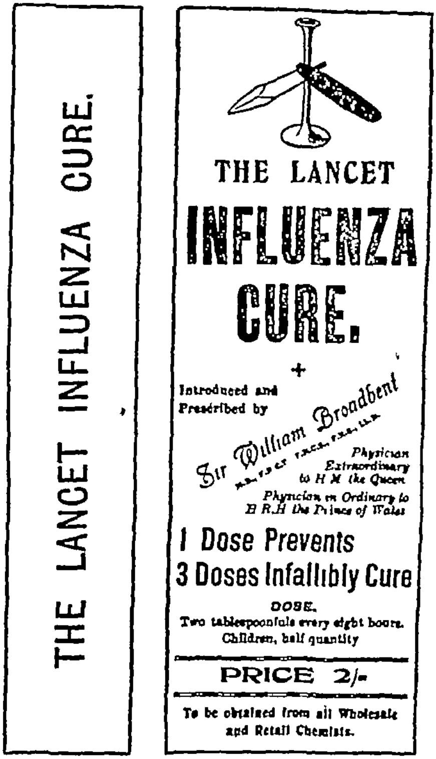
In the meantime,

We beg to remain, dear Sir
Yours truly
Kempthorne, Prosser and Co s
New Zealand Drug Company Limited
(Signed) ROBERT B WOOD Manager

Wellington, N.Z., August 4th 1902.

DEAR SIR,—Confirming our communication of the 30th ulto. concerning your letter respecting a preparation called the "Lancet Influenza Cure," and our intimation that the line is put up by our Christchurch House, we beg to state that we are now in receipt from our Head Office of further advice in this connection Our Head Office desires us to point out that the term "Lancet" refers to the Instrument The term is registered and the registration is accompanied by a sketch of the instrument as a trade mark. We might

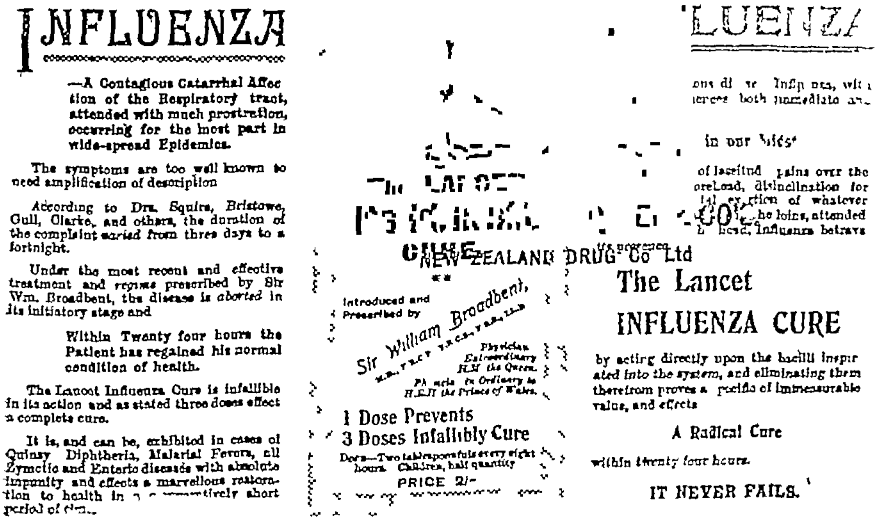
FIG 1



THE LANCET INFLUENZA CURE.

THE LANCET
INFLUENZA
CURE.
+
Introduced and
Prescribed by
Sir William Broadbent
Physician
Extraordinary
to H M the Queen
Physician in Ordinary to
H R.H the Prince of Wales
1 Dose Prevents
3 Doses Infallibly Cure
DOSE.
Two tablespoonfuls every eight hours.
Children, half quantity
PRICE 2/-
To be obtained from all Wholesale
and Retail Chemists.

FIG 2.



INFLUENZA

—A Contagious Catarrhal Affection of the Respiratory tract, attended with much prostration, occurring for the most part in wide-spread Epidemics.

The symptoms are too well known to need amplification of description

According to Drs. Squire, *Bristowe*, Gull, Clarke, and others, the duration of the complaint *varied* from three days to a fortnight.

Under the most recent and effective treatment and *regime* prescribed by Sir Wm. Broadbent, the disease is *aborted* in its initiatory stage and

Within Twenty four hours the Patient has regained his normal condition of health.

The Lancet Influenza Cure is infallible in its action and as stated three doses effect a complete cure.

It is, and can be, exhibited in cases of Quinsy Diphtheria, Malarial Fevers, all Zymotic and Enteric diseases with absolute impunity and effects a marvellous restoration to health in [illegible] short period of [illegible]

The LANCET
CURE

NEW ZEALAND DRUG Co Ltd

Introduced and
Prescribed by
Sir William Broadbent,
Physician
Extraordinary
H.M the Queen.
Ph icia in Ordinary to
H.R.H the Prince of Wales.
1 Dose Prevents
3 Doses Infallibly Cure
Dose—Two tablespoonfuls every eight hours. Children, half quantity
PRICE 2/-

LUENZA

[illegible] Influenza, [illegible] both immediate [illegible]

in our [illegible]

of lassitude pains over the forehead, disinclination for [illegible] exertion of whatever [illegible] the loins, attended [illegible] head, Influenza betrays

The Lancet
INFLUENZA CURE

by acting directly upon the bacilli inspirated *into the system*, and eliminating them therefrom proves a specific of immeasurable value, and effects

A Radical Cure

within *twenty four hours.*

IT NEVER FAILS.

state that in the advertisement also appears a diagram of the instrument You will understand therefore that the term Lancet" has no connexion whatever with the London journal of which you are the representative in the colony and we trust that you will take the earliest opportunity of advising the proprietors to this effect

We are, dear sir, yours truly
Kempthorne Prosser and Co s
New Zealand Drug Company, Limited
(Signed) ROBERT E WOOD Manager

It will be noticed that Messrs Kempthorne, Prosser, and Co have, as we anticipated, shielded themselves under the sketch of the instrument which they have artfully inserted in the advertisement What sort of connexion there is to be assumed between a lancet as depicted in the illustration and the treatment of influenza is difficult to imagine—the stethoscope might perhaps be of service but is not alluded to in the title of the "Influenza Cure", indeed, its introduction would foil the real intention which we have no hesitation in saying is to pass off the quack "medicine" under a guarantee, as it were, of the title of this paper Messrs Kempthorne, Prosser, and Co have made a most unwarrantable use—or rather abuse—of the name of THE LANCET If any similar attempt were made in this country we should at once proceed to set in motion the power of the law, and we have no doubt whatever that we should promptly be enabled to stop such a scandalous use of our title, but it is obviously difficult for us to take timely and effective proceedings in the very distant colony of New Zealand. Of this, of course, the drug vendors are aware.

Sir William Broadbent has been so good as to send us a copy of his correspondence with Messrs Kempthorne, Prosser, and Co, which is as follows —

Dunedin 24th July, 1902.

KEMPTHORNE, PROSSER & CO'S
NEW ZEALAND DRUG COMPANY LIMITED,
Dunedin, Wellington Christchurch Auckland
Cable Address: Cremation.

Sir William H. Broadbent,
84 Brook street
Grosvenor square, London

SIR—We have the honour to acknowledge your letter of 27th May last, as under —

To Messrs Kempthorne, Prosser & Co

"SIRS—I call upon you to desist at once from using an advertisement of a so-called influenza cure in which my name appears The use of my name in connexion with this cure is a fraud upon the public and a gross insult to me

Yours truly
(Sgd) W H BROADBENT"

The same morning that we received your letter we also received another letter from Dr W Irving Canterbury section of the B M A (N Z Branch) dated July 17th in reference to the same matter We know nothing whatever of the circumstance here at the head office but at once wrote Dr Irving as duplicate letter herewith and also to our branches making inquiries in respect to this matter and we now very much regret to find that our Christchurch Branch had been selling the article referred to the Lancet Influenza Cure" bearing Sir W H Broadbent s name

We sincerely regret this circumstance and now fully apologise to you for having used your name without authority

We enclose you duplicate of correspondence with Dr W Irving in which you will see the matter fully explained and that we have given instructions to promptly stop the using of your name and to at once destroy any printed matter which we may have in possession bearing your name The manager of our branch who set this thing in motion is now out of our service and the only explanation the present manager can give is that he copied this prescription from The Lancet However that is a matter of no moment whether it was copied or whether it was not we had clearly no right in any way to use your name and we again apologise for this unwarrantable liberty

Sir we are yours truly
Kempthorne Prossor & Co s
New Zealand Drug Company Limited
THOMAS M KEMPTHORNE,
Managing Director

It will be noticed that "the manager of our branch who set this thing in motion is now out of our service, and the only explanation the present manager can give is *that he copied this prescription from The Lancet*" Nothing more is needed to show the real intention of the quacks whose action we consider to be fraudulent as well as dishonourable.

THE NEW SANATORIUM, WEYMOUTH—The new sanatorium at Weymouth, of which the Dowager Duchess of Beaufort laid the foundation stone in the early part of last year, is now completed The buildings, which will form one of the finest charitable institutions in the South of England, have been erected at a cost of about £20,000.

UNIVERSITY OF LONDON FACULTY OF MEDICINE

INTENDING students of medicine, or their parents on their behalf, will naturally seek for information as to the extent to which the reconstitution of the University of London has modified the conditions of education and examination in the Faculty of Medicine In the Students' Number of THE LANCET (August 30th, 1902, p 576) there are set out extracts from the official regulations relating to the degrees in medicine which are issued by the University The careful reader of these extracts, comparing them with those published in the Students' Number last year, will find practically no change, except as regards the matriculation examination, the revised regulations for which are fully set out below If he has also been a careful reader of the medical press during the long period of agitation that preceded the reconstitution of the University, the fact that so little change has been made will cause him some surprise if not disappointment. Further consideration will perhaps indicate that slow progress in effecting changes was from the nature of the case to be expected and will in the end prove advantageous. In an essentially conservative country like England it is inevitable, in order that sufficient energy should be generated to effect a reform, especially a reform in connexion with education, that the evils to be removed and the benefits to be anticipated should be loudly proclaimed by those promoting legislation It is also necessary for the promoters of legislation to take advantage of any added power that may be gained by associating in the movement reformers who do not entirely appreciate that the particular change they desire will not be directly brought about by the legislation proposed. A want of appreciation of these facts is leading to a good deal of discontent and to a certain amount of misdirected energy amongst medical teachers in the University A careful examination of the position of affairs will enable an estimate to be made of the prospect of carrying out in due course wise reforms in medical education now that a complete teaching university is established In the first place, it must be admitted that for all practical purposes, so far as the Faculty of Medicine was concerned, the unreformed University of London was a teaching university All candidates for degrees in medicine were required before presenting themselves for examinations subsequently to the preliminary scientific examination to produce certificates of instruction in recognised medical schools Such medical schools were in fact though not in name, constituent colleges of the University and by means of such of their teachers as happened to be members of the Senate or university examiners these schools exercised a considerable, though indirect, influence both upon the curriculum and the examinations It is undoubtedly due to these facts that the degrees in medicine alone, of all the degrees of the London University, were held in high esteem by the community at large as well as by graduates of other universities, and that the Faculty of Medicine, although without definite constitution, was the recognised chief power in the University Thus it came to pass that the teachers of medicine in London, though suffering less disabilities than the teachers of any other subject and having less to gain by the change, were nevertheless the chief actors in the long struggle which led to legislation two years ago To maintain the interest of the teachers in this wearisome contest against the strong party who resisted all reform it became necessary constantly to call attention to the grievances of the student of medicine who desired to obtain a degree in London Whatever was not perfect in medical education in the metropolitan schools was attributed to the faulty constitution of the University To strengthen the desire for reform imperfections were sought for and made much of, whilst their removal was confidently predicted by the reconstitution of the University, regardless of the fact that many of them were of collegiate and not of university origin The complaint that has been constantly made in the medical press for the last 15 years or more that the education in the schools was not coördinated with the examinations of the University, and that consequently students of average ability could not reasonably expect to obtain medical degrees in London, was undoubtedly necessary to provide the motive for reform. At the same time the publicity given to this statement has tended to lessen the entries of medical students in London and has thereby limited the finances of the schools and prevented them from maintaining their pre-eminence. Whether the reconstitution of the university will speedily effect the improvements in medical education that are anticipated depends upon the appreciation of the fact that so far as the Faculty of Medicine is concerned the step already taken is an exceedingly small one and in itself accomplishes very little. The schools of the University in all other faculties have by the reconstitution of the University been immediately placed in the position already occupied by the schools in the Faculty of Medicine. To the teachers in the schools of science, arts and literature it may be enough to rest from their labours and allow natural development to take its own course. For the teachers of medicine to rest content with what has been already effected would be the surest way for them to lose the pre-eminent position which has naturally belonged to the metropolitan medical schools in the past but which has in recent years been seriously challenged by some of the provincial schools.

In the following paragraphs an attempt has been made to forecast the future work of the Faculty of Medicine and to estimate the fitness of the powers with which it has been entrusted to carry out such work thoroughly and speedily

THE FACULTY OF MEDICINE ITS COMPOSITION AND POWERS.

As originally constituted by the statutory Commissioners the Faculty of Medicine was composed of 150 members, consisting of the senior professional staff of the hospitals and the chief lecturers in the medical schools. One of the first acts of the Faculty was to draw the attention of the Senate to the fact that the selection of recognised teachers to be members of the Faculty which had been made by the Commissioners left much to be desired, and to request the Senate to admit to the faculty (1) every person recognised as a teacher of one of the subjects of ‘ advanced medical studies” (2) every person recognised or provisionally recognised as a teacher of one of the subjects of intermediate medical studies” and (3) at least one recognised or provisionally recognised, teacher in each subject of preliminary medical studies from each school of the University in the Faculty of Medicine.

The Senate acceded to this request and as a result the Faculty as now constituted consists of about 350 recognised teachers of the various subjects of the medical curriculum. It is probably the largest body of medical teachers that has ever been officially constituted as a permanent committee to deal with questions of medical education. It contains men of world wide reputation in connexion with nearly every subject of the medical curriculum and comprises representatives not only of every medical school but of the chief special hospitals in London. In addition to the powers delegated to this large body of men under the statutes of the University it will undoubtedly possess great influence over the constituent medical schools, over the medical profession and when necessary over the general public. Upon the success of the Faculty in influencing the general public depends perhaps in greatest measure its power of improving medical education. Not only in London, but throughout the United Kingdom, the one most serious bar to the perfection of medical education is the complete indifference of the public to the fact that it is any concern of theirs. This indifference is due to a want of knowledge as to the needs of medical education It is a primary duty of the Faculty of Medicine to make these needs known Medical education, like every other form of higher education, requires endowment. It cannot be efficiently carried on without it. Endowment must be provided either by the State or by private munificence. On the continent of Europe endowment is provided by the State where the education of each medical student costs his country between £20 and £50 per annum. In America assistance to medical education has in recent years been provided by the princely benefactions of private donors To a certain very moderate extent the example of America has been followed by some of the provincial towns in the United Kingdom. In London medical education is entirely unendowed. The newly-constituted Faculty of Medicine of the University of London must see that its University is amply endowed and that a due proportion of its endowment is devoted to the furtherance of medical education. The public has become so accustomed to impose upon the medical profession the task of giving free service to the sick poor that it sees no injustice in demanding that the medical staff of the great hospitals shall also bear the burden of carrying on the education of medical students without endowment. It must be pointed out to the public that the burden is becoming intolerable, and there is no body of men to whom the public will be more disposed to give a sympathetic hearing than the physicians and surgeons who constitute the main portion of the Faculty

The association together for the purpose of promoting medical education of representative teachers from each of the medical schools of the University should have the most salutary effect upon the schools themselves. The almost internecine struggle between the metropolitan schools of medicine should now cease As constituent colleges of a great University the former rivalry of the schools must give place to concerted action in an endeavour to coördinate for the benefit of all students the unrivalled facilities for clinical investigation afforded by the greatest city of the world Already there are encouraging signs that the University will break down the barriers between opposing schools and help them to appreciate that the prosperity of all is bound up with the prosperity of each. Working hand in hand, supplying each other's deficiencies, some specially developing their teaching in one direction some in another and all granting facilities to each other's pupils these great hospitals in London may yet form a coherent centre of teaching worthy of their past records. With regard to this coördination and cohesion of the schools the Faculty of Medicine should exert great influence.

Another indirect effect that may be anticipated from the influence of the Faculty of Medicine is a diminution of the importance attached to examination in the scheme of education. It is perhaps an exaggeration to say as some have done, that we are within measurable distance of regarding examinations with the respect paid to them by the Chinese, but few will deny that examination holds too high a place in general estimation. In no class of education is this more so than in medicine. It is inevitable that examiners should be selected from those who have formerly distinguished themselves as teachers and that Senates and other supreme educational boards should consist chiefly of those who are actively engaged as examiners rather than as teachers. The Faculty of Medicine is the only body in the University interested in medical education which contains a majority of teachers as opposed to examiners and these teachers must make their power felt if the reconstituted University is to be a teaching university in fact as well as in name. Much of the above work the Faculty must achieve by indirect influence rather than by means of reports and recommendations officially presented to the Senate. In this more limited sphere there are, however many important problems awaiting solution or only partially solved, and they will be briefly alluded to under separate headings.

ADMISSION TO THE UNIVERSITY MATRICULATION

The inadequate endowment of higher education in the United Kingdom and the rapid multiplication of universities are likely in the near future to give rise to serious problems Inadequately endowed educational establishments can only manage to avoid bankruptcy by attracting large bodies of students large classes being obviously more economically taught than moderate-sized ones. So long as the bait used to attract students is the renown of the professors and the high reputation of the degrees of the university the competition for students has only a good influence upon education. For an inadequately endowed university the temptation may arise to endeavour to attract students by requiring a low standard of preliminary education from those seeking admission to its colleges and by granting its degrees on easy terms. Such methods of competition amongst universities cannot fail to have the most disastrous effect upon education. There is some reason to believe that their operation may be already noticed in the case of certain universities so far as their medical degrees are concerned. They are more likely to take effect in the Faculty of Medicine than in any other faculty because degrees in medicine have a definite commercial value inasmuch as they admit their holders to the Medical Register and confer certain rights of professional practice When so many important towns in the United Kingdom are clamouring for university charters it is well that this problem should be carefully considered The Government should be prepared adequately to endow every local university to which it grants a charter or at least should previously satisfy itself that adequate endowment is forthcoming from private munificence. Failing this desirable way of placing universities beyond the temptation to compete unwisely for students, medical education might be saved from the evil effects of such competition by the establishment of a single State examination for admission to the Register. Meanwhile, one of the first duties of the reconstituted University of London has been to determine the conditions under which it would admit undergraduates within its gates. On all hands it was agreed that there should be no lowering of the standard of preliminary education required of students seeking admission. It was decided that as in the past a matriculation examination conducted by the University itself should be imposed upon all candidates except those already possessing degrees in certain selected universities. The nature of this examination has, however, been the subject of prolonged controversy. The regulations for the examination as finally approved are printed below. In deciding upon the subjects and scope of the examination the Senate had the advantage of the assistance of a special advisory board containing such valued representatives of secondary education as the headmasters of several public schools, and the scheme finally adopted differs but little from that originally drafted by this body. It may therefore be confidently hoped that the new matriculation examination will be more acceptable to public schoolmasters than was its predecessor. The Faculty of Medicine, when asked by the Senate to report upon the question of the matriculation examination, laid stress upon the fact that the old style of examination was so out of line with the education in the ordinary schools that many boys of more than average ability were obliged to leave the best public schools and to be privately coached before submitting themselves for the test. The Faculty, therefore, reported "that no scheme of matriculation will be satisfactory which does not provide a wide choice of subjects for examination so as to meet the requirements of candidates whether from the classical or modern side of secondary schools." Such a wide choice is now provided, and although there is a fear expressed by some lest intending students of medicine should make an unwise choice there can be no doubt that a judicious widening of the gate of the University will have a good influence upon education. Single handed no university can alter the course of study pursued in our secondary schools, and the efforts of the old London University in this direction have had but the smallest effect upon preliminary education, while they have led to the exclusion from the University of many very desirable students whose school work had not been conducted upon the exact lines laid down by the Senate. The Faculty of Medicine may congratulate itself that it has taken an active part in removing what has for years been regarded as one of the chief obstacles to a reasonably accessible degree for London medical students. At the same time those who have regarded the old matriculation examination as the "goal of secondary education and the gate of the University" may derive some satisfaction from the knowledge that the Senate is taking active steps in coöperation with other universities to establish "school leaving" examinations. A well considered joint scheme of "school leaving" examinations conducted by several universities should be a very valuable means of coördinating and systematising secondary education throughout the country.

PRELIMINARY AND INTERMEDIATE MEDICAL STUDIES

"*The Senate shall use its best endeavours, whenever practicable, to secure common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres.*"

These are the words of one of the clauses of the new statutes of the University and it is no exaggeration to say that so far as medical education in London is concerned the Senate has no more important task to perform than the satisfactory solution of the problem thus entrusted to it. The statutory Commissioners frankly stated that they considered the need of concentration of preliminary and intermediate medical education to be clearly established and that they would have preferred to have themselves framed statutes for at once effecting it. To have done so would too long have delayed the publication of the statutes and they therefore "empowered and recommended the Senate to proceed as soon as may be in the desired direction." One of the first acts of the Faculty of Medicine was to elect three members to represent it on the Senate. The choice of these senators was in great measure determined by the wish of the Faculty that its representatives should be prepared to impress upon the Senate the desirability of carrying out the recommendation of the Commissioners with regard to concentration. Little time was lost in calling attention to the statute relating to this subject and in moving the senate to refer the matter to the Faculty of Medicine. The Faculty conferred with the medical schools and found, as the Commissioners had stated, that there was no consensus of opinion in regard to the mode in which concentration should be carried out. Nevertheless, a committee of the Faculty was able to draft a report containing a specific recommendation that the first step should be taken by establishing in the near neighbourhood of the University a school of anatomy, physiology, biology, and chemistry under conditions which so far commended themselves to the Faculty that the report was adopted without dissent for presentation to the Senate. This first stage in the proceedings was reached in December, 1901. Since that time the Senate and the Faculty have been in conference upon the provision to be made in the proposed school and it is probable that early next session an appeal will be made to the public for funds for its establishment. Should the response be sufficient to enable the University to carry out the wishes of the Faculty there will be established in London an institute of medical sciences second to none in the United Kingdom, and one to which the metropolitan hospitals will be able with confidence to entrust the preliminary training of their students. Such opposition as still exists to "concentration" depends on a fear lest in the two or three centres to be established the teaching of anatomy and physiology should be less well done than it is at present in the 12 competing schools. The report of the Faculty on the accommodation and staff of the proposed institute should do away with any fears of this kind and enable the teachers in the schools to feel that they cannot more certainly promote the welfare of their students than by helping the University to secure the funds to build and to endow the institute. For not only will the accommodation and facilities for study in the new institute surpass those at present provided in the medical schools, but, relieved of the necessity of teaching these earlier subjects, the schools will be enabled to develop the teaching of the clinical period.

ADVANCED MEDICAL STUDIES

"*The Senate may make arrangements with the Royal College of Physicians of London and the Royal College of Surgeons of England, or either of them, to conduct jointly with the Senate examinations in such portions of the subjects included in the course of study for a medical degree as may be agreed upon between the Senate and these Colleges, or either of them.*"

Last year we called attention to this permissive clause in the statutes and urged that advantage should be taken of it as soon as possible. It is satisfactory that the question is now under consideration by all three bodies concerned. If some feasible method of diminishing the number of examinations for the London student of medicine who desires to obtain both the university degree and the college diplomas can be arranged it will be of great assistance to the authorities of the schools. The constant interruption of systematic study caused by numerous examinations is a great stumbling block to education. During the five years' medical curriculum a student without once being referred may under existing conditions present himself for 14 separate examinations in order to obtain the conjoint diploma and the university degrees.

It is hardly necessary to indicate the improvements that will be made in the clinical period of study in the schools of the London University when they are freed from the burden of the earlier subjects of education and their students' course of learning is less interrupted by preparation for a multitude of examinations. The laboratories of physiology and chemistry will be devoted to experimental and clinical pathology, to bacteriology, and to pathological chemistry. By coöperation with the special hospitals, and possibly also with the workhouse infirmaries, the course of clinical instruction may be amplified and made more illustrative of the vast material available amongst the 5,000,000 inhabitants of the metropolis. With well equipped clinical laboratories and with wards filled with cases selected with due regard to educational needs there is no doubt that the high standard of teaching for which the London medical schools have been noted will be maintained and enhanced by their closer association with what is destined to become one of the greatest of modern universities.

The new regulations for the Matriculation Examination did not reach us in time to be inserted in our Students Number of August 30th They are now printed below

NEW REGULATIONS FOR THE MATRICULATION EXAMINATION

The following indicates the general scope of the new Matriculation Examination for all students. The first examination under the new regulations commenced on Sept. 15th. An examination under the old regulations will be held in January 1903, and under both sets of regulations in June, 1903. Candidates shall not be approved by the examiners unless they have shown a competent knowledge in each of the following subjects, according to the details specified under the several heads —1. English. One paper of three hours 2. Elementary mathematics. Two papers of three hours each 3 Latin, or elementary mechanics or elementary physics (heat, light, and sound) or elementary chemistry or elementary botany One paper of three hours in each subject. 4 Two of the following subjects neither of which has already been taken under (3) One paper of three hours in each subject If Latin be not taken, one of the other subjects selected must be another language from the list, either ancient or modern —

Latin.
Greek.
French
German.
*Arabic.
*Sanskrit
*Spanish.
*Portuguese.
*Italian.
*Hebrew
History Ancient or Modern.
Logic.
Physical and General Geography

Geometrical and Mechanical Drawing
Mathematics (more advanced)
Elementary Mechanics.
Elementary Chemistry
Elementary Physics —
(*a*) Heat, Light and Sound, or
(*b*) Electricity and Magnetism.
Elementary Biology —
(*a*) Botany or
*(*b*) Zoology

* Candidates for examination in these subjects must give at least two months' notice

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8233 births and 4683 deaths were registered during the week ending Sept. 13th. The annual rate of mortality in these towns, which had been 15 2 and 15 9 per 1000 in the two preceding weeks, further rose to 16 4 per 1000 last week. In London the death rate was 16 8 per 1000 while it averaged 16 2 in the 75 other large towns. The lowest death rates in these towns were 6 9 in King's Norton and in Halifax, 7 2 in Burton upon Trent, 7 6 in Hornsey, 8 5 in Handsworth, 8 9 in Leicester and 9 2 in Smethwick and in Blackburn the highest rates were 21 8 in Middlesbrough 22 5 in Preston, 23 0 in St. Helens, 23 9 in Liverpool and in Warrington 25 0 in Tynemouth, 25 5 in Portsmouth, and 26 6 in Merthyr Tydfil. The 4683 deaths in these towns last week included 1062 which were referred to the principal infectious diseases, against 638, 743, and 895 in the three preceding weeks of these 1062 deaths 704 resulted from diarrhoea, 107 from whooping-cough 85 from measles, 63 from diphtheria, 54 from fever (principally enteric) 45 from scarlet fever and four from small pox. No death from any of these diseases was registered last week in Burton upon Trent, King's Norton, Rochdale, or South Shields, while they caused the highest death rates in West Ham, Portsmouth Birkenhead, Wigan, St. Helens, Preston and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Newcastle-upon Tyne and Bristol from diphtheria in Portsmouth and Wigan from whooping-cough in Hanley from "fever" in Ipswich, and from diarrhoea in Bootle, Merthyr Tydfil, Willesden, Plymouth, Preston, Birkenhead, St. Helens, and Portsmouth. Scarlet fever did not show a marked excess in any of the towns. Two fatal cases of small pox were registered in London and two in West Ham but not one in any other of the 76 large towns. The number of small pox cases under treatment in the Metropolitan Asylums hospitals, which had been 128, 109 and 95 at the end of the three preceding weeks further declined to 71 at the end of last week seven new cases were admitted during the week, against 18 11, and 12 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2623, 2651 and 2713 on the three preceding Saturdays, declined again to 2669 on Saturday Sept. 13th, 311 new cases were admitted during the week, against 296, 295, and 333 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 136, 139 and 123 in the three preceding weeks rose again last week to 134 but were four below the corrected average number The causes of 46 or 1 0 per cent. of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Portsmouth Bristol Bolton, Salford, Bradford, Leeds, Sheffield, Newcastle-upon Tyne, Cardiff and in 47 other smaller towns the largest proportions of uncertified deaths were registered in Smethwick Blackburn Preston, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had been 14 4 14 0 and 13 9 per 1000 in the three preceding weeks, rose again to 14 8 per 1000 during the week ending Sept 13th and was 1 6 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 6 6 in Leith, 12 5 in Perth, and 12 9 in Greenock, to 14 5 in Edinburgh 16 1 in Glasgow and 16 7 in Paisley The 479 deaths in these towns included 21 which resulted from diarrhoea, eight from scarlet fever seven from measles and from whooping-cough, five from diphtheria, and four from fever In all, 52 deaths were referred to the principal infectious diseases last week, against 52, 45, and 54 in the three preceding weeks. These 52 deaths were equal to an annual rate of 1 6 per 1000 which was 2 1 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhoea, which had been 22, 14 and 31 in the three preceding weeks, declined to 21 last week, of which 11 occurred in Glasgow and four in Dundee. The deaths from whooping cough, which had been 17 and eight in the two preceding weeks, further declined to seven and included four in Glasgow The fatal cases of measles, which had been five, four and six in the three preceding weeks, rose to seven last week, of which three were registered in Edinburgh and two in Glasgow The deaths from fever which had been four and six in the two preceding weeks, declined again to four last week, and included three in Glasgow and one in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 68, 54 and 61 in the three preceding weeks, further rose last week to 82, and were slightly in excess of the number recorded in the corresponding period of last year. The causes of four or nearly 1 per cent. of the deaths registered in these eight towns were not certified.

HEALTH OF DUBLIN

The death rate in Dublin which had been 20 6 and 22 7 per 1000 in the two preceding weeks, again declined to 19 1 per 1000 during the week ending Sept. 13th. During the past four weeks the death rate has averaged 20 5 per 1000 the rates during the same period being 16 0 in London and 13 9 in Edinburgh The 139 deaths of persons belonging to Dublin registered during the week under notice included 38 which were referred to the principal infectious diseases, against 24 and 28 in the two preceding weeks, of these 19 resulted from diarrhoea, 6 from measles three from fever and two from diphtheria, but not one from small pox, scarlet fever or whooping cough. These 30 deaths were equal to an annual rate of 4 1 per 1000 the death-rates last week from the same diseases being 4 1 in London and 1 8 in Edinburgh. The fatal cases of measles, which had been 16 11, and 10 in the three preceding weeks, further declined last week to six. The deaths from diarrhoea, which had been three, seven, and 10 in the three preceding weeks, further rose to 19 last week. The mortality from both diphtheria and fever was the same as that recorded in the preceding week. The 139 deaths in Dublin included 48 of children under one year of age and

26 of persons aged upwards of 60 years, the deaths of infants considerably exceeded the number in the preceding week, while those of elderly persons showed a slight decrease. Six inquest cases and four deaths from violence were registered, and 42, or nearly one third, of the deaths occurred in public institutions The causes of seven, or 5 per cent, of the deaths registered in Dublin were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified —Fleet Surgeon E J Biden to the *President* for recruiting duties and medical department, temporary Surgeons P T Sutcliffe to Gibraltar Hospital, J S Dudding to the *Hibernia* for the *Maine*, G Taylor to the *Antelope*, G R MacMahon and Ramsey M Richards to the *Vivid*, Albert X. Lavertine to the *Lizard*, and Edwin S Miller to the *Impregnable*

ROYAL ARMY MEDICAL CORPS.

Major S C Philson proceeds to the South Eastern District for duty Captain F S Brereton will shortly embark for service in India. Major J H. E Austin embarks for Singapore for service in the Straits Settlements Lieutenant-Colonel J R. Dodd proceeds to the Woolwich District pending embarkation for service abroad Lieutenant-Colonel G Coutts is appointed Staff Officer to the Principal Medical Officer, Second Army Corps Lieutenant-Colonel D L Irvine embarks for service in India. Captain G S Mansfield is ordered to proceed to the Home District for duty with the Grenadier Guards, in succession to Major J H. E Austin. Major S Hickson is appointed to the medical charge of the Hospital for Soldiers' Wives and Children at Devonport and Lieutenant-Colonel R. J Fayle, D S O, is selected for duty in the Western District.

Lieutenant-Colonel William H. Allen retires on retired pay Dated Sept 17th, 1902

ARMY MEDICAL RESERVE OF OFFICERS

Surgeon Major G R. Gilruth having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers Dated Sept 17th, 1902.

Surgeon Captain F W Grant to be Surgeon Major Dated Sept 17th, 1902.

MENTIONED IN DESPATCHES

The *London Gazette* of Sept. 12th publishes a series of despatches relating to the Lango Expedition against the Soudanese mutineers in which the "greatest credit" is given to 'Dr Bagshawe for having, under the most adverse circumstances, successfully battled with the outbreak of small pox which unfortunately broke out and so greatly hampered the movements of the force" Major C Delmé-Radcliffe, the officer commanding the Lango Field Force, referring to Dr Bagshawe, says 'I cannot speak too highly of this gentleman or of the manner in which he performed the very hard work which fell to his share. He was never sick, whenever required he accompanied the troops any distance on foot, and he was wonderfully painstaking and successful in his treatment of his patients, black and white alike, and they numbered hundreds daily He acquired a well deserved measure of popularity with the whole force and I think the Uganda Protectorate is to be congratulated in retaining the services of so able and zealous a medical officer"

In a despatch relating to the Aro Field Force in Southern Nigeria the High Commissioner says —

> 'The medical staff was organised from the civilian staff of the Protectorate by the principal medical officer Dr Robert Allman and was augmented by a medical officer Dr Brook accompanying the Northern Nigerian Contingent and a medical officer Dr Hadley specially engaged to accompany the Lagos Column The organisation of the medical staff in the field was I understand found to be thoroughly efficient at all times and of that of the Base Hospitals I can speak personally having visited and inspected them on several occasions The organisation was I consider everything that could be desired in this direction and when the difficulties of transport especially of the wounded is considered it will be understood that there was great difficulty in rendering them of practical assistance Such hospitals were during the conduct of affairs established at different times at Itu Opobo Degama, Aro-Chuku, and Bende. I consider that Dr Allman is deserving of great credit for the successful [illegible]ner in which he organised his department
>
> I [illegible]ld bring the name of Dr A H Hanley senior medical officer of the Civil Medical Staff of this Protectorate, to your notice for [illegible]ble consideration on account of services rendered in the field when [illegible]nying columns. This officer volunteered to come out from England to assist in the operations, though his leave was but half completed His devotion to his work and care to the sick and wounded of whom he appeared to have had more than his share was remarked by every one connected with the force, and he is, I consider, the officer, as representing the medical department, whose services are deserving of special mention I should, however point out that all civilian doctors who volunteer to take part in the operations of this nature are deserving of great credit, for they have little or nothing to gain thereby and suffer in nearly all cases pecuniary loss in the matter of private practice"

Lieutenant-Colonel A Montanaro, who commanded the Aro Field Force, states that—

> "Dr R Allman, C M G, who was principal medical officer, not only made excellent arrangements before the expedition but supervised the carrying out of them to my entire satisfaction and it is mainly due to his forethought that abnormally good health prevailed among the Europeans and natives of the force
>
> Dr A H Hanley performed his duties as senior medical officer with great devotion I have never met a more attentive or conscientious medical officer"

The name of Surgeon Captain W Fletcher, D S O, Royal Army Medical Corps (Militia), is also mentioned.

HOME FROM THE WAR.

The large number of soldiers who have already arrived, and are still arriving, in this country from South Africa to be discharged the service form a difficult problem to deal with. Apart from those who from disablement from wounds or sickness are unable to earn a livelihood but are deserving of every consideration there are a still larger number of men who are seeking, but unable to find, employment It goes without saying that the Government and large firms and employers of labour are desirous of doing their best for these men, but it is nevertheless not by any means easy to find employment for them As regards those who are suffering from the results of sickness or disablement directly attributable to the war and field service, it is the obvious duty of everyone to help them as far as practicable With every desire in the world to treat the Boers with all possible generosity and friendliness as fellow subjects of the King it must nevertheless be acknowledged that there was a good deal of force and common sense in what the Marquis of Londonderry said in speaking at Stockton on Tees on behalf of the Soldiers' Help Society "He could not but think that the crowds which had during the past few weeks in the neighbourhood of London and in the South of England cheered the Boer Generals, who were mainly responsible for the prolongation of the war and its attendant misery and sorrow, would have been much better employed in seeking to give practical and material assistance to their own gallant countrymen who had fought and bled in South Africa."

WHAT THE SOUTH AFRICAN ARMY MEANT

We referred very briefly last week to the total losses sustained during the war in South Africa from wounds and injuries and from disease. It appears that the military forces in South Africa from 1899 to the end of July, 1900, that is to say from the beginning to the end of the war, according to the recently issued Parliamentary return, amounted altogether to 265,132 (officers and men) Of the reinforcements 337,219 were sent out from home, 18,534 from India, 30,328 from the colonies, and 52,414 raised in South Africa—making up a total of 438,495 This is more than eight times the number of a single army corps (52,000), which was considered at first to be sufficient. Apart from the lists of killed and wounded in numerous engagements published during the war, those of deaths from disease were first issued in December, 1899, and were regularly continued throughout the war The last recorded death in action was three days after the declaration of peace

NEW ROYAL ARMY MEDICAL CORPS WARRANT

An Army Order, dated Sept. 1st, just issued, contains a Royal Warrant relating to the medical officers of the Household troops It sets forth that commissions as surgeon lieutenants in the Household Cavalry shall be given, on the nomination of the titular colonels of the regiments, to persons approved by the Secretary of State Lieutenants and captains of the Royal Army Medical Corps attached to regiments of the Household Cavalry at the date of the warrant may, on the nomination of the titular colonels of the regiment, be transferred thereto in the rank of surgeon lieutenant and surgeon-captain respectively A major or lieutenant-colonel of the Royal Army Medical Corps may, on the nomination of the titular colonel of the regiment, be transferred from his corps into the rank of surgeon major or surgeon-lieutenant-colonel respectively in one of the regiments of Foot Guards.

OFFICERS MESSES.

A circular has been sent out by the War Office notifying that it has been decided to furnish at the public expense officers messes and the quarters of unmarried officers of field and lower ranks at the home stations Each officer on joining the service will be supplied with a field kit free of charge but to be kept up at his own expense The kit consists of a portable wood camp bedstead with canvas bag for the same three blankets, tripod washstand camp chair pillow valise for bedding canvas waterproof wash basin, bath, and bucket.

THE MEDICAL DEPARTMENT OF THE WAR OFFICE.

Our service contemporary the *Army and Navy Gazette*, understands that there is every chance of the Medical Department of the War Office, now at 18, Victoria street, being shortly removed to a more commodious building in the same street.

Looking Back.

FROM

THE LANCET, *SATURDAY*, *SEPT 18*, 1824

To the Editor of THE LANCET.

SIR,—The reason I address you on this subject may at first sight, not a little surprise you but there really is nothing known to the medical profession of hydrophobia, in fact, all our present means are totally inadequate to cure this direful malady Two cases within this last week, have occurred to my knowledge, one I had every opportunity of watching the other at Guy s, which you, no doubt, will notice. There did not appear in either of the above cases any very evident diminution of the disease from the treatment employed and so it has been for ages past and so will continue, unless something be done or something found out to overpower this great and determined enemy of the healing art But on account of the death of the first case (which became, almost directly known in every neighbouring part) a man who resides at Wing in Buckinghamshire, (at the request of some private individual in town who had heard of his notoriety entirely unconnected with the deceased) came to the friends of this poor mortal, and declared that, had he seen the man a few hours before his death, he would have cured him. This of course was thought almost too contemptible for notice however the man made his appearance and I of course, conversed with him on the point in question, and he declared that he would venture his life on any case, if he administered his medicine or saw it administered to the patient He gave me several cases to read one where two apothecaries after a variety of means, had come to the determination of bleeding the patient to death but someone who had seen the case and also knowing this man, had him directly sent for and the patient was placed under his treatment and recovered and is now living with many others in that neighbourhood, to attest the fact, where the man has also lived since his birth If this, hereafter should be found correct what neglect and blame will be attached to the names of these medical men. Think not that I am coming forward to espouse the cause of quackery for I assure you no one detests the traffic more than myself. But here stands the monster which defies all our power—the innumerable remedies we have proposed have all proved futile without exception therefore he who brings forward a cure is not only entitled to the highest encomiums of the medical profession but of the world and I do think it would be justifiable in any man s trying this remedy

I remain, Sir &c.

J H

Sept. 14th.

P S. The man s name is Thomas Newens.

Notwithstanding the conviction of our correspondent to the contrary we fear that the assertions of Mr THOMAS NEWENS are the boastings of an interested quack if they are not, how can he reconcile it to his conscience to quietly witness the destruction of so many of his fellow creatures when the publication of his remedy might rescue the sufferers from the agonizing tortures of the most terrible of all diseases

Correspondence.

"Audi alteram partem."

A PLEA FOR THE MORE FREQUENT USE OF CHLOROFORM IN LABOUR.

To the Editors of THE LANCET

SIRS —When Sir James Simpson first introduced chloroform into general use in Scotland and particularly in connexion with midwifery its administration was vigorously opposed by a large section of the public, and some of the old prejudice against its use still exists. This prejudice I am sorry to say is not entirely confined to laymen. I have heard medical men condemn in unmeasured terms the growing tendency to the free administration of chloroform in labour They maintain that it should not be given, except in cases of difficulty and they raise objections to it most of which appear to have their origin in a want of knowledge and practical training For 10 years I have used chloroform in all kinds of cases, having given it many hundreds of time and upon every possible occasion and I have never yet seen it give rise to any untoward symptoms. I go so far as to say that every accoucheur should educate his patients to its use, for in these matters as in most others progress can only be made according to the rate at which people are educated and prepared to receive its advantages. Everybody knows that a large majority of cases if left to nature will end satisfactorily as far as the safety of both mother and child is concerned. But by judiciously assisting the process the accoucheur can do more than this he can bring about the same happy result without permitting the mother to suffer all the agonising torture associated with parturition. It is undoubtedly the case that the conditions of modern life have influenced the process of parturition to an enormous extent. The mental as well as the physical torture in many cases is so extreme as to make it appear almost unnatural. Many instances have come under my own observation where the dread of a former parturition has caused much domestic unhappiness and has placed an absolute restriction upon reproduction. These are painful and difficult cases which most medical men meet with sooner or later and they should be overcome by assurances that the trials of labour can be alleviated in a great measure by rational treatment and management. The assurances can be carried into effect by the judicious use of chloroform. Not only will the pain be relieved but the mother's strength and energy will be conserved by preventing the unnecessary mental anxiety muscular straining and exhaustion To appreciate this one has only to note the contrast in the immediate after results between a case left to nature and a case in which chloroform has been judiciously administered In the former we find, as a rule, and almost always in highly nervous women careless exhaustion and indifference to her surroundings whilst in the latter you have a patient in good spirits, vigorous and keenly interested in everything In the latter also which is a matter of the greatest importance to those highly sensitive women the labour is robbed of almost all its painful after memories.

That anæsthetics are not more frequently employed in midwifery practice is not surprising when one considers the very imperfect practical training most men get in this important branch of their work in the various teaching centres If medical students were instructed how to use and to administer chloroform in a practical way and were at the same time urged to use it in midwifery cases upon every possible occasion, mothers would have less cause to dread their confinements. It is manifestly absurd that a student should never have the opportunity of giving chloroform to such cases as he may attend before qualification when immediately afterwards he may be called upon to do so in difficult cases where he cannot get help If chloroform is given with a knowledge of what is required—a knowledge which can be obtained by practical lessons only—there is not the least danger in its administration in confinements. I have not seen a case recorded where death was due to chloroform in such circumstances. It should be remembered that in addition to the intermittent administrations surgical anæsthesia is seldom required and that the maternal heart, owing to certain changes due to pregnancy is in a better and safer condition for the chloroform anæsthesia.

The most important argument against the use of chloroform in labour is the objection that it is said to interfere with normal uterine contractions There is no doubt whatever that if it is given, as is suggested by some, to the surgical extent as the head passes over the perineum it will interfere with normal contraction But this is the abuse of chloroform and not its use. If it is given on the open towel system, or any other system permitting a free admixture of air, and given intermittently and just before the onset of a pain, with few inhalations between the pains, the influence over the uterine contractions is very slight, if, indeed, there is any at all The little influence it may have is in my opinion beneficial. The onset of the contraction is not quite so sudden, but the frequency and force are maintained throughout. The relaxing influence exerted on the soft parts the freedom from struggling and unnecessarily contracting the muscles of the limbs and elsewhere, all help to render the uterine contractions more effectual and less painful. The abdominal muscles are very slightly influenced and continue to play their part as the uterus begins to contract If chloroform be given to the surgical extent and continued—a proceeding quite uncalled for in ordinary labour—the interval is lengthened, the force and duration are diminished, and, finally, the pains stop An important point, however, is the fact that even when deeply under its influence the uterus will contract as soon as it is emptied, but this contraction is not always a reliable one

Chloroform administration does not predispose to post-partum hæmorrhage unless it is given in complete ignorance of what is required and given with gross carelessness. If the absurd advice is followed of keeping back chloroform until the head is about to pass out and then give it to the surgical extent one is courting danger The exhaustion produced by this proceeding is greater than the exhaustion of leaving the case to nature to finish. In an ordinary case there is absolutely no necessity to give chloroform to the surgical extent at any time during the labour I have never yet seen a case of post-partum hæmorrhage associated in any way with the rational administration of chloroform. I would not hesitate to give it in a case with a predisposition to hæmorrhage, as I believe it would be beneficial if given judiciously from the fact of its conserving the strength and preventing nervous exhaustion, for the loss of the former and increase of the latter have, in my opinion, much to do with the production of post-partum hæmorrhage. The objection brought against chloroform that it is difficult to limit its action only holds good in very serious cases where prolonged surgical anæsthesia is required. Rest from pain, muscular straining, and mental anxiety can be obtained whilst the anæsthetic is entirely under the control of the administrator My advice to young practitioners in midwifery work is to give chloroform upon every possible occasion until they are thoroughly acquainted with its administration and to give it in the normal cases so as to be prepared for the abnormal. In cases of rigidity of the os, in the treatment of which the virtues of chloral have been so highly extolled, I would advise a trial of intermittent inhalations of chloroform preceded by a small hypodermic injection of sulphate of morphia.

In nervous women and those of highly developed intellect pain produces marked exhaustion and irregular muscular contractions which I believe seriously interferes with the normal uterine contractions in labour In these cases we find the most clearly demonstrated benefits of chloroform After a few inhalations the pains become much more regular and owing to the relaxation of the soft parts under its influence the labour proceeds much more satisfactorily Chloroform, or some mixture containing chloroform is the best anæsthetic in midwifery Ether is not practicable for single handed work and is much more objectionable to the patient when given intermittently

I am, Sirs, yours faithfully,
T W Parkinson, M D Edin , D P H. Aberd
Sloane-street S W Sept 8th 1902.

THE LOW PHOSPHATES AND UREA IN THE URINE OF THE TUBERCULOUS

To the Editors of The Lancet

Sirs,—The perusal of Dr H. Harper's letter in The Lancet of Sept. 13th, p 776, on the deficiency of urea in the urine of tuberculous patients leads me to offer a few remarks on this subject. During a pretty long experience among tuberculous patients in Victoria Park Chest Hospital and elsewhere I have noticed how very rarely gout and phthisis are found together More than once I have come across tuberculous consumption coming upon a patient who years before had been subject to gout. Gout had quite left him and serious tuberculous disease had taken its place Free feeding and a fair allowance of alcohol is a method of treatment that certainly answers well in many consumptive cases Dr Walshe, in his lectures at University College, I remember, used to refer to cases of consumptive people who had gone in for rather free drinking and to the surprise of most who observed them found their lung symptoms to improve though there was no evidence of actual gout coming on Our good lecturer used to add for the benefit of his hearers "Do not let this statement lead any of you into dangerous ways" I have thought at times whether the administration of uric acid or urea to the consumptive with a view to producing gout might be a good therapeutic step, but I have never tried either of these bodies

Many years ago the late Dr Hastings of Albemarle street gave urate of ammonia, obtained from the pythons' house at the Zoological Gardens, for the cure of consumption and maintained his case so well before the Censors' Board at the College of Physicians that the late Dr T K Chambers was induced to try this curious remedy at St. Mary's Hospital under the name of "Mistura Pythonis," but the result of its administration was not encouraging, it seeming to have no action, either for bad or good, on the patients.

I am Sirs, yours faithfully,
John C Thorowgood, M D , F R C P Lond.,
Consulting Physician to Victoria Park Chest Hospital and to the Royal National Hospital for Consumption at Ventnor
Bognor Sept 13th 1902.

THE IMPUDENCE OF CERTAIN ADVERTISING DRUGGISTS

To the Editors of The Lancet

Sirs,—I enclose a copy of correspondence relating to "The Lancet Influenza Cure" with which my name was associated.[1] My attention has also been called to an advertisement of Kutnow's powder in the *Philadelphia Medical Bulletin* in which my name appears with a number of others around a portrait of the late Mr Lawson Tait as distinguished endorsements All the English physicians and surgeons pilloried with me are dead and their memory can be desecrated with impunity I enter a protest against this detestable practice in their name and my own.

To attribute to me any endorsement of Kutnow's powder is particularly unfortunate I have never ordered a single dose of it, but, on the contrary, have frequently had to point out that the habitual use of this and similar aperients is often most injurious and that the relief of constipation may be purchased very dearly The use of my name as recommending Kutnow's powder is, as in the case of "The Lancet Influenza Cure," a fraud upon the public and an insult to myself.—I beg to remain, your obedient servant,

W H. Broadbent, M D , F R.S
Brook street W Sept 16th 1902.

INSANITY AND LONG SEA VOYAGES

To the Editors of The Lancet

Sirs,—The excellent advice of Dr Louis Vintras on insanity and long sea voyages in The Lancet of Sept. 13th (p 775) deserves a very great deal of thoughtful attention on the part of the profession. More particularly does it concern the family physician who is often first consulted on the matter The curative effects of the ocean climate in certain diseases, such as, for instance, consumption, bronchitis, asthma, the after effects of inflammation of the lungs, pleurisy, &c , are familiar to all of us The various health voyages, the time of starting, the choosing a ship, the preliminary arrangements, the life at sea, the course, climate, and weather, and, not least, the management of the health at sea, are knotty points for him who seeks "the ocean as a health resort." Again, occupations and amusements, objects of interest at sea, future plans, and the end of the voyage all combine to make a sea trip pleasant or unpleasant. It is probable, too that the rapid improvement in the class of cases I have named is due to the following causes (1) enforced rest and change of scene (2) the constant *respiration of pure air free from* inert impurities and which is only to be found in sea air (3) open air treatment (4) greater equability of temperature and the soothing effect of ozone" on the constitution (5) certain specific substances in sea air (6) changes of climate through *the different regions of the ocean* These above conditions are what we realise in our mind when we contemplate sending to sea a patient of the class likely to derive benefit.

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[1] See special article on "Impudent Quacks and the Title of The Lancet" on page 829 of our current issue —Ed L.

Nervous complaints are so numerous and varied in their *manifestations that they can only be spoken of generally* It may, however be stated broadly that for all those anomalous affections of the nervous system that are not accompanied by any actual disease of the brain or spinal cord but which are often dependent either upon mental causes or derangement of the digestive organs, we have in a sea voyage a most valuable and successful mode of treatment. In fact, there are no cases in which, as a rule the effects of sea life are more strikingly beneficial than in these. The change of scene, *the different mode of life, and* the varied social conditions, usually exercise the most cheering influence, not only upon the bodily health but also (which is equally important in complaints of this class) upon the mental state so that the nervous patient, after a month or two at sea, is often altogether a different being from what he was when he sailed.

But with regard to the more serious diseases of the nervous system such as paralysis epilepsy melancholia, and mania, it is necessary to speak much more guardedly, *and it is only after* all the *circumstances of such a case have been carefully weighed by the medical* man in attendance that it will be possible to form a decided opinion as to the advisability of a sea voyage. This extract from a sailor's log speaks for itself Having circumnavigated the ocean on more than one occasion I speak with some authority It is well to know the ropes and to be experienced before one gives an opinion Nevertheless, it is a good excuse to send a person of unsound mind to sea when you want to get rid of him. But the most honourable *action as a rule, is to advise the detention of a person* of unsound mind in a residential home where he will have a better chance of recovery —I am, Sirs, yours faithfully

Alton Hants Sept. 13th, 1902. J F BRISCOE.

A DISCLAIMER.

To the Editors of THE LANCET

SIRS,—The *British Medical Journal* published last week a short note by me on the use of paraffin for restoring the bridge of the nose. Some of the daily papers have made copy' of it, and have named me as though I had invented the method *I wish to say that I had nothing* whatever to do with the matter and I wish it could have been prevented.—I am, Sirs, yours faithfully

Sept. 15th STEPHEN PAGET

A MEDICAL ASPECT OF THE EDUCATION BILL

To the Editors of THE LANCET

SIRS,—In order that *education should be efficient* it is surely necessary that the children should be in the best possible condition for receiving it. It has long been known that the eyes of our board school children are defective and the recent discussion at the Otological Society clearly showed that the ears and throats urgently require attention. Apart from the special senses I would ask Does not the general condition of the children, especially as regards communicable diseases such as those of the skin and tuberculosis require supervision? If a child is compelled by law to attend school the parents have a right to demand that the child runs no risk by so doing The subject has been thoroughly recognised in some *countries—Germany* and Switzerland for example—where every child is medically examined on entering the schools and *all defects* are, as far as is possible, rectified. Such examination and treatment must be of the greatest value from the educational standpoint and must add to the physical and intellectual vigour of a nation. It seems clear that some system is necessary in this country

I am, Sirs, yours faithfully

Savile-row W Sept. 15th, 1902. ARTHUR H. CHEATLE.

THREADWORMS AND APPENDICITIS

To the Editors of THE LANCET

SIRS,—In an annotation in THE LANCET of Sept. 6th p 687 the occasional discovery of threadworms in the appendix is discussed It is there stated that Professor Bégouin could *find only a single reference to the existence* of threadworms in an excised appendix. It may therefore be worth noting that in a case of recurrent appendicitis occurring in a young woman I found at the operation that the appendix was *crammed with threadworms, in a lively* condition. The appendix itself was thickened but not ulcerated. Probably many similar cases have occurred without being recorded but in a large number of such operations I have only met with threadworms in this one case. Few things, however have really escaped the observation of our ancestors, and Santorini nearly 200 years ago (in 1724) in his careful description of the appendix noted that it was often the resort of intestinal worms and suggested that its function might be to *form a safe retreat for them to breed* in. This theory may not perhaps be generally accepted but no more ingenious one exists. It is of interest to note that the vermiform appendix was first described in 1524 by Carpi that Columbus was *interested in it, and that American* surgeons have since been prominent in demonstrating its importance. By a curious coincidence appendicitis was definitely described for the first time in 1824, exactly 300 years after the anatomical recognition.

I am Sirs, yours *faithfully*

J HUTCHINSON Jun

Cavendish-square W Sept. 15th 1902.

THE ELECTION OF A DIRECT REPRESENTATIVE TO THE GENERAL MEDICAL COUNCIL

To the Editors of THE LANCET

SIRS —The fact that Mr Joseph Smith has placed the medical profession of England and Wales to the great and totally unnecessary expense of a contested election for the office of Direct Representative raises a question which the personalities and professional positions of Mr Joseph Smith and Mr. George Brown would otherwise have rendered quite superfluous and *immaterial to the profession at large.*

The apology advanced by these gentlemen for Mr Smith's obtrusion on public *notice is that* he is supported in his action by the Medical Practitioners Association. Is this assertion correct?—in other words, have the members of that association been consulted on the matter and authorised this statement on their behalf? I am led to question this because there seems reason to believe *that the members of* this association are not even informed of matters which really are of direct personal interest and of the first importance *to themselves.*

If the members *of this* association are kept in ignorance of important facts it becomes all the more essential for a definite statement to be made as to the manner in which they have been consulted and have given Mr *Joseph Smith* their authority to represent their views at this particular juncture I am, Sirs yours faithfully

F ROS

Sept. 15th 1902.

THE PROPORTION OF THE MARRIAGE TO THE BIRTH-RATE IN DIFFERENT CLASSES OF THE POPULATION IN ENGLAND

To the Editors of THE LANCET

SIRS,—I quote an extract from the statistics of the County of London issued last week by *the London County* Council —

> There has been a decided improvement in recent years in the marriage *rate for* London. In 1894 it reached its lowest point—17 per 1000. In 1899 it was 18·4 per 1000. The birth-rate does not show a

corresponding increase *It is now at the lowest point it has ever touched* Thirty years ago it was 35 4 per 1000 in 1899 it had sunk to 29 3 In this matter the state of affairs in London corresponds in a surprising degree to the whole country where the fall has been on parallel lines The two poorest districts St Luke s and Bethnal Green, are proportionately the most prolific There are over four times as many births proportionately in St Luke s as in St George s Hanover square

With regard to these facts it would be interesting to know whether the experiences of other practitioners in other parts of the country are similar to mine. In the part of Devonshire where I have been in practice for many years it is quite the exception for any of the young married couples of the upper middle class to have any family at all Of notes that I have kept of marriages amongst private people of easy circumstances known to me, out of 47 marriages which have taken place between 1887 and 1900 31 have had no family at all—indeed, some of these have stated to their friends that they intend never having any—nine have either one or two children and the remaining seven couples have families of from three to five children. The same state of limited production prevails amongst tradespeople, though not to so marked an extent. As regards the labouring classes the birth rate appears to remain what it usually has been With regard to the scarcity of children amongst the educated classes I have a well grounded suspicion as to the cause As to the effect, if this state of things exists all over the kingdom it cannot but be serious

I am, Sirs, yours faithfully,

Sept 15th 1902 A GENERAL PRACTITIONER.

NOTES FROM INDIA

(FROM OUR SPECIAL CORRESPONDENT)

The Increasing Plague Mortality —The Monsoon and the Famine —A Hospital Train for India —The Health Department in Calcutta

THE mortality from plague throughout India has increased during the past week from 3762 to 4371—chiefly due to the recrudescence developing in the Bombay Presidency The detailed figures are—Bombay Presidency, 3111 deaths, as against 2642 , Bombay City, 35, as against 22 , Karachi City, 11, as against five , Madras Presidency, 163, as against 145 , Calcutta City, 10, as against nine , Bengal Presidency, five, as against 10 , United Provinces, 195, as against 153 , Punjab, 63, as against 106 , Mysore 614 as against 612 , Hyderabad State, 143, as against 23 , and Berar, 21, as against 34 It will be noticed that the increase is for the most part general few areas showing any decline The disease is reported to be spreading in the Poona districts. The mortality is greater than at the corresponding week last year and that was higher than for the previous year It is therefore impossible to shut one's eyes to the fact that the outlook is very threatening and as so many more districts and provinces have become infected the recrudescence may probably culminate with a mortality larger than India has yet suffered A case of plague has been imported into Simla and has ended fatally 70 contacts were removed at once to the segregation camp Few people at home realise the enormous preparations which are being made for the great Delhi durbar and coronation festivities in January and the immense concourse of people which they will bring to that district. It is necessary to sound a note of warning that the anticipated plague outbreak may occur on or before this time and that if the infection spreads into the immediate vicinity of these places panic if nothing else may mar this great occcasion

Although the monsoon has to a certain extent been re established over Western India and rain has fallen in Gujerat and other famine areas it is as yet too soon to have had any effect upon the numbers under relief In fact, during the week ending August 22nd the number of persons under relief rose by 67 000 and the total is now over half a million, of which 371,899 are in British territory and 130,105 in native states.

The Government has decided to have special carriages to form a hospital train for annual use in conveying invalids from up-country stations to the sea and in time of war for carrying the sick and wounded from the base of operations to stations in India or to ports of embarkation. This train will be constructed on the principle of the Princess Christian hospital train used in the South African War The carriages will be the property of the military department, but will be maintained and kept in order by the railways concerned.

Several changes have been effected in the health department in Calcutta by the acting health officer, Dr T F Pearse They concern "an improvement in the registration of the cases of death by an inquiry upon the death of every person dying in Calcutta," the appointment of special food inspectors for each district, the appointment of an extra inspector of meat shops for the better inspection of these places and for the discovery of illicit slaughtering, the wholesale disinfection of tanks around which cholera has broken out, the compulsory registration of all burial grounds (of which I understand there are over 100), the issue of forms of notification for certain infectious diseases, the establishment of Hindu slaughter-houses in each district, and the reorganisation of the clerical work in all the district offices

August 30th

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Annual Inspection of the Corporation Hospitals

THE members of the Port Sanitary and Hospitals Committee of the City Council made their annual inspection of the various infectious hospitals on Sept. 9th The tour proved both interesting and instructive At Fazakerley a hospital of colossal proportions is now in course of erection. The large estate purchased by the corporation some years ago is already partly built upon, there being several wards for scarlet fever, typhoid fever, and other cases, now in use When the buildings are completed there will be provided two separate establishments, one of which will be specially set apart for the treatment of cases of small pox The visitors were generally struck with the scrupulous cleanliness, the brightness, and the perfection of the arrangements in all the hospitals At Fazakerley and Parkhill open spaces abound in which convalescent children can romp about The hospitals visited by the committee were those situated in Netherfield road, Fazakerley, Mill lane, Parkhill, and Grafton street. At the Mill lane hospital, the original accommodation in which had been increased by 88 beds in four wards, interesting ceremonies took place The Lord Mayor was invited formally to declare the new extension open and for that purpose was presented with a gold key subscribed for by the members of the committee Dr Thomas Clarke, the chairman of the hospital committee, was also presented with a similar gold key upon declaring the new pavilion open The past year has been one of marked progress for the city hospitals Seven years ago there were 400 beds under corporation control , there are now 950 beds. Last year 3337 cases of infectious disease were dealt with, and up to August 1st of this year 2900 cases had been treated. Less than a decade ago Liverpool was pointed to as a city hopelessly behind in the way of hospital accommodation for infectious diseases To day the city is better provided than any other town in England , and it is gratifying and reassuring to know that the city council, under the able guidance of Dr E W Hope, the medical officer of health, is acting in this matter with a liberality and enlightenment worthy of grateful recognition by the citizens of Liverpool.

The late Professor Virchow of Berlin

In view of the recent demise of Professor Virchow it may be interesting to recall the fact of his visit to Liverpool on Sept. 28th, 1898, on the occasion of the opening of the Thompson Yates Laboratories at University College by Lord Lister, an honour highly appreciated by the Liverpool school.

The Ninth Expedition of the Liverpool School of Tropical Medicine

Major Ronald Ross, C B , F R S , late I M S , the Walter Myers lecturer on Tropical Medicine, left London for Brindisi on Sept 12th, to inaugurate preventive measures at Ismailia on the Suez Canal against malaria Major Ross will take charge of the operations by special request of the Suez Canal authorities Sir William MacGregor, K C M G , the governor of Lagos, who has shown a lively interest in the operations of the Liverpool School of Tropical Medicine, and who has himself done such important work in the same direction at Lagos, has expressed a desire to witness Major Ross's operations at Ismailia and will join him at Brindisi They will proceed to Ismailia, where the Suez Canal Company has made arrangements to give them a suitable welcome.

Enlargement of the Liverpool Hospital for Consumption.

The recommendation of the estate committee of the City Council that the reversion of the premises, 70 Mount-pleasant, should be sold to the trustees of the Consumption Hospital for the sum of £400 subject to the consent of the Local Government Board and also subject to the condition that the existing premises shall be demolished and new hospital buildings erected within five years from the date of such consent, in accordance with plans and elevations to be approved by the corporation, was approved

Handsome Donation to the David Lewis Northern Hospital

Sir William Henry Tate Bart. has given the sum of £1000 to the David Lewis Northern Hospital for the purpose of endowing a bed to be named after his father the late Sir Henry Tate, Bart. This generous gift is a most welcome addition to the endowment fund of the hospital.

Infectious Hospital Accommodation at Prescot

The proposal to provide a new infectious hospital to accommodate children occupied the attention of the Prescot board of guardians at their last meeting The present buildings are altogether inadequate. The new hospital would cost about £5000 The matter was postponed for a fortnight in order that a complete scheme might be submitted.

The Maghull Home for Epileptics

Sir Alfred L. Jones K.C.M.G., has generously contributed the sum of £1000 towards the farm and extension fund of the home for epileptics at Maghull. This amount was promised last year conditionally on the committee raising a further sum of £9000 to enable them to purchase land for employing male patients and to carry out necessary extensions to meet the increasing demand for accommodation A few days ago the committee were able to intimate to Sir Alfred Jones that this condition had been fulfilled They also desire to acknowledge the liberality of the friends who have enabled them to achieve this happy result.

Opening of Morecambe Cottage Hospital

In beautiful weather the Morecambe Queen Victoria Cottage Hospital which has been erected at a cost of £3000 was opened on Sept. 9th by the Earl of Lathom. His lordship, as Provincial Grand Master of the Freemasons of the Province of West Lancashire was entertained at luncheon by the brethren of the Morecambe Lodge and the formal proceedings followed. Mr Thomas Baxter the chairman of the committee, presided, and later in the day handed over a full equipment for the operating theatre of the hospital. Lord Lathom opened the building with a suitably engraved gold key which was presented to him The institution was started free of debt a considerable sum however will be required annually to meet the working expenses of the charity

Sept. 16th

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Sanitation in North Wales

THE Honourable Society of Cymmrodorion was founded under royal patronage in 1751 and it has for its object the bringing together of Welshmen especially those resident out of Wales with a view to advancing the welfare of their country Its especial aims are the improvement of education and the promotion of intellectual culture by the encouragement of literature science, and art, as connected with Wales Of late years there have been meetings of the society in Wales in connexion with the National Eisteddfod and at the Bangor meeting held on Sept. 8th a discussion took place upon National Health and Sanitation. Introductory papers were read by Dr Richard Jones medical officer of health of Festiniog and of the county of Merioneth by Mr D L Thomas, medical officer of health of the metropolitan borough of Stepney and by Dr Peter Fraser medical officer of health of the Carnarvonshire combined district Dr Jones urged the establishment of a public health department in connexion with the constituent colleges of the University of Wales at Aberystwith and Bangor upon the lines of that already organised at the Cardiff College. He advocated, also, the teaching of hygiene in the evening continuation schools and the founding of an eisteddfod health lectureship or exhibition from the surplus funds of the Eisteddfod Mr Thomas considered that sanitation was a national question and should be administered in all its aspects not from or by a small parochial body for districts that neglected to carry out their duties efficiently were a menace to the national health. Dr Fraser brought forward carefully compiled statistics comparing the birth rates and death rates of Wales and of North Wales with those of the whole of England and Wales and with other countries The period covered by these figures includes the last 30 years of the nineteenth century Although during these three decades there has been in the whole country a general fall in the birth rate, in South Wales the rate has always been above, and in North Wales it has always been below that of England and Wales. With regard to the deaths from all causes it appears that while there has been a considerable lowering of the death rate during the period named in England and Wales yet during the last decade of the century the death rate in South Wales was the same and in North Wales it was actually higher than that of the preceding 10 years. The number of deaths in North Wales from the so-called principal zymotic diseases compares favourably with that recorded in South Wales and in England and Wales, but with respect to the deaths from cancer tuberculosis and diseases of the circulatory system North Wales occupies a discouraging position. During the last 10 years of the century the cancer death rate in England and Wales was 760 per 1 000 000 of the population but in North Wales the rate was 1009 per 1,000 000 Both in North Wales and in the whole country the death-rate from all forms of tuberculosis has fallen during the past half century but in the 10 years 1891–1900 the North Wales death rate was 2244 per 1,000 000 while that of England and Wales was 2005 per 1 000 000 During the last 20 years of the century there was a considerable increase in the number of deaths from diseases of the circulatory system in North Wales, where during the last decade the death rate from this cause was 2145 per 1 000 000 compared with 1655 per 1 000 000 in England and Wales The principal cause of the high death rate from tuberculosis in North Wales in Dr Fraser's opinion is due to a great extent to the small badly ventilated damp, and often badly lighted bedrooms of many of the older cottages and the remedy obviously lies in building new and altering the old houses.

Women Sanitary Inspectors

The Newport corporation has decided, on the recommendation of the medical officer of health (Dr J Howard-Jones) to appoint a female sanitary inspector —The Worcestershire County Council are about to appoint a female health missioner for the urban district of Oldbury The county council will pay £50 and the district council £40 of the salary of the missioner

Bristol General Hospital.

The half yearly meeting of the governors of this institution was held on Sept. 8th, under the presidency of Mr Proctor Baker It was reported that the donations for the past six months amounted to £4233, including £1500 from Lady Smyth for the endowment of a bed in memory of her late husband. The chairman stated that the new out-patients department had been completed and was very satisfactory and the new post-mortem room was also finished. He added that the committee had undertaken to organise a hospital to meet the demands of Avonmouth in connexion with the new docks, Sir John Aird and Co. the contractors having agreed to defray all the expenses incurred.

Sept 15th

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Destruction of Diseased Meat in Dublin

A NEW refrigerator capable of making six tons of ice per day or producing an equivalent refrigerating effect, was formally opened by the Lord Mayor in connexion with the city abattoir on Sept. 15th. Town Councillor Clancy took the opportunity to call attention to the necessity of providing an apparatus within the abattoir for the destruction of offal and more especially of diseased meat. A deputation he stated from the corporation visited many continental cities some years ago and its report recommended the adoption of the Podewil system by which diseased meat and offal are converted into a dry powder which has a ready market as a fertiliser and as a food for swine, fowls, &c In Dublin as many as 108,112 pounds were destroyed in 1891, and 50,512 pounds in 1892 up to August 31st. This meat was in part surrendered and in part seized while coming into the city According to the present arrangement it is the custom to remove all condemned carcases from the abattoir through the public streets to the only place—a private establishment—where it can be destroyed Mr Clancy said that it was the duty of the civic authorities to erect such a form or destructor within the premises of the abattoir as would put the method of the disposal of diseased meat beyond doubt of question He stated that Sir Charles Cameron the superintendent medical officer of health, was in favour of some action being taken in the matter

Cork street Fever Hospital and House of Recovery

At the last meeting of the managing committee of the Cork street Fever Hospital the registrar reported that during the month of August the admissions were very numerous owing to the prevalence of scarlet fever, diphtheria, measles, and enteric fever Several cases of typhus fever were also admitted. All traces of small pox having disappeared from Dublin the convalescent home at Beneavin has been restored to its original use and is now filled with convalescents from scarlet fever, &c It will be remembered that in connexion with the last annual report of the board of superintendence of the Dublin hospitals it was notified that owing to the need of more suitable accommodation for the nursing staff the governors had purchased a site opposite the hospital gates on which they propose to build a house to accommodate 50 nurses The new building is to be called "the James Weir Home for Nurses in connexion with Cork street Hospital "

Sept 16th

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

Infant Mortality in New York City

DESPITE the low temperature in New York City this summer the increase in infant mortality has been marked The Board of Health has consequently been making a careful study of the recent vital statistics of the city The following figures show the deaths in Manhattan Borough in June of children under two years of age from diarrhœal diseases, with the humidity and temperature for each day On June 3rd the hottest day of the month, with a mean temperature of 78 6° F and 72 per cent of humidity, there were only three deaths in this class On June 29th, one of the coolest days, with a mean temperature of 60 6°, there were 12 deaths, and this day concluded a period of 12 consecutive days during which the mean average temperature was 65 5° On August 2nd, one of the hottest days of the month, there were 18 deaths in this class , while on the 3rd, one of the month's coolest days, there were 11 The two days of the heaviest infant mortality were relatively cool days with humidity of about the average These figures warrant no generalisation whatever

The American People Longer Lived than a Century Ago

The Census Bureau has recently published a report by which it is shown that the span of human life in the United States is steadily increasing The census statistics are taken by decades to compute the median age—that is such an age that half the population is under it and the other half over it. The median age of the inhabitants of the United States in 1900 was 22 8 as compared with 21 9 10 years previously The increase in the median age of the white population since 1810 is 7·4 years The Census Bureau chiefly attributes this gain in longevity to the remarkable progress effected in medical and sanitary science

Accident to the President

On Wednesday, Sept. 3rd, President Roosevelt met with an accident which but for his good fortune might have resulted seriously The carriage in which the President was driving from Pittsfield to Lenox was run down by a trolley-car near the Lenox Club All the occupants of the carriage were thrown out, and William Craig, the secret service man in attendance on the President, who was on the box with the driver, was hurled from the seat, run over by the car, and killed on the spot. The coachman was also thrown to the ground, sustaining a fracture of the skull from which he died soon afterwards The President himself escaped with a slight cut and bruise on the right cheek, his secretary, Mr George B Cortelyou, was severely cut about the face and the back of the head, while of the others in the carriage Governor W Murray Crane was slightly bruised. The accident is said to have been caused by the driver of the President's carriage attempting to cross the trolley lines diagonally, without noticing a trolley car which was coming up at a high rate of speed from behind The President's carriage was completely wrecked, and Surgeon Lung, who helped to care for the wounded, expressed his wonder that everyone in the carriage was not killed. At the time of the accident President Roosevelt was on a political tour of the New England States, and he decided to fulfil his programme which was nearly ended The news of the accident naturally produced consternation throughout the country, the more so, perhaps, as but such a short time has elapsed since the assassination of President McKinley

The Increase of Jews in New York

A decade ago there were 130,000 Jews in the whole of America, now there are 1,058,000—that is to say, nearly eight times more Jews are now in the country than there were 10 years ago The increase, however, in New York city has been most surprising A writer in a recent number of the *Jewish World* makes an elaborate estimate of the number of Jews in New York City based upon the statistics of Jewish marriages and deaths—principally the latter—during the past year, and he comes to the conclusion that the number of Jews in New York City is now close upon 600,000 These figures are probably not quite accurate, as they are founded upon the assumption that the Jewish death-rate is but five sixths as great as that of the total population of the city , nevertheless there can be little doubt that the Jewish inhabitants of greater New York are at least 500,000, nearly all of whom are in the borough of Manhattan—in fact, in New York City proper nearly one person in four is a Jew

The So called "Spotted Fever" of the Rocky Mountains

According to the United States Public Health Reports, August 15th, Surgeon J O Cobb of the United States Public Health and Marine Hospital Service, who was directed on June 23rd to proceed to Missoula, Montana, in order to investigate an outbreak of the so called "spotted fever" prevailing in that district, has recently handed in his report. This report is too lengthy to transcribe in full, but the following are the salient points For 17 years the disease has been known among the local practitioners of the Bitter Root Valley , it has always been limited to the spring months, no case having been reported later than July 20th and none earlier than one case of uncertain date in January Usually the first cases appear in March. All clinical experience goes to show that the disease is not contagious or infectious It is, however, without doubt an inoculable disease, as an intra corpuscular parasite has been found to be constantly present in the blood of each patient examined this year The organism resembles very closely Theobald Smith's Texas cattle fever organism, and it is certainly reasonable to believe, from the knowledge at hand, that this disease is introduced into man in the same way and in like manner as in the Texas cattle fever organism—viz., by the tick. The investigations undertaken go to show that the disease is confined to the Bitter Root and Lolo valleys, covering an area of about 20 miles in width and 40 in length Having found the intra corpuscular organism the next step was to find the host. After some trouble it was discovered that the host was not the tick, but some animal infested by ticks Finally the conclusion was reached that the animal in question was the "gopher," or ground squirrel, which is numerous in that very region in which the disease prevails Clinically the disease is curious Persons affected have a bluish spotting of the skin, the conjunctivæ are markedly infected, the tongue is moist but slightly coated, and the face and extremities are puffy and bloated but the skin does not pit on pressure The disease is extremely deadly , so far all cases this year have died, while only two bad cases with well marked eruptive lesions have been known to recover

Sept 10th

VACCINATION GRANT —Mr Bertram Thomas Read, M R C S Eng , L.R.C P Lond , medical officer of the Odiham District of the Hartley Wintney Union, has been awarded a grant for successful vaccination

Medical News

LITERARY INTELLIGENCE —Messrs J & A Churchill announce the following new books and new editions for publication this autumn. A Manual of Hygiene, by Dr Hamer of St. Bartholomew s Hospital, 'Pathological Anatomy and Histology, by Dr Lazarus Barlow of the Westminster Hospital A *Handbook of* Clinical Medicine " by Dr T D Savill Cancer of the Stomach," by Dr Fenwick and Dr W *Soltau Fenwick* Obstinate Hiccough, by Dr Knuthsen, The Chemistry of the Terpenes," by Dr Heusleur translated by Dr Pond Electric Lighting edited by Mr W J Dibdin, being the fourth volume of Groves s and Thorpe s Chemical Technology " *New editions will also be* published of Morris s Treatise on Anatomy with more than 200 new or altered illustrations of '*Starling s Elements of Human Physiology'* of 'Heath s Practical Anatomy " revised by Mr J Ernest Lane of Coles s work on The Blood *of Haig s Diet* and *Food* and of *Bloxam s Chemistry* Inorganic and Organic."—Messrs Baillière, Tindall, and Cox announce for publication during the current month the fifth edition of Messrs. Rose and Carless s Manual of Surgery the fourth edition of Professor Politzer s textbook of *Diseases of the Ear* (authorised English translation under the *author s supervision*) the *fourth edition* of Messrs Cross and Cole s ' Modern Microscopy , the fourth edition of Dr Murrell s Forensic Medicine and Toxicology " the fourth edition of Dr Gubb s Aids to Gynæcology " the third edition of Dr Macnaughton-Jones s ' Practical Points in Gynæcology " and revised editions of *Aids to Sanitary Science* (by Dr Allen and Dr Farrar), of Fleming s Text-book of Veterinary Surgery (revised by Professor Macqueen) and of "The Veterinary Pharmacopœia" by Dr G Gresswell. Also the following new works Errors of Refraction " by Mr Ernest Clarke, F R C S, a monograph on Pulmonary Consumption " by Dr Arthur Latham (winner of the King's prize of £500) a monograph on Anæsthetics " by Dr Blumfeld Essays on Operative Surgery by the late Sir Wm. Stokes and The Theory and Practice of Infant Feeding by Dr Chaplin.—The following are amongst the new works and new editions announced by Mr H. K. Lewis —Cancer of the Uterus a Clinical Monograph on its Diagnosis and Treatment, by A. H. N Lewers.—Handbook of the Pathology of the Skin, being an introduction to the Histology Pathology and Bacteriology of the Skin with special reference to Technique, by J M. H. MacLeod Assistant in the Bacteriological Department, Charing Cross Hospital.—A new (third) edition of Diseases of the Skin their Description Pathology, Diagnosis, and Treatment, by H. Radcliffe-Crocker the second edition of Hygiene and Public Health, by L. C. Parkes and H R. Kenwood and a new edition of Ophthalmic Practice, by Charles Higgens, revised with the assistance of A. W Ormond, ophthalmic clinical assistant, Guy's Hospital.

PRESTON AND COUNTY OF LANCASTER QUEEN VICTORIA ROYAL INFIRMARY —During the whole of the first week of September the city of Preston in Lancashire was given up to elaborate pageants ceremonial observances, social festivities and other manifestations of public rejoicing the occasion being the celebration of Preston Guild Merchant." Of all the Guilds Merchant that were held in mediæval times—and there were over 100 in England—that of Preston is the only one which now receives public recognition In early times the object of the organisation of the Gilda Mercatoria or Guild Merchant was the maintenance of the franchises and other privileges of the freemen, privileges which made it almost impossible for others than citizens to engage in trade. The first Guild Merchant of which there is any record was held in 1328. From 1542 down to the present date the Guilds have been regularly held every 20 years In 1662 the Guild and its concomitant festivities lasted for six weeks. On the *present occasion* the first event of the Guild was the procession with which the Guild Mayor (the Earl of Derby) went from the Guild Hall to attend Divine service in the parish church on Sunday August 31st, the sermon being preached by the Bishop of Truro. On Sept 1st a Guild Court was held in the Guild Hall, after which the the Guild Mayor again made a state visit to the parish church and then returned to the Guild Hall where lengthy Latin orations were delivered by the head master of the grammar school the head boy of the grammar school and the Recorder One of the events of Sept 2nd was a visit of the Earl and Countess of Derby to the Preston and County of Lancaster Queen Victoria Royal Infirmary where the countess opened the Diamond Jubilee Wing (Nurses Home) and the Robert Charles Brown operating theatre. The proceedings commenced with the offering of prayer by the Bishop of Burnley after which Mr W P Park chairman of the board of management, said that it was through Lord Derby that the Royal assent was given to the alteration of the name of the hospital, the motive of which was the fact that the building about to be declared open had been erected in commemoration of the late Queen s Diamond Jubilee. The architect then handed to the countess a gold key with which she performed the opening ceremony The company then proceeded from the Diamond Jubilee Wing to the operating theatre, the door of which the countess unlocked. At this point Dr Robert Charles Brown of Preston gave a short description of the operating theatre and Lord Derby then thanked him on behalf of the community for providing it, *constructed* and furnished as it was in every way according to the requirements of modern science. Dr Brown, in reply said that he had been connected for nearly 50 years with the infirmary and its predecessor the old Preston Dispensary There was no object more worthy of assistance than a hospital or *infirmary and it was* in this belief that he had made his various contributions to the Preston Infirmary A properly constructed and suitably furnished operating theatre was essential for surgical work As regards the organ he had personally experienced the delights of listening to a chamber organ during an illness and he had resolved that whenever *the opportunity* presented itself he would place one in the Preston Infirmary for the benefit of patients and officials alike The party then went to another portion of the premises where Lord Derby laid the foundation stone of the out-patients' department which occupied a detached position as it was thought desirable for several reasons to exclude the out-patients from the main building of the hospital. After the ceremony Dr Robert Trimble moved, and *Dr G C* Kingsbury seconded a vote of thanks to Lord Derby who made a brief reply and the proceedings then terminated

BOOKS ETC RECEIVED

BOERICKE AND RUNYON CO New York

Electricity in Medicine and Surgery including the X Ray By William Harvey King M D., for 12 years Editor of the *Journal of Electro-Therapeutics*, Professor of Electro-therapeutics in the *New York Homœopathic* Medical College and Hospital. In Two Parts. Second edition With a *Section* on Electro-physiology by W Y Cowl, M.D., Berlin, and a Section on the Bottini Operation by Albert Freudenberg M.D., Berlin. Price not stated.

CHURCHILL, J & A. 7 Great Marlborough-street, W

Heath s Practical Anatomy: A Manual of Dissections Ninth edition. Edited by J Ernest Lane, F.R.C S. Surgeon and *Lecturer* on Anatomy at St. Mary s Hospital; Examiner in Anatomy *for the Fellowship* of the Royal College of Surgeons *Price 12s 6d*

Diet and Food Considered in Relation to Strength and Power of Endurance, Training, and Athletics. By Alexander Haig M.A., M.D *Oxon.* F.R C P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Fourth edition Price 2s.

Manual of Hygiene. By W H Hamer M.A, M D D.P H Cantab. *B.Sc. Lond.*, F R C.P., *Lecturer* on Public Health St Bartholomew's Hospital Assistant Medical Officer *of Health of the Administrative County of London* Price 12s 6d net

Elements of Human Physiology By Ernest H. Starling M.D Lond., F.R C P., F.R.S Jodrell Professor of Physiology University *College London* Fifth edition. Price 12s 6d.

The Blood: how to Examine and Diagnose its Diseases. By Alfred C Coles M D., B.Sc. of Public Health Edinburgh; formerly Senior House Surgeon at the County Hospital York. *Second* edition *Price 10s 6d.*

The Cause and Prevention of Decay in Teeth: An Investigation into the Causes of the Prevalence of Dental Caries to which are appended some Suggestions on its *Prevention By J Sim* Wallace M.D., D.Sc. L D S R.C.S., Honorary Dental Surgeon West *End* Hospital for Nervous Diseases Second Edition *Price 5s*

CLARKSON AND *GRIFFITHS*, LIMITED 160 Deansgate Manchester

An Introduction to the German Language By *Joseph Dulberg* M D., LL.D Price 1s net.

CURWEN J., AND SONS LIMITED 24 Berners-street W

The Art of Breathing as the Basis of Tone-production By Leo Kofler Organist and Choirmaster of St Paul's Chapel, Trinity Parish, and Teacher of the Art of *Singing New York City* Fifth American and First English edition Price 4s

DRUCK UND VERLAGS AKTIEN GESELLSCHAFT VORM DOELTER, Emmendingen

Das Sanatorium Wehrawald Vortrag gehalten am 11 Dezember, 1901, in der Naturforschenden Gesellschaft zu Freiburg i B Von Dr med G Treupel a o Professor für innere Medizin an der Universität Freiburg i B Price not stated

FISCHER, GUSTAV, Jena

Klinisches Jahrbuch Im Auftrage des Königlich Preussischen Herrn Ministers der geistlichen, Unterrichts und Medizinal Angelegenheiten Unter Mitwirkung der Herren Prof Dr M Kirchner und Dr Naumann Neunter Band Zweites Heft Prof Dr A. Gärtner: Die Quellen in ihren Beziehungen zum Grundwasser und zum Typhus Price M. 10

Jahresbericht über die Fortschritte und Leistungen auf dem Gebiete der Sozialen Hygiene und Demographie Band I: Bericht über die Jahre 1900 und 1901 Herausgegeben von A. Grotjahn, Dr med. und F Kriegel, Dr phil Price M. 7 50

KARGER, S Karlstrasse, 15 Berlin

Jahrbuch für Kinderheilkunde und Physische Erziehung Unter Redaction von O Heubner A. Steffen, Th Escherich 56 der dritten Folge 6 Band 3 Heft. Ausgegeben am 1 September, 1902 Preis des Jahrgangs (zwei Bände) M 36

KIMPTON, HENRY, 13, Furnival street Holborn E C

Practical Dietetics With Special Reference to Diet in Disease By W Gilman Thompson, M D , Professor of Medicine in the Cornell University Medical College in New York City Second edition enlarged and thoroughly revised Price 21s net

The Practice of Obstetrics By American Authors Edited by Charles Jewett M D Professor of Obstetrics and Gynecology in the Long Island College Hospital, New York Second edition, revised and enlarged Price 25s net.

The Science and Art of Prescribing By E H Colbeck B.A M D Cantab , M R C P Lond D P H Cantab and Arnold Chaplin B.A M D Cantab M R.C.P Lond Physicians to Outpatients at the City of London Hospital for Diseases of the Chest, Victoria park E Price 5s net

MACMILLAN AND CO London and New York

Wolfe ("English Men of Action" Series) By A G Bradley Price 2s 6d.

METHUEN & CO , 36 Essex street, W C

A Junior Chemistry By E A Tyler B A. Lat Science Scholar of St John s College Cambridge Fellow of the Chemical Society Science Master at Framlingham College Price 2s 6d

NEW SYDENHAM SOCIETY (Agent H K Lewis 136, Gower street W C)

An Atlas of Illustrations of Clinical Medicine Surgery and Pathology Compiled for the New Sydenham Society (A Continuation of the Atlas of Pathology ") Fasciculus XIV (Double Number) Fasciculi I and II of New Series. Frambœsial Syphilis (Yaws and Parangi) With Descriptions by Jonathan Hutchinson F R C S F R S LL D and Sir William Kynsey C.M G , F R C P I Plates A to H and LXXV —XCI Price to Non members £1 1s

REBMAN LIMITED 129 Shaftesbury avenue W C

Abdominal Examination and Manipulation in Pregnancy By Alexander Maclennan M B C M Glasg , L M (Rotunda Dublin) Clinical Assistant to the Professor of Obstetrics and Gynæcology University of Glasgow With an Introduction by Professor Murdoch Cameron Price 6s net

SAUNDERS W B , AND COMPANY Philadelphia and London

Atlas and Epitome of Abdominal Hernias By Dr Georg Sultan, First Assistant in the Surgical Clinic in Göttingen Prussia. Authorised translation from the German. Edited by William B Coley, M D Clinical Lecturer on Surgery Columbia University (College of Physicians and Surgeons) Price 13s net

Treatise on Diseases of the Skin For the Use of Advanced Students and Practitioners By Henry W Stelwagon M.D Ph D Clinical Professor of Dermatology in the Jefferson Medical College and Woman s Medical College Philadelphia Price 25s net

SHERRATT AND HUGHES, 27, St Ann-street Manchester

The Pharmacological Action and Therapeutic Uses of the Nitrites and Allied Compounds Including the Croonian Lectures for 1893 By the late Daniel John Leech M D Lond , D Sc Vict , F R C P Senior Physician to the Manchester Royal Infirmary and Professor of Materia Medica and Therapeutics in the Owens College Edited by R B Wild M.D Lond. M Sc Vict. M.R.C P Leech Professor of Materia Medica and Therapeutics in the Owens College. Price 10s 6d net.

SWAN SONNENSCHEIN AND CO LIMITED London (E P DUTTON AND CO , New York)

Avenues to Health By Eustace H Miles M.A formerly Scholar of King s College Cambridge Assistant Master at Rugby School and Honours Coach and Lecturer at Cambridge University Price 4s 6d

THACKER AND COMPANY LIMITED Bombay

Legal Medicine (in India) and Toxicology In Two Volumes By Major Collis Barry I M S F R S E , F I C &c. Chemical Analyser to the Government of Bombay Professor of Chemistry Medical Jurisprudence and Toxicology, Grant Medical College Bombay Vol. I Price not stated

VOGEL F C W Leipsic.

Archiv für Experimetelle Pathologie und Pharmakologie Redigirt von Dr B Naunyn Professor der Medicinischen Klinik in Strassburg I E und Dr O Schmiedeberg Professor der Pharmakolgie in Strassburg I E 48 Band, 3 und 4 Heft Preis pro Band, M 16 (6 Heften)

Appointments.

Successful applicants for Vacancies Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number*

ARMSTRONG, W G , M B Ch M Syd , has been appointed Lecturer in Infectious Diseases Disinfection, and Sanitary Law at the Sydney Technical College New South Wales, Australia.

BARRETT J W , M D Melb , F R C S Eng , has been appointed a Member of the Medical Board of Victoria Australia

BAXTER ALEXANDER KIDD, M B Ch.B Edin , has been appointed House Surgeon to Tiverton Infirmary and Dispensary Devonshire.

BODY H M M R C S , L S.A has been re-appointed Medical Officer of Health of Crediton (Devon)

HANKINS, J T M R C S L S.A has been appointed a Member of the Medical Board of New South Wales Australia

HARDCASTLE COOPER M B , M S Edin has been appointed Government Medical Officer and Vaccinator at Hillgrove, New South Wales Australia.

HOLMES-MERRICK, F R M D Dubl , has been appointed Medical Officer of Health for the Rural District of Basingstoke

JOHNSON C H , M B Ch M Edin has been appointed Public Vaccinator for the North Eastern District of Victoria, Australia

MACKENZIE JOHN HUGH F R C S Edin has been appointed Medical Officer of Health for the Shire of Bulla Victoria Australia.

MARR JOSEPH BELL L F P S G has been appointed Public Vaccinator for the South Western District of Victoria Australia.

MUIR D C , M D Glasg , has been re appointed Medical Officer of Health to the Abertillery Urban District Council

NESBITT, R L R C P & L.M Irel , has been re-appointed Medical Officer of Health to the Sutton in Ashfield Urban District Council

RABY L M D Durh , has been appointed Medical Officer for the Second District of the Devizes (Wilts) Union

ROBSON HENRY NAUNTON, L R C P Lond , M R C S , has been appointed House Surgeon at the General Hospital, Stroud, Gloucestershire

SANDILAND, DIGBY S , M R C S , L.R.C P Lond , has been appointed Senior House Surgeon to the West Ham and East London Hospital E

SCOTT, JAMES ANDREW NEPTUNE, M D Glasg , has been appointed Public Vaccinator for the North Western District of Victoria, Australia.

SCOTT, JOHN DANIEL KING M B , Ch B Melb , has been appointed Public Vaccinator for the South Western District of Victoria, Australia

SHANASY THOMAS L R C P , L R C S Edin , has been appointed Public Vaccinator for the North Western District of Victoria Australia.

THWAITES JOHNSTONE SIMON M B Melb has been appointed Officer of Health for the Shire of Mansfield Victoria Australia.

TIGHE, J M , L R C P and L R C S Edin has been appointed Officer of Health *pro tem* for the City of Hawthorne Victoria, Australia

WEST FRANCIS WILLIAM M.B Syd , has been appointed Government Medical Officer and Vaccinator at Camden New South Wales Australia

WILLIAMS JOHN M D Edin , M R C S Eng , has been appointed Member of the Council of the University of Melbourne Victoria, Australia

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

BELFAST UNION WORKHOUSE INFIRMARY – Resident Surgeon Salary £80 per annum with rations and apartments

BIRKENHEAD BOROUGH HOSPITAL.—Junior Male House Surgeon Salary £80 per annum with board and washing

BLACKBURN AND EAST LANCASHIRE INFIRMARY —Junior House Surgeon Salary £70 per annum with board washing &c

BRADFORD POOR LAW UNION HOSPITAL AND WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £125 with rations, apartments and washing

CANCER HOSPITAL, London.—Pathologist Salary £250 per annum

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray s Inn road, W C.—House Surgeon

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried Salary £70 per annum, with board, lodging, and washing

CHESTER COUNTY ASYLUM —Third Assistant Medical Officer unmarried Salary £160 per annum, with board, lodging, and washing

CORNWALL COUNTY ASYLUM Bodmin —Junior Assistant Medical Officer unmarried Salary £130, rising to £160, with board, apartments laundry &c

EAST SUSSEX NEW LUNATIC ASYLUM —Medical Superintendent Salary £900 a year with unfurnished house &c.

EASTERN DISPENSARY Leman street, Whitechapel E —Physician Honorarium £50 per annum

GLASGOW EYE INFIRMARY —Resident Assistant House Surgeon. Salary £75 with apartments and board

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION —House Surgeoncy Salary £100 per annum, with board, lodging and washing

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton —Assistant Resident Medical Officer for six months Salary £100 per annum with board and residence. Also Resident House Physician for six months Honorarium £25.

Liverpool, City of, Infectious Diseases Hospitals.—Assistant Resident Medical Officer unmarried. Salary £120 per annum with board washing and lodging

Liverpool County Asylum Rainhill —Assistant Medical Officer unmarried Salary £150 per annum rising to £250 with further increase to £350 on promotion, with apartments, board, attendance and washing

Liverpool David Lewis Northern Hospital.—Assistant House Surgeon Salary £70 per annum with residence and maintenance.

Loddon and Clavering Union —Medical Officer Salary £125 per annum, with fees.

London County Asylum Hanwell, W —Junior Assistant Medical Officer Salary £150 per annum, with board apartments and washing

Macclesfield General Infirmary —Junior House Surgeon. Salary £70 per annum, with board and residence

Metropolitan Asylums Board Fever and Small-pox Hospitals.—Assistant Medical Officers (unmarried) Salary £180 per annum rising to £240 with board lodging attendance and washing.

Middlesborough North Riding Infirmary —House Surgeon unmarried Salary £100 per annum with board, lodging and washing

Monmouthshire Asylum Abergavenny —Junior Assistant Medical Officer Salary £150 per annum increasing to £200, with board lodging and washing

Nottingham Children's Hospital, Forest House —House Surgeon (unmarried) for six months. Salary at the rate of £100 with board and residence

Rotherham Hospital and Dispensary —Assistant House Surgeon Salary £80 per annum

Roxburgh District Asylum Melrose, N.B —Assistant Medical Officer Salary begins at £140 per annum, with board, rooms, and washing

Royal Hospital for Diseases of the Chest City road, E C.—House Physician for six months. Salary at rate of £60 per annum, with apartments, board and washing

Royal Mineral Water Hospital, Bath.—Resident Medical Officer

St Mary's Hospital, Paddington, W —Surgeon for Diseases of the Skin

St Mary's Hospital for Sick Children Plaistow E —Honorary Medical Officer Also Ophthalmic Surgeon

St Marylebone General Dispensary Welbeck-street Cavendish square —Honorary Surgeon

St Peter's Hospital for Stone, etc Henrietta-street, Covent-garden W C —House Surgeon for six months Salary at rate of £100 a year with board lodging and washing

St Thomas's Hospital and Medical School.—Assistant Pathologist and Demonstrator of Pathology Salary £250 per annum.

Salisbury General Infirmary —Assistant House Surgeon unmarried Salary at rate of £75 per annum with apartments board and washing

Stockport Infirmary —Junior Assistant House Surgeon for six months Salary at rate of £40 per annum with board, washing and residence.

Westminster Hospital.—Assistant Pathologist and Curator Salary 100 guineas a year

Weston-super-Mare Hospital and Dispensary —Medical Officer to the Provident Dispensary Salary £100 per annum with board, lodging and washing

Winchester Royal Hants County Hospital.—House Physician unmarried Salary £65 rising to £75 with board residence &c.

Windsor and Eton Royal Dispensary and Infirmary —House Surgeon unmarried Salary £120 per annum with residence board washing and attendance.

York Dispensary —Resident Medical Officer unmarried Salary *£110 a year with board lodging and attendance.*

Births, Marriages, and Deaths

BIRTHS

Chambers.—On Sept. 14th at Folkestone the wife of W F Chambers L.R C P Lond M.R C S of a daughter

Collins —On Sept 11th at the Red House, Sawbridgeworth Herts, the wife of Ethelbert Collins M.R C.S L R.C.P Lond., of a son.

Mallam —*On Sept 15th* at Holywell street Oxford the wife of Ernest Mallam B M., B Ch Oxon. of a son

Moir.—On August 17th, at Fairy Dene, Pinetown the wife of Major J Drew Moir R.A.M C of a son

MARRIAGES

Foster—Viret —On Sept 10th at All Saints Church Finchley road N W Albert Ernest Foster M R.C S L.S.A. of Bradford, to Gertrude Caroline daughter of the late Benjamin Pope Viret.

Gordon—MacGill.—On Sept 10th at Stratford-sub Castle Church James Edward Gordon M.R C S L R.C.P Lond., to Blanche Violet (Liloy) only daughter of Campbell MacGill, of Stratford sub-Castle, Salisbury

MacDonald—De Neufville —On August 26th at Frankfurt-on-Main Germany at the French Reformed Church by the Rev — Correvon George Allardice MacDonald, M.B C M of Zanzibar East Africa to Carlotta daughter of Adolf and Carlotta de Neufville of 30 Wiesenau, Frankfurt-on-Main

Relph—Inman —On Sept. 10th at St Mary's, Kilburn Herbert John Relph L.D S M.R C.S. L.R.C P Lond to Norah third daughter of the late R J Inman

DEATH

King Sampson —On Sept 10th at his residence Abbotsfield Lordwood, near Southampton. James King-Sampson F.R C.S in the 86th year of his age.

N B —*A fee of 5s. is charged for the insertion of Notices of Births Marriages and Deaths.*

Notes, Short Comments, and Answers to Correspondents

THE SYSTEM OF PARISH NURSING

To the Editors of The Lancet

Sirs —I should be glad if any of your readers could favour me with any suggestion how to act in the following circumstances It so happens that a parish nurse is working in my district under the auspices of the vicar of the immediate locality and she in my opinion altogether exceeds the duties appertaining to nursing insomuch that she receives parishioners at her own residence tenders advice and treats what she fancies as simple cases at their *homes and that more or less frequently* without the intervention of a medical man regarding it as rendering first aid As an example, I may refer to a case recently attended by myself an infant about seven months of age was suffering from what I may be allowed to call malnutrition, and it appeared at least to the parents to be progressing somewhat favourably under the treatment which I thought fit to adopt After an interval of two or three weeks I was summoned to attend the child who was said to be suffering from convulsions which I could not recognise but I was surprised to find it had dwindled to a mere thread I commenced to reproach the mother as to the long interval (about three weeks) she had allowed to elapse without my seeing it; thereupon it was explained that it had in the meantime been taken to the parish nurse who advised accordingly *but that no medicine had been given.* The child died half an hour after my arrival I thereupon wrote to the nurse pointing out that what she really called first aid was in reality the last and that I should not feel justified in granting a death certificate without the coroner's sanction and moreover advised her to the effect that although she stood within her legal rights in practising medicine provided she did not pretend to be qualified which she does *not*, yet she must take the responsibility of the treatment on future occasions upon her own shoulders as I should be unable to give certificates in such circumstances I moreover advised her that the General Medical Council had prohibited qualified medical men from engaging the services of unregistered persons and that she could not reasonably expect medical men in the neighbourhood to become allied with her on the score that she was employed by an independent association when we are debarred from employing her in a like capacity as individuals. To avoid if possible, an inquest I next wrote to the coroner stating the case and as I said that I felt certain the cause of death was natural I asked as I was not prepared to state with any degree of certainty whether the infant would have recovered in the hands of qualified attendance if I might certify and received his assent I have refused to admit this nurse under any pretext to any house I attend for the reasons as heretofore

I am Sirs, yours faithfully

Sept 16th 1902. A Perplexed General Practitioner.

BLOOD COVENANTING

An interesting reference to the rite known as blood covenanting is made by Major C. Delmé-Radcliffe the officer commanding the Lango Field Force, in some despatches published in the *London Gazette* of Sept 12th When some of the chiefs, he says said that they wished to help us but dared not owing to the "blood brotherhood" a sufficiently ridiculous ceremony had to be gone through to free their consciences Dr A W G Bagshawe with due formalities injected a dose of apomorphia into the cicatrix of the incision made in the "blood brotherhood" rites This made the patient violently sick in about five minutes A few nauseous draughts afterwards completed the operation and the subject's satisfaction in the breaking of the spell. Mention is made of this curious rite in the writings of ancient authors and modern travellers. It takes many forms. In some cases the blood of the covenanters is merely allowed to mingle whether above ground or in a hole in the earth; in other cases the mingled blood is drunk Sometimes both persons and things are simply anointed with blood Stanley it has been stated in connexion with this rite has the blood of a fair proportion of the best families of Equatorial Africa in his veins

THE SPREAD OF PATHOLOGY AMONG THE MASSES

There was a mediæval distich to the following effect:

> Febris acuta, phthisis, pedicon scabies sacer ignis—
> Anthrax lippa, lepra, nobis contagia praestant "

From this it will be seen that the infectivity of phthisis has been known for some time. But the knowledge of this among the people had died out and it was not until lately owing in great measure to the efforts of the National Society for the Prevention of Consumption and other Forms of Tuberculosis, that the fact was realised. A remarkable instance of how the light is spreading was afforded by a case which came before the magistrate at the Westminster Police-court on Sept. 11th. Robert Clifton a paperhanger was summoned for travelling on the London and North Western Railway without a ticket The defendant pleaded guilty to travelling from Willesden to Sloane-square second-class with a workman s ticket. He said that he had done so from hygienic views as he was consumptive and believed in isolation Mr Francis, however, instead of being moved by this ingenious defence was hard hearted enough to inflict a fine and costs of 26s Mr Clifton will have to try again but we admire his brain power He must surely be a relative of the labourer who was charged the other day with being in unlawful possession of rabbits He was found with his pockets full of rabbits, but, according to him, he had lain down under a tree feeling tired The rabbits had run into his pockets and had suffocated themselves That was all he had to say

THE QUESTION OF THE COMMUNION CUP

We have received from Mr R C Oldfield of Liverpool a communicant s spoon designed with a view to prevent the danger of infection from the use of a common chalice Mr Oldfield s idea is that every communicant should dip his own spoon into the chalice To avoid the risk of accident the bowl of the spoon is covered in for about two-thirds of its area and it is set on to the handle at an obtuse angle Mr Oldfield doubtless means well and from a simply hygienic point of view his spoon leaves nothing to be desired, but in a matter of this kind hygiene is by no means the only thing to be considered

THE TREATMENT OF ASTHMA

To the Editors of The Lancet

Sirs,—Your correspondent "Rusticus' need not think that there is anything mysterious in Dr Tucker s atomiser A clerical friend of mine who had suffered from hay asthma all his life was loud in his praises of the relief he had obtained from this "cure I advised him to be careful as he was probably dealing with a potent drug which might have dangerous by-effects After some time my friend informed me that one day when his eyes were particularly troublesome he had sprayed them and he was astonished to find his pupils dilate and the sight become dim I replied that cocaine was in all probability the active constituent of the spray which he had used and cautioned him accordingly

There can be no doubt as to the value of cocaine in skilled hands, but it is worth noting that a chemist remarked to me recently that the majority of his cocaine customers had contracted the habit from using nasal sprays containing the drug

I am, Sirs yours faithfully,

Weymouth-street, W, Sept 13th, 1902. Chas W Chapman

DETAILED MEDICAL ACCOUNTS

To the Editors of The Lancet

Sirs —I think it the duty of every medical practitioner to render a detailed account when requested so to do It is easy if one has only method in his affairs I inclose for your benefit my system which is simple, time-saving and accurate In the space of four hours my bookkeeper can get through my books for the month enter every item, and give details, if need be of any account in a few minutes I claim for this method besides accuracy despatch and a saving in bookkeeper s wages My day book has left-hand margin, folio No name and address next a narrow column for whom attended Symbols are used as SF for head of family, M for Mrs S for son, Dr daughter, Cd child, Inft infant Next column visit next page ℞ £ *s* *d* The second book has name in full with address on left page with 31 spaces for the dates of the month, all of which are printed a spare column for entering total dates of attendance, as 5—15 Then follows £ *s* *d* and folio When all have been cast up they are entered in the ledger thus—Sept. 5—15, £1 3*s* 6*d* —I am Sirs, yours faithfully

Jas T T Ramsay L R C P, L.R C S Edin

Blackburn, Sept 15th, 1902.

To the Editors of The Lancet

Sirs —Your correspondent "Ledger" would do well to continue the present method of sending out accounts. As one who has been assistant and principal for 13 years in several large practices I can say that doing the books" is the most detested part of a medical man s work. The amount of work required in sending out 500 accounts every quarter is very great even with the present system, and your correspondent would find that having once commenced to send them out in detail he would be unable at a future date to discontinue it and so would be put to the expense of a bookkeeper A patient shows that he can trust one otherwise he would not come and my experience is that not 1 per cent wants a detailed account but if such is wanted I always give it with pleasure

I am Sirs, yours obediently,

Sept 13th, 1902. G P

THE USE OF THE TERM ENANTHEM"

Professor F Forchheimer of the Medical College of Ohio, U S.A, writing in the August number of the *Archives of Pediatrics* remarks that it is difficult to say by whom the term enanthem" was first employed he believes that it was first used by the French (Cadet de Gassicourt 1882) After this it was employed by the Germans In Eulenburg s ' Real Encyclopedie, edition of 1880 the word is not found but in the one of 1886 it occurs with a definition At the present time the term has been universally adopted by the French authors no modern description of the acute exanthemata exists in which it is not used. In Germany also the word is being made use of more and more constantly although Villaret s "Handwörterbuch der Gesammten Medizin" (1899) prefixes its definition by calling enanthem ' ein seltenes Wort (a rare word) Notwithstanding this in the latest of the larger works on practice of medicine—namely that by Schwalbe and Ebstein, vol v (1901)--the period of invasion in rubella is spoken of as the ' Stadium enanthematicum sive prodromorum" The word also occurs in the "Dictionnaire Encyclopédique des Sciences Médicales (1887) and in Littre In English it is found in the following dictionaries: Dunglison and Foster s medical dictionaries the Standard, the Century and the Imperial as enanthema, in Worcester as enanthesis always with the definition which seems the correct one The word ἐνάνθημα is not found in either modern or ancient Greek The word enanthem is interpreted by various authors in various ways Some claim that an enanthem is an exanthem upon the mucous membrane, the definition then resolving itself to the definition of an exanthem A second class of definitions of the term enanthem is the one represented by Villaret—namely "all efflorescences occurring on the inner surface of natural cavities—for instance, the nose the throat, the mouth, &c.—without pathological distinction"

OLD BOTTLES

A correspondent draws our attention to what he calls an abominable, disgusting, and dangerous practice' He refers to the use of second hand bottles by medical men and others such as wine and spirit merchants and pickle manufacturers He maintains that every bottle that has been used and thrown on one side for some time should not be used again but should be sold to old glass merchants and broken up and re-smelted We cannot see that the practice of using a bottle twice over is necessarily harmful There is no difficulty in cleansing a bottle or in sterilising it

"A QUERY"

To the Editors of The Lancet

Sirs —Your correspondent "Enquirer" in The Lancet of Sept 6th, p 720, probably alludes to Bérillon of Paris the Government Medical Inspector of Public Asylums, who treats morbid impulses, bad habits, masturbation, &c, by means of hypnotic suggestion claiming that these affections are very amenable to this method of treatment

I am, Sirs, yours faithfully,

James Shaw, M D R U I

Kensington, Liverpool Sept. 16th, 1902.

THE ENGLISH LANGUAGE IN EGYPT

The weekly statistical and meteorological return of the Egyptian Sanitary Department, which has been published in French under the title of *Bulletin Hebdomadaire* since 1885, is now drawn up in the English language, the change having been effected at the commencement of July last In other respects the form of the document has undergone no alteration.

◆

G S M —An old book, but a very good one is Southam s "Regional Surgery' Then there is Heath s "Surgical Diagnosis, written mainly for students With regard to medical diagnosis a small but useful book is Fenwick's "Medical Diagnosis" A book which our correspondent will find very helpful, though it is not exactly on the same plane as Medical Diagnosis is Judson Bury s ' Clinical Medicine,' published by Griffin and an excellent book, though a large one, is Butler's "Diagnostics of Internal Medicine," published by Kimpton

Lex —The answer depends very much on the size of the town in question In London for instance, a new-comer settles down without much notice being taken of his arrival, neither does he as a rule call on the neighbouring medical men But in a small town it is the custom for the newcomer to call on those already established in practice

D.P H —The newest work, and for our correspondent s particular purpose perhaps the best, is Hamer s "Manual of Hygiene (Churchill) but other good books are—Parkes and Kenwood s ' Hygiene" (Lewis) and Whitelegge s "Hygiene (Cassell)

Tunley —Our correspondent should apply to his local sanitary authority

Erratum —We regret that in an annotation which apppeared at page 759 of The Lancet of Sept 13th, owing to a printer's error the name of the writer upon whose paper we were commenting appeared as Dr Giuseppe Biller It should have been Dr Giuseppe Bellei

During the week marked copies of the following newspapers have been received —*Labour Leader, Hot Springs (Arkansas) Daily News, The Umpire, Dublin Evening Telegraph, Southampton Echo Belfast Guardian Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Echo, Daily Express, Standard Times, Windsor and Eton Express Globe Westminster Gazette, Derbyshire Times, Lincolnshire Echo Burnley Gazette, Reading Mercury Herts Advertiser Times of India, Aberdeen Free Press, Lancashire Post, Plymouth Morning News, Western Mercury, Devon and Exeter Express, Burnley Express Hackney and Kingsland Gazette, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (22nd).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) St. George's (2 P.M.) St. Mary's (2.30 P.M.) Middlesex (1.30 P.M.) Westminster (2 P.M.) Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians 2 P.M.) Soho-square (2 P.M.), Royal Orthopædic (2 P.M.) City Orthopædic (4 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Royal Free (2 P.M.) Guy's (1.30 P.M.)

TUESDAY (23rd).—London (2 P.M.) St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.) West London (2.30 P.M.), University College (2 P.M.) St. George's (1 P.M.) St. Mary's (1 P.M.) St. Mark's (2.30 P.M.) Cancer (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Royal Ear (3 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.) Soho-square (2 P.M.)

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.) University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing-cross (3 P.M.) St. Thomas's (2 P.M.) London (2 P.M.) King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.) St. Mary's (2 P.M.) National Orthopædic (10 A.M.) St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.) Gt Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Cancer (2 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.), London (2 P.M.) King's College (2 P.M.) Middlesex (1.30 P.M.) St. Mary's (2.30 P.M.) Soho-square (2 P.M.) North-West London (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (Gynæcological, 2.30 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) St. Mark's (2 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

FRIDAY (26th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.) Middlesex (1.30 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.) King's College (2 P.M.), St. Mary's (2 P.M.) Ophthalmic (10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.) City Orthopædic (2.30 P.M.) Soho-square (2 P.M.).

SATURDAY (27th).—Royal Free (9 A.M.), London (2 P.M.) Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.) St. George's (1 P.M.) St. Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.) and the Central London Ophthalmic Hospitals operations are performed daily

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.) —4 P.M. Dr A. Whitfield: Clinique. (Skin.)

TUESDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.) —4 P.M. Dr J H. Squire Clinique. (Medical.)

WEDNESDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.).—4 P.M. Mr J Clarke Clinique. (Surgical.)

THURSDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.) —4 P.M. Mr Hutchinson Clinique. (Surgical.)

FRIDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W C.) —4 P.M. Mr H. Tilley Clinique. (Throat.)

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It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures original articles and reports should be written on one side of the paper only AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed To the Sub-Editor '

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed To the Manager '*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready Bound in cloth, gilt lettered, price 18*s.* carriage extra.

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METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 19th, 1902.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Sept. 12	29·67	NNE	0·32	92	61	51	51	52	Raining
" 13	30·02	N W	0·01	101	56	43	43	47	Fine
" 14	29·86	W	—	83	61	48	54	58	Overcast
" 15	29·97	W	—	85	63	47	54	58	Overcast
" 16	29·74	S.W	0·01	104	67	49	60	58	Showery
" 17	29·83	W	0·03	106	62	43	50	53	Cloudy
" 18	30·22	W	—	102	61	44	47	50	Cloudy

Communications, Letters, &c , have been received from—

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Three Lectures
ON
SOME MORBID CONDITIONS OF THE MOUTH

Delivered at the Medical Graduates College and Polyclinic on Feb 10th, 17th and 24th 1902

By EDMUND W ROUGHTON, B S LOND, F R C S ENG,

SURGEON TO THE ROYAL FREE HOSPITAL AND HONORARY VISITING SURGEON TO THE NATIONAL DENTAL HOSPITAL.

LECTURE I.

Delivered on Feb 10th, 1902

GENTLEMEN —During the 10 years that I have been attached to the National Dental Hospital I have gained the impression that diseases of the mouth and more especially of the teeth are not so familiar to medical practitioners as they ought to be. No doubt this is largely due to the fact that the medical student receives no instruction in dental disorders. Of necessity the time which a student can devote to specialties during his curriculum must be small but this is to a certain extent remedied by the excellent custom of recently qualified men attending the practice of special departments or special hospitals I think that it is unfortunate that there are no facilities for the newly qualified man who is preparing for general practice to attend a short dental course, not, indeed with the object of becoming proficient in dentistry but to furnish him with a knowledge which I am sure would prove of great use in after life, more especially to those who are about to practise in country districts where expert dentistry is not obtainable This remark applies with even greater force to army and navy surgeons Another reason why dental disease does not receive the attention it deserves at the hands of the general practitioner is that there is a tendency amongst many medical men to regard dental disorders as the exclusive province of the dentist and as having nothing to do with medicine or surgery proper I hope to show that they have a great deal to do with many diseases which come almost daily under the care of the physician, the surgeon and the general practitioner

The Bacteria of the Mouth.

In studying the pathology of the mouth we are at the outset brought face to face with a great difference between this and many other regions of the body The mouth is a very perfect bacteriological incubator and as a natural consequence is at all times teeming with myriads of micro-organisms. For our knowledge of the mouth bacteria we are indebted chiefly to Professor Miller of Berlin, who has shown that very many varieties of organism both pathogenic and non pathogenic, may be found in the mouth he has isolated and cultivated more than 100 different species and has established the fact that the mouth is the receptacle and often the breeding ground of many specific organisms and is the source through which many serious, and even fatal, diseases may take place.

The conditions which obtain within the mouth are extremely favourable for bacterial growth. The temperature—viz. 37° C.—is that at which we keep our warm incubators in the laboratory sufficient access of air is afforded for those germs which require oxygen or are indifferent to its presence. Food materials (culture media) are present in abundance fragments of food remaining after a meal cast-off epithelial cells saliva, buccal mucus, inflammatory exudations from the gums, exposed pulps of teeth, and even dentine itself when decalcified, all serve as culture media for bacterial growth

With such favourable conditions and the frequent entry of germs into the mouth with air food, and drink it is little to be wondered at that so many organisms are constantly found indeed one might expect to find every germ in the bacteriologist's catalogue were it not for the fact that the struggle for existence is in operation here as elsewhere, causing the stronger to prevail and the weaker to perish. Thus it happens that although many species of bacteria may be at times found in the mouth the regular tenants are but few in number There are about six species of organisms which seem to find the conditions of the mouth exactly to their liking they flourish and crowd out all others Anyone possessed of an oil immersion lens and the most elementary knowledge of bacteriological technique may readily make acquaintance with these germs It is only necessary to scrape off a little of the white material which may be found on anyone's teeth before they are cleaned, spread it out in a very thin layer on a cover glass, stain with gentian violet, and examine it under the microscope. Amongst the many bacterial forms presented to view the attention will be first arrested by the rod-shaped organisms, most of these are in the shape of long jointless filaments somewhat resembling a tangled bunch of string and usually known under the somewhat inclusive name "leptothrix." Sometimes they assume comparatively gigantic proportions, many long wavy filaments being attached to a common root of structureless material. Jointed bacilli will also be seen in abundance, noticeable amongst them being the bacillus buccalis maximus occurring in long thick rods. When treated with dilute iodine solution the bacillus is stained violet. Micrococci although perhaps as numerous are on account of their smaller size less conspicuous than the bacilli and threads. They are sometimes in clusters, sometimes in pairs, tetrads, or chains or scattered singly A further search will reveal the presence of spiral organisms morphologically identical with Koch's cholera vibrio; these are especially abundant if the specimen has been taken from the neck of a tooth near an inflamed gum. So close is the resemblance between this organism and the cholera vibrio that when Koch first announced his discovery Klein discredited it by asserting that he had found the same organism in his own mouth. Further experience showed that, although morphologically identical their culture characters were widely different, and that whilst the cholera vibrio could be readily grown on the ordinary culture media the common bacillus of the mouth refused to grow outside the oral cavity Vicentini has attempted to prove that the various forms of mouth bacteria are all different phases of one organism which he terms leptothrix racemosa" but there is no need for us to pursue the subject into realms of purely scientific interest. It is of more practical interest to inquire what is the result of the presence of bacteria in the mouth. Do they do any good? Do they do any harm? The first question has not been as yet fully answered, but it is probable that they take some share in the process of digestion. That these bacteria may do harm is well known. I propose in these lectures to deal with some of the morbid conditions which they produce.

Dental Caries

Foremost amongst these on account of its frequency if not of its importance, is dental caries, a disease which is of almost universal distribution. Evidences are not lacking that prehistoric man suffered from dental caries and alveolar abscess. Many of the Egyptian mummies in our museums show well marked evidence of caries and other diseases of the teeth. The Egyptians had doctors for the eyes for the ears, and for the teeth and forceps for dental extraction may be found amongst museum collections of Egyptian antiquities. The early Greek physicians paid much attention to diseases of the teeth and during the latter part of the Greek epoch the young men of fashion gave great attention to their teeth and were proud of having them fine and white, although their more athletic brothers regarded such attention to personal appearance as effeminate and only suitable to women and fools Dr Schliemann during his excavations at the site of ancient Troy found several crania with carious teeth some of them even stopped with metals, especially lead. The researches of Mummery and others amongst ancient crania have shown that the prevalence of caries bears a very close relationship to the degree of civilisation and the luxurious habits indulged in by the ancients Thus in ancient Britons of the dolichocephalic type 3 per cent. had caries, whilst of the brachiocephalic type, 22 per cent. Romano-Briton 29 per cent. and ancient Egyptians, 42 per cent Miller maintains that caries is less prevalent in meat-eating races than in those which subsist upon mixed foods This accords with the statement just given and is borne out by investigation amongst the modern aboriginal flesh-eaters caries being rare amongst the North American Indians Fiji Islanders New Zealanders and Lapps whilst the Icelanders seem to be almost free from the disease

Amongst the civilised nations of the present time there are no statistics which definitely determine the frequency of caries, but there can be no doubt that the percentage is a large one and it is apparently on the increase. It is generally conceded that caries is more common amongst women than amongst men in the proportion of roughly three to two, and that married women are more liable to it than spinsters, the period of pregnancy and lactation being especially favourable to the development and progress of the disease. "For every child a tooth" is a well-known adage. A good idea of the prevalence of dental caries is afforded by the report of the School Commissioners of the British Dental Association who examined 3368 boys and girls at the Hanwell and Sutton Schools and on board the *Exmouth* training ship. They found that 23 per cent. had sound dentures, whilst the remaining 77 per cent. had at least one carious tooth. A similar investigation amongst 19,725 German school children belonging to 19 towns revealed caries in 95 per cent.

It is interesting to note the wide difference existing in the relative frequency of the disease in the upper and the lower jaw and between individual classes and groups of teeth. The right and the left sides are about equally affected, whilst the upper teeth are more often carious than the lower in the proportion of nearly two to one. The first permanent molars are the most often decayed, whilst the lower central incisors are so rarely carious that they may be almost considered immune. The cause of this irregular distribution has not been worked out.

There are many causes which predispose the teeth to decay. The influence of civilisation has been already referred to. The environment of the civilised man tends to lower the development and vital resistance of the dental structures which is found in such perfection amongst savage races. Structural defects in the enamel, the result of constitutional conditions which have impaired nutrition, are a most important factor in predisposing the teeth to caries. The most noticeable of these defects are the pits or honeycombed conditions, grooves, and absence of enamel which are so often seen in the subjects of inherited syphilis and in those who have been treated with mercury during childhood. Less noticeable but infinitely more common are the sulci or fissures formed by the union of developmental lobes, which may be found in almost all teeth, even the most perfect. These conditions invite the establishment of caries by making it possible for micro-organisms to find a lodgment where they can propagate undisturbed. Many of these enamel defects are so minute as to be discoverable only on microscopic examination, yet they suffice to initiate decay. Traumatic defects in the enamel play the same rôle, but not to the same extent. Injuries which fracture the enamel, leaving the dentine exposed, if occurring at points which are subject to the friction of mastication, rarely develop caries, but injuries which result in splitting of the enamel without much displacement are often followed by decay since they afford a suitable lodgment for bacteria.

In the normal dental arch the teeth are wider at their biting surfaces than at their necks, thus leaving between adjacent teeth a V shaped interspace which is readily kept clean by the flow through them of the fluids of the mouth as well as by artificial means. Any alteration in the shape or arrangement of the teeth which partially obliterates these interspaces favours the lodgment of alimentary débris and the development of bacteria.

Abnormal conditions of the oral secretions play a not unimportant part in the causation of caries. Normal mixed saliva has generally an alkaline reaction, but buccal mucus is acid; it thus happens that inflammatory conditions, such as stomatitis, gingivitis, &c., by augmenting the secretion of buccal mucus render the saliva acid. Acidity of the oral secretions is not uncommon during the exanthemata and other febrile conditions as well as during pregnancy and lactation.

It would serve no useful purpose to review the different theories of decay which writers from the very earliest ages have advanced. At the present day the germ theory (chiefly through the researches of Miller) occupies an unassailable position. It is generally agreed that the mouth bacteria are the direct cause of dental caries, that certain of them possess the property of forming acids (chiefly lactic acid) which acting upon the lime salts of the enamel, disintegrate it and thus permit the entrance of organisms into the dentinal tubules, where they continue the process by dissolving the lime salts from the dentine and that afterwards certain other bacteria liquefy, peptonise, or digest the basis substance, thus removing the organic tissue and forming a cavity of decay.

The first stage, then, of caries is disintegration of the enamel; this tissue contains no organic matrix and is completely dissolved by weak acids. In the mouth lactic acid is generated from carbohydrate food by the action of certain zymogenic bacteria which adhere to the teeth in zoogloea masses. The acid attacks the interprismatic substance first, causing the enamel rods to fall apart and expose the underlying dentine, which in its turn becomes decalcified. The decalcification of the dentine is followed by invasion of the dentinal tubules by micro organisms of different kinds; cocci, bacilli, and spiral threads may all be seen in the same specimen, although not often in the same tubule. In the deeper layers of decalcified dentine the bacteria become less and less in numbers until they finally disappear. Beyond this non infected line there is a zone of partially decalcified dentine, the removal of the lime salts being caused by the solvent action of the lactic acid produced by the bacteria lodged within the tubules. Generally the line of progress or penetration of caries is in the direction of the tubule so that sooner or later, if the process is unchecked, the pulp is involved and becomes inflamed. This inflammation may subside either spontaneously or under suitable treatment but may proceed to ulceration, suppuration, or gangrene of the pulp and death of the affected tooth. Thus the process of destruction of useful organs goes on and the function they should perform is necessarily impaired.

Although there are many people whose mouths are destitute of teeth or full of carious stumps but who yet never suffer from indigestion, it must be obvious that dental disease, by impairing the function of mastication, must throw additional work upon the stomach. The physician makes it a rule to look at the tongue of his dyspeptic patient, but I fancy he very often neglects to see whether his teeth are in proper working order. I wonder how many cases of dyspepsia are treated annually in our hospital out-patient rooms with a mixture of gentian and rhubarb or a similar prescription when the proper treatment is really a new set of teeth. In every case of indigestion the condition of the teeth should be ascertained, the presence of carious teeth should be noted, and where teeth have been lost it should be ascertained whether those which remain can perform the function of mastication. Sound teeth which have no fellows to bite against are useless for purposes of mastication.

PAIN IN DENTAL DISEASE.

Of the symptoms or effects of dental caries that which is best known and most generally recognised is pain; most people know what toothache is, but there are many people, including medical men who do not form a correct estimate of the relation of pain to dental disease. To say that a diseased tooth may ache is to state the truth, but by no means the whole truth. Practically any disease of a tooth may produce toothache. The dentinal tubules contain minute processes extending into them from the cells of the pulp; it is uncertain whether these processes are of the nature of nerve fibrils, but it is well known that exposure of dentine by erosion or decay may produce pain or, at any rate, undue sensitiveness. When destruction of dentine exposes the pulp severe pain is common.

It is well known that extensive dental caries may be present without toothache or pain of any kind, especially so long as the person is in good health; but it not uncommonly happens that diseased teeth, previously the seat of little or no pain, are prone to ache when the patient has become lowered by disease or exhaustion or when the buccal secretions become vitiated by dyspeptic derangement or in pregnancy. As a general rule, the pain is felt in the diseased tooth, but not always—it is quite common for a patient to refer the pain to a neighbouring tooth which may be quite sound. I well remember when I was a dresser a man coming to the surgery complaining of toothache and wanting the aching tooth extracted. He had a carious molar, but he referred the pain to the next tooth which appeared perfectly sound. I was for taking out the decayed tooth but the man would have it that the sound one ached; thinking that he probably knew best I pulled out the sound one. I do not know what the result was for I never saw the man again; perhaps it was as well for me I did not.

This transference of pain from a decayed tooth to a sound one is no doubt of the same nature as the pain so commonly felt in the knee in cases of hip disease, but owing to the complexity of the fifth nerve the transference may be much more varied or remote. Disease of a tooth may cause toothache in the other jaw or the pain may be referred to a region remote from the mouth. In my experience much the commonest instance of this is pain in the ear in connexion with carious lower molars. I frequently see patients who come complaining of earache and on examining the ear I find nothing whatever wrong On looking into the mouth I invariably find carious molar teeth, nearly always lower molars but occasionally uppers. Proper dental treatment cures the earache.

Pain extending more or less all over the side of the face is very commonly associated with well marked toothache, but we not unfrequently see this same pain due to dental disease but without any pain in the tooth. With the general public (especially the feminine section) this is neuralgia" and not toothache, and is to be treated by drugs and not by a visit to the dentist. It is sometimes difficult to persuade such sufferers of their mistake. A medical friend once consulted me for severe facial neuralgia he admitted that he had a bad tooth but declared it did not ache. After some persuasion he consulted his dentist. The process of killing the nerve of the tooth which did not ache was attended by severe pain all over the neuralgic area, but it effected a speedy and effectual cure Such cases might be multiplied indefinitely

It would appear that although referred pain in dental disease is usually limited to the area of distribution of the fifth nerve it may occasionally extend to other regions. Thus Salter records the case of a patient who suffered from neuralgic pains in the arm apparently due to carious teeth When any one of the teeth in the lower jaw on the left side became irritable or tender from caries she was immediately attacked with severe neuralgic pain at a spot small and circumscribed on the front of the left forearm, about two inches below the line of flexure of the elbow joint, and what is more remarkable is that when her artificial teeth hurt the lower jaw on that side the same symptom manifested itself The right side has never been similarly affected. Another female patient applied to Sir S Wilks for relief from a constant aching pain on the left side of the face and neck and left arm. The pain sometimes became intensely severe The arm had nearly lost all muscular power the patient could not raise it to her head or squeeze any object in her hand. This state of things had existed for two years and the patient had been under medical treatment all the time. Upon examining her mouth a carious left lower wisdom tooth was discovered. After this was extracted she immediately felt great relief and in a few hours all her symptoms had completely disappeared.

Many writers have recognised the teeth as one of the causes of headache. Lauder Brunton says My attention was first directed to the relation between pain in the temple and decayed teeth many years ago A servant was suffering from toothache but complained still more of intense pain in the temple I did not know what to do for the pain in the temple, but I thought the toothache might be relieved by applying solid carbolic acid on a pledget of cotton wool. I accordingly introduced this into a large cavity in one molar To my great disappointment it gave no relief whatever In the course of a very few minutes her fellow-servants came running to tell me that the cook was now quite free from pain, that she had taken the cotton wool out of the tooth into which I had placed it, and put it in another decayed tooth and at once the pain vanished both from the tooth and from the temple In this case the irritation of a decayed tooth had produced a two-fold pain—a pain felt in the tooth itself and also one felt in the temple but sometimes a decayed tooth will cause headache when no pain is felt in the tooth itself." Brunton was led to observe this by watching his own case One day he was suffering from severe migraine, the pain being limited to the left temple. On percussing his teeth he found that every one was sound excepting the last molar on the same side as the headache. This proved to be carious He also refers to the case of a clergyman who suffered from intense headache unrelieved by various medicines and visits to continental health resorts. A tender tooth was discovered and found to be carious This was stopped and the headaches disappeared. Brunton is of opinion that headaches are very frequently of dental origin and always commences his investigation of a case of headache by carefully examining the teeth He states that a decayed lower molar usually causes a temporal or occipital headache a decayed upper molar headache which is rather further forward than that caused by the lower jaw, whilst decayed incisors or canines are more likely to cause frontal or vertical headache. Although I do not myself believe that headache is so frequently of dental origin it should be borne in mind that it may sometimes be so and in any obscure case a careful examination of the mouth should be made.

As a general rule the recognition of the nature of a case of remote dental pain is not difficult provided that one bears in mind the possibility of its occurrence and takes the trouble to examine the teeth. But the diagnosis is not always easy a careless or inexperienced observer may examine a set of teeth and pronounce them healthy when an expert might detect quite sufficient to cause the pain Each tooth should be examined separately Cavities hidden in the interstices or below the gum must be sought for A fine dental probe carefully passed over the neck and hidden surfaces of a tooth will often discover a cavity having perhaps only a small aperture but passing deeply towards the pulp The teeth should be percussed with a steel instrument a sharp tap on the masticating surface will often reveal abnormal sensitiveness and so lead to detection of the offending tooth A stream of cold water from a small syringe is a useful test for sensitiveness. Decayed or broken down wisdom teeth are often difficult to discover In the upper jaw they may be invisible except with a mouth mirror whilst in the lower jaw they are commonly hidden by folds of cheek or overhanging gum. Decaying in many instances before they are completely erupted these teeth after the destruction of their crowns by caries are occasionally quite invisible and their presence in the sockets can be ascertained only by passing a probe through the small fistulous track in the gum which covers them. A condition similar to this may exist in the case of any other tooth, and buried roots especially when exostosed are often exciters of neuralgia. Impacted lower wisdom teeth even when free from decay sometimes cause intense neuralgia by pressing directly upon the adjacent trunk of the inferior dental nerve Sewell records a case of severe neuralgia in which he extracted the lower wisdom tooth and found that the inferior dental nerve had traversed a foramen in one fang and a deep groove in the other complete anæsthesia of the parts supplied by the nerve immediately followed the operation but sensation slowly returned in the course of months. The most difficult cases to diagnose are those in which isolated nodules of secondary dentine occur in the pulps of externally healthy teeth. Such a condition may cause severe neuralgia and can only be recognised after the tooth has been extracted and split open Although dental disease is a very common cause of facial neuralgia it must be remembered that there are other diseases which may involve the fifth nerve and cause toothache although there is no dental disease. As an example I may cite Bland Sutton's well known case of a woman who was supposed to be suffering from neuralgia due to bad teeth. A careful examination detected anæsthesia of the side of the nose and the lower lid, with a slight displacement of the eyeball. The superior maxilla was removed and a myxomatous tumour was found springing from the infra orbital nerve and filling the antrum and invading the orbit.

In acute inflammation of the antrum severe toothache and facial neuralgia are common especially when temporary blockage of the ostium maxillare leads to retention of discharge under pressure. In such cases even teeth which have long since been extracted may appear to ache. This is doubtless due to involvement of the superior dental nerves. In chronic empyema of the antrum pain is not common and when present is often in the supra orbital region and may lead to a false suggestion of disease of the frontal sinus. Syphilitic nodes foreign bodies, exostoses necrosis or other lesions involving some part of the fifth nerves might be added to the list of diseases causing healthy teeth to ache or to seem to do so Lastly there are cases of toothache and pain in other parts of the distribution of the fifth nerve not due to any discoverable organic lesion of teeth nerves or other parts It is for these cases that in my opinion the term neuralgia should be reserved pain in a tooth the result of dental disease should be called toothache pain in a remote part due to dental disease should be called remote toothache and when our inability to fathom the nature of a case compels us to call it neuralgia we should not flatter ourselves that we have made a diagnosis but should recognise that our diagnostic skill is inadequate

REFLEX NEUROSES OF DENTAL ORIGIN

I now come to a branch of my subject which is of a more speculative character, the so called dental reflexes No one can deny that the different tissues and organs of the body are to a large extent inter-dependent upon one another and that disease of one part may produce symptoms or disturbances in a remote region. It may be conceded that to a certain extent these effects are produced through the medium of the nervous system and perhaps more particularly through the sympathetic. It is common knowledge that an offensive odour may produce vomiting, that cough may be due to a plug of wax in the ear, that a bright light or even syringing the eye sometimes causes sneezing, and that the uterus contracts when the infant is put to the breast These phenomena are undoubtedly due to nervous action , no other explanation is possible. Unfortunately, a knowledge of these undoubted reflex neuroses has led many writers to attempt to explain away many obscure symptoms and conditions most of which probably have nothing to do with the nervous system The sympathetic system is their sheet anchor, and they seem to think that the chief function of these imperfectly understood nerves is to produce pain in the wrong place and to lead the practitioner away from the true scent in his hunt for the seat of disease The specialist is usually the worst offender in this respect and it may be remarked that he does not usually try to refer symptoms in his own little sphere to disease in distant parts that he is not accustomed to operate on. The sins of the ardent rhinologist have been recently dealt with by Semon and I hope that one effect of his lectures and the correspondence which followed will be to make the armchair pathologist cautious in his exploitation of the sympathetic system. As far as my experience and reading go the dentist is not prone to over-estimate the remote effects of dental disease, the records of so called dental reflex neurosis being from the pens of practitioners in other branches of the healing art. It is, however, an undoubted fact that reflex spasm may be due to dental disease I have frequently seen cases in which trismus or inability to open the mouth was dependent upon spasm of the muscles of mastication due to an impacted lower wisdom tooth Owing to want of room between the second molar and the ramus of the jaw, or owing to some malposition of the tooth itself, the wisdom tooth is unable to assume its normal position, and by the pressure it exerts on neighbouring structures sets up irritation which induces a state of tonic spasm of the masseter, pterygoid, and temporal muscles Many such cases are on record Tomes records a case of retarded eruption of a wisdom tooth with closure of the jaws which had been allowed to go unrelieved for two years It was immediately cured by removal of the second molar so as to allow the wisdom tooth to assume its proper position. Although many, perhaps most, of the cases are reflex spasms, it must not be assumed that all of them are for it is not uncommon for inflammation starting around an impacted wisdom tooth to extend to the adjacent muscles , as a rule this myositis subsides as soon as the inflammatory mischief ceases, but it may lead to a permanent contraction.

Although muscular spasm may certainly be of dental origin it appears very doubtful whether paresis or paralysis is ever due to the same cause. There are, however, many cases on record in which so-called reflex paralysis is attributed to dental disease Thus Gillman, Evarts, and Coale each record a case of facial paralysis due to carious teeth, Whitney relates a case of paralysis of the arm from dental irritation, and Salter gives a case of paralysis of the arm from an impacted and carious wisdom tooth, and others might also be cited. But although the paralytic conditions are usually said to have disappeared after dental treatment it seems to me very difficult, if not impossible, to prove that they were due to the teeth and not really of the nature usually designated "hysterical"—whatever that may be

Many cases of ophthalmic disease supposed to be due to diseased teeth are on record Pain in the eye and excessive secretion of tears may certainly be due to dental irritation, but so far as I can discover there is no authentic case which definitely proves that any actual eye disease is really a reflex dental neurosis The nearest approach that I can find is the case recorded by Mr H. Sewill in his work on Dental Surgery A middle-aged woman suffered from bad teeth and neuralgia. In 1880 she began to notice pricking pains in her eyes, and in 1882 contraction of the muscles of the right side of the face , six months later she lost the sight of the right eye which had become cataractous. She had many carious teeth, much tartar, and much swelling and inflammation of the gums After appropriate dental treatment the facial spasm slowly subsided, and with the exception of the cataractous eye she made a complete recovery Mr Henry Power believes that carious teeth are a common cause of phlyctenular ophthalmia , the two conditions, however, are so common that it would be strange were they not often associated He also records a case of neuro paralytic ulcer of the cornea which he attributed to dental irritation, but although some improvement followed extraction of the diseased teeth the eye had to be subsequently removed. Blake records a case of internal squint in a child, aged five years, with "sadly carious teeth." He diagnosed reflex paresis of the left abducens due to dental caries *viâ* Meckel's ganglion Two years subsequently he heard that there had been a progressive improvement in the axis of the left eye since the removal and stopping of the erring teeth. The report of the case is the reverse of convincing Sir W J Collins who has devoted much attention to oculo-dental affections asserts that he knows of no case of ophthalmoplegia of any kind due to dental disease

Many cases of reflex amblyopia are on record , here is one which I cull from a volume of the Transactions of the Odontological Society A girl, aged 15 years, suffered from failing vision and became, according to her own account, blind in a week , her pupils were dilated and insensible She had two teeth taken out and "her vision returned to her when walking away from the hospital " A week previously to this miraculous cure this blind girl had been examined by a well-known oculist who after some persuasion made her read $\frac{6}{6}$ with either eye and designated the case "hysterical amblyopia." The recorder of the case nevertheless prefers to consider it a case of "reflex blindness " On the next page he quotes the case of a totally blind girl who shrieked when a frog was suddenly displayed before her eyes He is content to call this a case of "hysterical amblyopia "—I presume because no carious teeth were noted or extracted Another author cites a case of a woman, aged 45 years, who complained of impaired vision in the right eye and a painful right upper bicuspid. On closer questioning he found that the trouble was a suddenly increased presbyopia in the right eye The offending tooth was removed and the failure of accommodation was restored He does not state that he had been careful to exclude the possibility of the failure of accommodation being due to the accidental introduction of atropin, nor does he state whether the patient had been wearing a belladonna plaster It must be admitted, however, that there are some cases on record in which the association between dental disease and amaurosis is to say the least remarkable Dr De Witt reports the following case "A merchant, aged 31 years, of good constitution and health always excellent, in June, 1856, whilst in the act of firing a gun, first discovered that he was blind in the right eye He had no pain in the eye at the time or subsequently Vision was lost without his being able to ascribe it to any cause In this condition the eye remained for nearly 12 years; he could merely discriminate light from darkness On Dec. 24th, 1867, I inquired as to the condition of his eye and endeavoured to ascertain the probable cause of the malady I learnt that two months before his loss of sight he had several teeth filled Upon examination I found a large cavity in the first bicuspid of the right upper jaw which had been neatly filled There was also a fistulous opening upon the alveolus opposite that tooth. I advised its extraction but the patient being naturally very timid objected. I then removed the filling by which I hoped the irritation might be relieved The fistula closed and vision was gradually restored. About three weeks subsequent to this, when the eye had become nearly as good as its fellow, the soreness of the gum returned and vision simultaneously became blurred A week later I extracted the tooth when the blur immediately disappeared At the present time (January 1868) the patient can see quite as well with the right eye as with the left."

Many diseases of the ear have been attributed to dental disease but I think without sufficient evidence Epilepsy, mania, delusions, and other nervous disorders, including neuroses of the alimentary canal, larynx, heart, and uterus, as a sequel of dental irritation have from time to time been described by writers When I say that amongst the list may be found cases of vicarious menstruation and urethral catarrh you will probably agree with me that I have pursued the subject far enough

THE RADICAL TREATMENT OF CHRONIC INTESTINAL TUBERCULOSIS, WITH SUGGESTIONS FOR TREATMENT IN MORE ACUTE DISEASE AND IN TUBERCULOUS PERITONITIS[1]

BY A. W. MAYO ROBSON, F.R.C.S. ENG.,
VICE-PRESIDENT, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following cases of chronic tuberculous disease in the intestine treated surgically have raised hopes in my mind as to the possibility of doing good not only in chronic cases such as are here related but in some more acute cases where if the disease be strictly limited a radical operation might remove it, but where if more extensive a short-circuiting might set the part at rest and relieve it from irritation, thus enabling the ulcers to heal, the surgical measures being supplemented by general, medical, and hygienic treatment. Whether these hopes will be realised or not I trust that the cases in themselves may prove of sufficient interest to warrant me in bringing them to notice. I think my readers will agree that whatever may be their views on the treatment of acute intestinal ulceration, in chronic intestinal tuberculosis especially if associated with stricture, surgical treatment is advisable.

CASE 1. *Tuberculous disease of the appendix extending to the cæcum and ileum; stricture of the ileo-cæcal valve; removal of the cæcum and adjoining part of the ileum and ascending colon.*—A man, aged 23 years, was sent to me on June 19th, 1900, with the history that after symptoms pointing to chronic appendicitis an operation had been undertaken by an experienced surgeon who found tuberculous disease of the appendix without any general affection of the peritoneum or glands, but as there were numerous adhesions and some matting of viscera in the neighbourhood the appendix was not removed and the abdomen was closed. The patient was in no way relieved and steadily grew worse generally and locally. When I saw him he was very thin and gave the history of having had pains in the cæcal region for 18 months, associated at times with paroxysmal pain extending across the abdomen, the paroxysmal attacks having recently become very frequent. There had been great loss of flesh with night sweats and diarrhœa. A hard swelling could be felt in the cæcal region and a coil of intestine below the umbilicus could be felt to contract and to harden under the examining hand, indicating chronic obstruction.

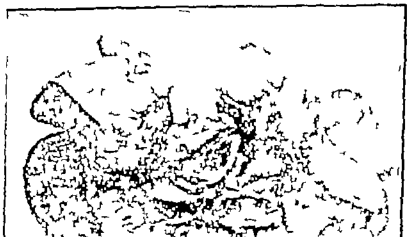
Operation was performed on July 17th, 1900. An oblique incision along the outer border of the right rectus was made. There was miliary tubercle on the peritoneum with slight serous effusion, also considerable matting of the viscera adjacent to the cæcum. The tumour, consisting of the cæcum, the lower third of the ascending colon, the appendix, and several inches of ileum, was removed and the open end of the ileum was connected to the ascending colon by means of continuous sutures applied over a decalcified bone bobbin. On account of adhesions it was difficult to explore the rest of the abdomen, but no other mass could be discovered and the mesenteric glands, except those in the vicinity of the lower end of the ileum, were apparently not involved. The wound healed by first intention and the sutures were removed on the seventh day, but on the tenth day a small purulent collection was evacuated from the lower end of the scar and the length of time that the slight sinus took to heal suggested tuberculous infection. He returned home on August 29th markedly improved in his general health. Fresh air and general tonic treatment were advised. On June 3rd, 1901, nearly a year later the medical superintendent of a Durham sanatorium wrote to me to say that the patient was improving generally but that he had had some abdominal pain suggestive of obstruction by a constricting band. A further exploration to ascertain if there are any bands or other removeable cause of obstruction has not yet been pressed as it has not appeared to be absolutely necessary and the general health has improved.

The mass removed showed tuberculous ulceration with great thickening of the cæcum and ileum, the disease having apparently started in the appendix and then extended to the cæcum and involved the ileo-cæcal valve, which would barely admit the tip of the little finger.

CASE 2. *Multiple tuberculous strictures of the ileum; enterectomy.*—For the history of the following cases I am indebted to my dresser Dr. J. Acomb. The patient was a woman aged 51 years, who was seen with Dr. R. Petch of York. With regard to the family history, on the father's side it was negative but on the mother's side it was decidedly tuberculous. As to her previous history she appeared to overgrow her strength between the ages of 10 and 14 years. When 10 years old she had a glandular swelling in the neck which was incised. She had no cough until 12 or 13 years ago, since which time she had been troubled by bronchial catarrh every winter. There was no perspiration at night. She had recently lost flesh and strength very considerably. For some 15 to 20 years the patient had suffered from so-called "bilious" attacks accompanied by vomiting and pain across the abdomen which would pass away after a few hours with diarrhœa. She was of a bad colour at the time of the attacks but had no apparent jaundice. These attacks occurred for some years, with perhaps a month's interval between each. Five years ago the character of the attacks appeared gradually to change and three years ago their place was taken by a constant pain across the waist and back. The pain did not radiate and was accompanied by indigestion and flatulence. She was subject to attacks of constipation for two or three days, followed by diarrhœa for three or four days, which would be accompanied by griping pain and would come on quite suddenly and unexpectedly. No distension was noted; there was no tenderness during the intervals of pain and no tenesmus; the stools, as a rule, were watery. There was slight bleeding from the bowel on defecation five or six years ago but no blood had been noticed since. When seen by me on July 22nd, 1901, the patient was very thin and it was easy to see vermicular contraction of the intestines, the tumour coming and going at varying intervals, the pain being at times very severe. On examining by the rectum a nodular growth could be felt in Douglas's pouch which was quite moveable from side to side and could be pushed out of reach. Operation was advised and was performed in York on July 26th.

The abdomen was opened in the middle line and the tumour previously felt by the rectum was discovered to be a coil of intestine very much thickened and forming a mass as shown in the illustration (Fig. 1), there being no less than four distinct strictures, the first within one and a half feet of the last and all in the ileum. The affected area was brought through the incision, surrounded by sterilised gauze and excised, the healthy bowel being sutured end to end over a decalcified bone bobbin.

FIG. 1.



Tuberculous disease of the ileum with multiple strictures and enlarged glands.

I have not seen the patient since but have heard that she recovered from the operation and gained flesh and strength.

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[1] A paper read before the Clinical Society of London on Jan. 10th, 1902.

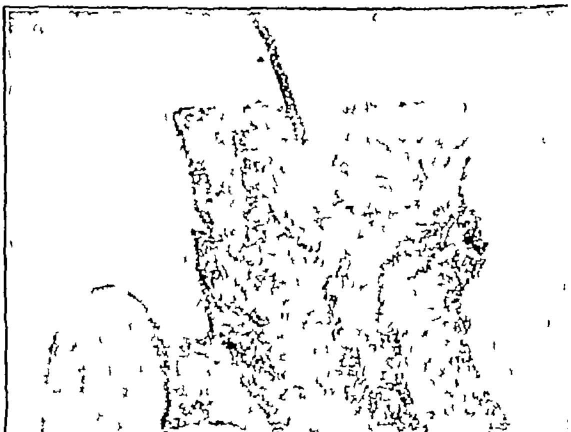
A year later she was well in every respect The specimen removed was examined by Dr Norman Smith, pathologist to the Leeds Infirmary, who gave the following report "There is a great increase of small round leucocytes and of connective tissue in the submucous layer At places the leucocytes form dense, deeply-stained aggregations Seen by the higher powers they are made up of peripheral parts composed of small cells and a central portion of large cells They are apparently giant cell arrangements At places in the muscular coat the same arrangement is commencing to be formed " The diagnosis was chronic tuberculosis of the bowel The specimen is an extremely interesting one as showing how near to stenosis it is possible to get without complete obstruction, it also shows a gall stone entangled in a pouch between two of the strictures

CASE 3 *Multiple tuberculous strictures of the ileum, short circuiting*—The patient was a woman, aged 20 years, whom I saw with Dr J G E Colby of Malton on March 6th, 1901 She gave the history that she had always been weak and thin since the age of 10 years but this was accounted for by her having grown so rapidly At the age of 15½ years she began to have pain in the abdomen on the right side associated with diarrhœa two or three times a day From that time onward she had never been long free from pain and diarrhœa and lately her attacks were coming on with greater frequency Her loss of flesh and weakness was very marked and she suffered from night perspirations No tumour had been discovered and she had not been troubled with vomiting The motions contained neither blood nor slime, but were, as a rule, quite fluid, like water The pain came on directly after food for five minutes, then passed away, and two hours later diarrhœa usually followed. On examining the abdomen there were a rigid right rectus and tenderness in the cæcal region, but no swelling could be felt Stricture was diagnosed and operation was advised Although she tried fully various forms of medical treatment with careful dieting and plenty of fresh air there was no improvement and on June 10th I operated on her at a surgical home in Leeds The ileum was found to be strictured in several places and the bowel generally was thickened over a distance of two feet before its termination in the cæcum Miliary tubercles were scattered over the affected bowel and the adjoining mesentery, but the abdomen was not generally invaded by tubercle There was some free fluid in the peritoneal cavity As the patient was so very feeble it was thought that she would not survive the removal of so much as two feet of the bowel, short-circuiting was therefore performed, the ileum being connected to the transverse colon by means of a decalcified bone bobbin The wound healed by first intention and the patient was sent home to the country on July 4th, and a very good report has been received of her progress It was intended that she should return in order to have the diseased bowel excised, but her gain in health and the relief from the diarrhœa have made her shy of facing any further operation which I think may not be necessary She is now said to be in good health

CASE 4 *Stricture of the duodenum probably tuberculous, associated with tubercle of the stomach and stenosis of the pylorus*—The patient, a feeble girl, aged 19 years, was seen in 1895 She only weighed 4 stones 10 pounds and gave a history of vomiting and pain after food for four years though the loss of flesh had only been very pronounced during six months She was deathly pale and was so thin that the skin was tightly stretched over the bones Tuberculous glands were felt in the neck. The abdomen was swollen The stomach was markedly dilated. On opening the abdomen the pylorus was found to be thickened and covered with tuberculous nodules which were scattered over the omentum and other viscera Some free fluid was found in the peritoneal cavity On laying open the pylorus to perform pyloroplasty the finger was passed into the duodenum and encountered a stricture one inch beyond the pyloric ring, this was evidently the result of ulceration The tip of the little finger could just pass through it. A Weiss dilator was employed to stretch the stricture which was dilated so as to allow the thumb to pass readily through it The pyloric incision was then closed by sutures transversely to the axis of the canal. For a week the after-operative progress was satisfactory, the wound healed and the stitches were removed, but no strength was gained and she gradually failed and died from exhaustion in the second week. With my present experience I should have performed gastro enterostomy and begun feeding at once and I believe the result would have been different

CASE 5 *Tuberculosis of the cæcum, enterectomy*—(This report was furnished by Mr J F Dobson, resident surgical officer) The patient, a woman, aged 22 years, was admitted to the Leeds Infirmary on Nov 15th, 1897 The patient had suffered from dyspepsia for several years About six months previously she noticed that her side was painful when she turned and that she could not bear the pressure of her stays This became worse and was accompanied by attacks of rather acute abdominal pain, principally in the right side She never vomited during the attacks and had never been jaundiced The pain had no relation to meals The bowels were regular, generally rather loose, no blood or mucus was noticed The appetite was poor and there had been considerable wasting of late Menstruation commenced at 17 years of age, lately it had been scanty and painful The tumour was felt in the region of the cæcum but tenderness was not marked At the operation the tumour was found to involve the cæcum and the commencement of the ascending colon The lumen of the gut was not occluded but narrowed. No general tuberculosis of the peritoneum was observed and no enlargement of the glands was found The tumour was excised and the ileum and ascending colon were united by continuous sutures over a decalcified bone bobbin The wound healed kindly and the patient improved rapidly and was discharged in fair health on Jan 8th, 1898 Although the health was regained and there was no further return of the abdominal trouble the patient had pleurisy some months afterwards and is said to have died nearly a year later at her home The pathologist's report was that a portion of tissue removed from the wall of the cæcum was of a pale grey colour, fairly elastic and translucent. Microscopically, delicate fibrous tissue with a few round and spindle cells between was seen Many rounded and oval areas occurred where collections of round cells were tightly packed In the midst of each group one or more well developed giant cells were found. Appended is an illustration of the specimen removed at the operation (Fig 2)

FIG 2.



Tuberculous disease of the cæcum

CASE 6 *Tuberculous disease of the rectum and sign flexure of the colon, colotomy and partial colectomy*—A m aged 37 years, was admitted to the Leeds Infirmary Oct. 31st 1898, suffering from a profuse purulent discha from the anus associated with great pain, which increased defecation, and with diarrhœa and great deterioration health. He gave the history of having had an operation "fistula in ano" three years before, from which recovered but six months later he noticed the motions to be streaked with blood and slime which gradually increased in quantity until it began to come independently of normal bowel action On examination by means of a speculum the whole of the rectum was found to be involved in ulceration, which extended upwards beyond reach of the proctoscope. The sigmoid flexure could be felt to be much thickened and was tender to pressure. Inguinal colotomy was performed the sigmoid being drawn out as far as possible in order to secure healthy bowel being opened the diseased part external to the abdominal wall was then cut away This was examined by the resident pathologist and proved to be tuberculous After the first week the lower bowel was regularly syringed out with the boric acid solution containing a tablespoonful of tincture of hamamelis to the pint, the stream being forced alternately from the anus to the colotomy opening and *vice versâ* Convalescence was very slow, but he steadily picked up strength and after going to the convalescent home was discharged much relieved

Remarks.—Apart from cancer stricture of the bowel usually results from ulceration with consecutive changes in the coats of the bowel but there is a specimen in the Leeds School Museum which shows a stricture due to gradual invasion of the bowel walls by tubercle spreading from glands in the mesentery and I have also seen and operated on, a case of stenosis produced by fibrous hyperplasia extending from a mesenteric tuberculous gland in process of cure In the first four cases here related there was no serious difficulty in coming to the conclusion that stricture was present and from the length of time that the obstructive symptoms constipation alternating with diarrhœa and pain, had existed that the narrowing was simple in character and not malignant. In three of the cases the family and personal history the early age, the loss of flesh and night perspirations were suggestive of the stricture being tuberculous, moreover there was an absence of history of typhoid fever or dysentery the two other chief causes of intestinal ulceration, and of hernia or injury which sometimes leads to intestinal stenosis. In Case 5 it was suspected that the tumour might be malignant and in fact, it was only on careful examination subsequently to removal that its true character was discovered. The cases related afford examples of tuberculous ulceration in parts of the intestinal tract from the duodenum to the anus, though the most common site of the disease is in the lower ileum and about the ileo-cæcal valve.

Chronic tuberculous ulceration leading to stricture is evidently not very common, though perhaps some cases put down as malignant, but where cure occurs after colotomy or enterectomy may be of this nature I have in my mind two cases of apparent cure of malignant stricture by colotomy, one in a man aged 33 years, in which I subsequently closed the colotomy opening after the health of the patient had become fully re-established and when there was manifestly no further need for the artificial anus and another in a man, aged 58 years, where the tumour exposed at the time of the colotomy has apparently disappeared and the patient is anxious to have the artificial anus closed.

Now although both of these cases had all the appearances and feel of carcinoma, I think the subsequent course of events makes it extremely probable that the intestinal thickening leading to stenosis was tuberculous, though proof is wanting The extension of the tuberculous process from the the appendix in Case 1 is apparently not a common condition, though seeing that the appendix is composed largely of lymphoid tissue it makes one wonder that it should comparatively rarely be attacked by tubercle, especially when the inflammatory attack is repeated over and over again. I have, however operated on at least five cases of tuberculous appendicitis, and the removal of the diseased part has issued in recovery and gain of health The following is a good example

CASE 7 *Tuberculous appendicitis appendicectomy*.—A youth, aged 17 years was sent to me on Oct. 1st, 1901 from the west coast, in such a weak condition that it was feared he could hardly bear any operation; he was suffering from night sweats and had a hectic temperature There was well marked tenderness over the cæcum with rigidity of the muscles. The history given was that he had had acute appendicitis 18 months before and that the abscess had been drained but the appendix had not been removed A recurrence of the attacks with deterioration of health led to two attempts at removal of the cause, but the appendix, it was said, could not be found At the operation on Oct. 6th there was well marked tuberculosis of the cæcum with miliary tubercles scattered in the neighbourhood, though the rest of the peritoneum was free. After carefully detaching numerous and firm adhesions, the appendix, which was tuberculous, was found in the centre of offensive thick caseous pus behind the cæcum and ascending colon. After removal of the appendix, clearing out and purifying the pus-containing cavity the abdomen was closed, a single gauze drain being used. Recovery was uninterrupted and he returned home at the end of the month A report was received from Mr C H. S. Vinter in December to say that the patient was well and getting out as usual.

The stricture in Case 1 was caused by a stenosis of the ileo-cæcal valve, but the lumen of the adjacent ileum and cæcum was also seriously narrowed by thickening of their coats. Cases 2 and 3 are characteristic examples of tuberculous ulcers which usually begin in the lymphoid follicles and adopt a transverse direction, following the course of the vessels around the whole circumference of the bowel, thus leading to stricture in chronic cases from the lymph which is thrown out to limit the ulcerative process, tending to contract. The situation in the ileum and the multiple characters of the strictures were also characteristic of tubercle. While in Cases 1 and 7 the adhesions to adjoining parts were most intimate in the other cases the affected part of the bowel was quite free, thus rendering operative measures quite easy and simple. In Cases 1, 2, 3, and 5 my decalcified bone bobbin was employed as a temporary splint over which to apply sutures, a method which I have described on numerous occasions and which I still employ and advocate as being simple and efficient. The physiological rest to the diseased parts secured by short-circuiting as in Case 3, and by colotomy as in Case 6, seemed to answer so well that where the radical operation of excision would involve serious difficulties or the patient is not in a condition to bear it I would not hesitate in future to be content with similar procedures and then to trust to general treatment and hygienic surroundings to assist in the cure If in the future my suggestion as to operative treatment in acute cases be thought advisable I anticipate that short-circuiting the diseased area will be found to be the more useful procedure as it is the easier and safer method to pursue but experience only can show whether these suggestions will prove of so much service in acute as they are in the chronic cases.

It is interesting to note that in Cases 1 and 7 where there were tuberculous nodules in the peritoneum—where, in fact, there was tuberculous peritonitis co-existent with the bowel disease—the mere exploratory operation had not cured or even arrested the tuberculous process, but that the radical operation of removing the principal focus of disease, or as in Case 3, the short-circuiting and so setting at rest the diseased bowel, was in all three cases effectual in putting a stop to the tuberculous peritonitis and so far as one can say without seeing the parts exposed in curing the more diffuse disease.

Now all surgeons must have had the experience of curing tuberculous peritonitis by simple abdominal section with or without drainage and probably many of us have also experienced disappointment in other cases where the effusion has returned after a longer or shorter interval. May the explanation of these recurrent cases lie in the fact that the original focus of disease in the ovaries, Fallopian tubes or bowel has not been removed and has been again the starting point for a further diffusion of the tubercle throughout the peritoneal cavity? If this be a correct surmise the remedy is quite clear that wherever the original disease may be it should be removed if that be possible without adding seriously to the risk of operation. I have acted on this principle in a number of operations for tuberculous peritonitis and have removed masses of tuberculous, mesenteric, or retro-peritoneal lymphatic glands tuberculous Fallopian tubes and ovaries loops of tuberculous intestine, and tuberculous appendices and this with such success as to encourage me in following up the method and in recommending it to the attention of other surgeons.

Leeds

PUBLIC HEALTH OF GLAMORGANSHIRE.—Dr W Williams, the medical officer of health of the county of Glamorgan in his annual report for 1901 which has just been issued states that during the year 22,173 births and 11,747 deaths were registered respectively, 604 deaths were attributed to pulmonary tuberculosis.

CLINICAL REMARKS ON SOME TUMOURS OF THE ANTERIOR ABDOMINAL WALL

BY FRED D BIRD, M S,
LECTURER ON SURGERY, MELBOURNE UNIVERSITY

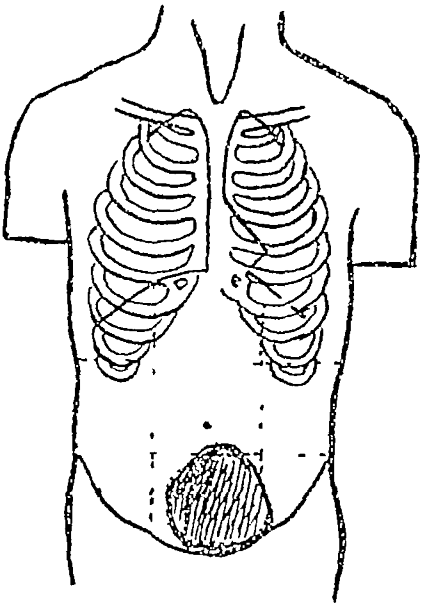
THOUGH numerous in variety tumours of the anterior abdominal wall are not common in practice. Their importance, however, is great and their diagnosis is often difficult. They frequently simulate sarcoma and a hopeless prognosis may be given or a mutilating operation performed under a mistaken diagnosis

It is not always easy to be certain that a tumour is in the abdominal wall—e g, the lax wall of a stout elderly woman lends itself to the palpation of abdominal tumours which may seem to the surgeon to be almost immediately beneath the skin Again the wall may be encroached upon from beneath so that it is implicated secondarily and the converse may obtain—a gumma may form in the rectus and a syphilomatous infiltration may spread inwards, binding together peritoneum omentum, and other structures in a large mass of which it is impossible to say that it is not sarcoma without incision and removal of a portion for microscopical examination. It is particularly of these specific cases that I wish to speak When we have satisfied ourselves as much as we can that the tumour is of the abdominal wall or is implicating the abdominal wall and is not an abscess our main anxiety is to be able to eliminate sarcoma from the diagnosis In the presence of a firm, solid tumour of the abdominal wall the surgeon has to choose between fibroma (which is said to be the commonest form of tumour here), sarcoma, carcinoma, and syphiloma. It is his manifest duty to be sure that it is not the last before he performs a large operation The exhibition of antisyphilitic medicines, often a trump card in diagnosis, may, and very likely will, give no help at all in these cases if the growth has attained even moderate size, in fact, by its absence of results drug treatment may turn us to the diagnosis of sarcoma with irremediable detriment to the abdominal wall of the patient. The greatest confusion exists as to the classification of hard tumours in this situation. They have been called "fibroma," "fibromyoma," "desmoid tumours," "fibrosarcoma," "fascial sarcoma," "sarcoma," and "carcinoma." One well known author speaks of them as "generally carcinomatous," another as "mostly sarcomatous," and a third as "fibromatous in the large majority of cases" Undoubtedly some of them are markedly malignant, but many of them, though of an infiltrating nature, have been removed and no recurrence has taken place. Injury often seems to stand to them in casual relationship These facts, with my own small experience of abdominal wall tumours, constrain me to think that many such tumours are syphilomatous in character and readily amenable to proper treatment. The short recital of a few cases will give in this connexion what has interested me very much In the first two cases the tumour was obviously in the substance of the abdominal wall.

CASE 1.—The history in this case was complicated by what seemed to be mild appendical attacks occurring on several occasions in a robust man of early middle age A tumour had formed over the appendical region in a few weeks and had reached the size of a closed fist when I saw the patient. It was very hard and it moved slightly Its edges were well defined and it was not painful to touch, though the patient had occasional pains in it on exertion He was certain that he had never had a chancre and a careful examination failed to show any symptoms of a possible syphilitic nature He had lost much weight and strength and looked worn, ill, and apprehensive Operation revealed the muscles on the way to the tumour hard and woodeny The tumour seemed to be fairly definite, it was cut into its depths and a slice was removed for examination Dr Mollison pathologist to the Melbourne Hospital, said that there were marked endarteritic changes to be seen and he believed it to be a gummatous mass beginning to soften at the centre With iodide of potash internally and mercurial innunction the tumour disappeared entirely and the patient resumed his usual health and strength It is only now after five years that I have discovered some signs suspicious of syphilis in his children but nothing further has occurred in his own person.

CASE 2.—The patient was a little boy, aged 20 months, who had been always healthy until a month before when there was a history of injury Since the injury he had wasted very rapidly and looked very ill and not far from death A very hard, not painful, only slightly tender, tumour was easily felt to the left of, and above, the umbilicus It was as big as a large mandarin orange, could not be moved, and was growing in the parietes Incision of the growth showed the futility of attempting to remove it and its fleshy section seemed to confirm the diagnosis of sarcoma. The case seemed very hopeless, but it was thought right to try specific treatment, although no conditions in either parent could be found pointing in this direction [The results were marvellous and the child was soon restored to health and his tumour rapidly vanished. Many months afterwards I attended the father for visceral syphilis from which he eventually died

CASE 3.—The patient was a strong man, aged 31 years, who had several attacks of what seemed to be mild appendicitis After one of these he noticed a lump in his lower abdomen to the right of the middle line This undoubtedly altered in size from time to time, it gradually increased and moved slowly over the middle line At first I thought that it must be a chronic infiltration of peritoneum round a diseased appendix, but its altering in position puzzled me very much The tumour seemed to be inside the peritoneum but implicating the substance of the wall as well. By this time the patient was losing flesh rapidly and also strength and I feared a malignant growth No history of syphilis was obtainable and no suspicious circumstances were to be discovered in his family Iodide of potassium and mercury were given, but although his health improved at this time (he went away for a holiday) the tumour steadily enlarged, and when he eventually submitted to operation it had attained a large size. Its proportions are shown in the accompanying diagram Its presence gave him great inconvenience when stooping and he had a good deal of trouble with micturition His health again failed and he was steadily losing ground The history of the growth now extended over nearly six months Felt from the front the tumour seemed to be in the abdominal wall, the skin did not move freely over it, giving an impression similar to that produced by a carcinomatous mass in the breast. Laterally the palpation was not at all suggestive of inflammatory infiltration, the tumour felt like a hydatid and dipped deeply into the pelvis but was not attached to bone. Rectal examination gave no information Incision into the growth conveyed the feeling of cutting inflammatory material to the fingers through the knife and the edges of the wound showed a general fibrosis of the connective tissue stroma. Muscle, fat and fascia could not be differentiated and an



Showing position and extent of tumour

irregularly shaped cavity was reached towards the centre of the mass. Great care was taken not to allow the exploring finger to press through into the peritoneal cavity A piece was removed which Dr Mollison said showed undoubted signs of syphilitic inflammation. The tumour now disappeared rapidly and the man is apparently as strong and well as ever He attributed the origin of the tumour to a strain in lifting Here the diagnosis was very difficult for a long time and was hardly less so even when the inflammatory infiltration of the skin had occurred. Here the tumour was too big and extended too deeply into the pelvis for any sort of removal of the whole mass, but another operative error could easily have been made—viz. making a large incision in order to explore the growth, thus damaging permanently the abdominal wall In this case appropriate medicine alone would not cause the disappearance of the tumour it required the stimulus of the knife as well as drugs to influence its absorption.

Case 4.—The patient was a man, aged 32 years, who during recovery from pneumonia discovered in his anterior abdominal wall below the umbilicus on the right side a steadily growing firm tumour with defined edges There was a history of injury with a doubtful history of syphilitic infection. The patient was sent to me to be operated upon for sarcoma. Incision into the tumour and proper medicine caused its rapid disappearance, although it was quite three inches long The microscopical appearance of a small slice removed was that of syphilitic inflammation Here the comparatively small size of the growth, its well marked definition from surrounding parts and the fact that it appeared to be confined to the parietes, invited an operation which would have been unnecessary and very damaging to the wall, for it is impossible to remove several inches of the rectus abdominis in a transverse manner without producing irremediable injury to the abdominal coverings. There was nothing in the examination of this case to suggest inflammation and everything to convince one of a new growth.

Case 5.—The patient in this case was sent to me for an opinion by my friend Dr G McCallum of Geelong My advice to him was to explore by operation, but I failed to divine the nature of the case The patient was an otherwise healthy man 56 years of age. He complained of a tumour in the stomach which he noticed eight months ago but it was only for the last six weeks, when he began to get pain after meals but no vomiting that it had caused him any trouble. He said that the tumour was steadily increasing in size. He had lost over two stones in weight On examination there was a swelling visible on inspection in the left hypochondrium and part of the epigastric region. The ribs protruded more on this side and a rounded edge was to be felt at the lower part of the swelling which was dense on palpation and could not be separated from the ribs. The percussion note over it varied at different times, probably owing to varying states of the stomach. Dr McCallum made an incision over the mass and on getting into the rectus muscle met with a very tough and gristly substance which bled rather freely He continued the incision so as to open the peritoneal cavity On this surface, corresponding to the mass to be felt from the outside was a soft fungiform excrescence. The stomach itself was practically free, only one small adhesion having formed The wound was closed after a small portion of the mass had been removed for examination which examination disclosed undoubted evidences of syphilitic infiltration.

My friend and colleague, Dr G R W Adam kindly allows me to relate a case occurring in his practice where he removed what he believed to be a fibroma growing in the anterior abdominal wall It was a hard well defined tumour discoid in shape, being flattened antero-posteriorly and about three inches across It was somewhat moveable and slightly painful to touch. The patient, a married woman, aged 40 years, had a serious illness—viz. pericarditis—some 10 months previously after which this tumour developed in the right iliac fossa. No specific history could be obtained. Dr Mollison pronounced the tumour to be a syphilitic gumma on its peritoneal aspect the omentum was adherent to some extent. In this particular case but little harm was done, as the tumour could be largely enucleated, but Koehler reports a case in which he removed what he thought was a large sarcoma extending from the left hypochondrium to the inguinal fold and from the linea alba to the axillary line part of the diaphragm was included in what was removed. The patient recovered it is true, but his abdominal wall was only skin all over the operated side, and the microscope proved the tumour to be not sarcoma but a huge syphilitic gumma.

This specific inflammation may be very circumscribed in its margins, so much so as to cause one to think that the mass must be a neoplasm, so marked is its definition In other cases the edge is infiltrated and the margin ill defined, blending gradually with the normal tissues, and in yet others clean-cut definition may obtain on the palpable edge of the mass and infiltration in other parts of its circumference. Clinically it is most interesting to note how the mass of newly formed material soon poisons the owner even as a really malignant tumour does. There was marked loss of strength weight, and health in these cases which lent colour to the diagnosis of malignant tumour Again, I believe if such a gummatous mass had attained any more than moderate proportions medicines alone would not remove it unless it had broken down or burst, by which time the patient would probably have been brought very low indeed. Incision is wanted to start the reparative process. I have not seen a gumma of the abdominal wall which has so far advanced in fibrosis as to resist both incision and medication, though I have met with them elsewhere.

Injury seems to play an important part in the inception of these masses as it does in other late specific manifestations and as it does in sarcoma, and this common factor increases the difficulty of diagnosis in what is really such a simple case as the following

Case 6.—A woman, aged 60 years of stout habit, while making a great muscular effort tore her right rectus below the umbilicus. Bleeding occurred into the rent at the time and also some time afterwards and a large tumour resulted, which could be moved with freedom laterally but not up from below where it passed down by a long thin pedicle to the pubes and behind it. When the case came under my care it was difficult to tell whether this long pedunculated flask shaped mass was in the abdominal cavity or in the wall and at the second bleeding which took place there was an abdominal seizure which fitted exactly that of the twisting of a pedicle. On the other hand, the tumour was somewhat flattened and felt like a fibroma or a hard sarcoma even when the examining finger was in the peritoneal cavity and a bimanual examination could be made. At one small spot only could anything like fluctuation be made out, but a second incision through the sheath of the rectus decided the diagnosis and allowed the removal of large masses of blood clot and some treacly blood from the part where the rectus had ruptured.

Abscess of the abdominal wall may sometimes simulate sarcoma very closely and hydatid cysts of which I know some five cases situated in the rectus, may easily deceive the surgeon. A careful examination of a patient with a hard tumour of the abdominal wall may throw much light on the case—e g the finding of metastatic nodules just under the skin in other parts of the body the presence of a cancer of the breast (especially an atrophic one) or of an operation scar showing that the breast has been removed or the recognition of specific lesions elsewhere, but when all our means of diagnosis, short of incision are exhausted it may still be impossible to decide between fibroma, carcinoma, sarcoma, and gumma. This makes it very advisable for us to stay our hand before we resort to a large operation for the removal of the mass and to content ourselves with a small incision into it to remove a portion for examination and to aid in its absorption should it be a gumma. If the case is sarcoma there are great mutilation and little chance of ultimate cure If it is a case of gumma a moderate incision into the growth and appropriate medical treatment are all that is necessary

Melbourne.

NOTES ON
THE RECENT CHOLERA OUTBREAK IN CANTON, SOUTH CHINA

By W J WEBB ANDERSON M B Ch.B. Vict
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The presence of cholera (Asiatica) is no new thing in Canton. From time to time the outbreak assumes an epidemic form of grave dimensions and certain years like 1894 stand out in a peculiarly black lustre of their own

The shops in many of the Canton streets were closed, every inmate being dead Business was at a standstill and prices ran up enormously The incidence amongst the foreign community was not large This year, however, the scourge has carried off quite a number of Europeans from the small foreign section, whilst "several Tens die daily" amongst the native population Of this last statement—a translation of what the Chinese themselves say—there is ample evidence in the difficulty of securing coolie hire, in the difficulty in getting coffins, their large importation from the towns and villages round, and in the fact that three or four times the price has had to be paid to purchase an ordinary coffin as used by the natives Then the conditions which are so conducive to the spread of cholera have this year, as in 1894, been largely experienced Every year some small outbreak occurs towards the end of the dry winter season, February and early March. This year the country suffered from prolonged drought, so much so that the river water for 30 miles or more above Canton in certain streams was brackish, and in Canton itself the water from the wells, the main water-supply of the Chinese, was unfit for drinking At the same time the heat in Canton was intense for that time of the year, and the Chinese unclean untidy, and insanitary as are their ways, supplied other necessary conditions Extensive hospital practice amongst the natives and not a little amongst the foreigners has enabled me to compare the course of the disease and the effects of the treatment The onset in each case has been sudden This was particularly marked in the earlier cases when the disease was most virulent Diarrhœa and vomiting were early signs and in times varying from two to 12 hours the patient died In this stage of the epidemic delay in treatment meant certain death I have not seen one patient recover where treatment was delayed. I speak of the early weeks of the epidemic Later the epidemic seems to decrease in virulence. Spontaneous recoveries take place Generally speaking, the earlier the onset of cramps the worse the prognosis My own experience has gone to show that when cramps are a well marked condition the patient does not recover I have noticed that severe cramps in the limbs and the abdomen and large watery stools have gone together Amongst my European patients, as my Chinese, little cramp and only small evacuations of watery fluid have been followed by recovery under treatment. My first and my last European cases afford illustration

CASE 1.—The patient was a German merchant, aged 45 years He was not a teetotaler but was temperate. He was not overworked. He was subject to diarrhœa and "biliousness" He dined on the steamer coming up to Canton He said that he had eaten ' shrimp curry and salad " After dinner as he sat on deck chatting he felt a little fulness, so he took about 20 grains of bicarbonate of soda in water from his cabin He retired to rest about midnight and was restless There was a tendency to diarrhœa about 3 A M Between 3 and 6 A.M he had several attacks. He got home by 8 A M feeling "seedy" and he went to lie down At 9 A.M cramps came on in the legs which continued until 10 30 A M when I saw him. His condition then was one of intense collapse Cyanosis was general and he had frightful cramps He was pulseless at the wrist and the temporal pulse was slight. The vomiting had ceased Two large evacuations of typical rice watery stools occurred Restlessness was present. He was speechless or could speak only with difficulty He gradually sank into a quiet collapsed condition, in which he shortly died. The heart reacted only slightly to hypodermic injections of digitalin, strychnine, caffeine, and brandy Had he been seen at 6 A.M instead of four and a half hours later he might have been saved Just after this case I saw a Chinese woman presenting very similar condition, but delay in being called also was followed by death, neither hypodermic medication nor intravenous injection of salines being followed by any rallying effect

CASE 2.—A colleague and his Chinese boy were taken ill together and both came to hospital The boy elected to go home and was dead by 6 A.M next morning—i.e , in 12 hours. My colleague was treated at once On admission he was found to be suffering from diarrhœa which was fæcal in character , vomiting and moderate collapse were present. The stools rapidly became typical and his appearance altered. The eyes and cheeks became shrunken, the amount of shrinkage being astonishing The pulse was 110 , slight fever only was present. The treatment consisted of rest in bed and hot-water bottles and subcarbonate of bismuth and lime water to try to stop the vomiting , this was of little effect, however The stools were small, being from two to three ounces at a time only, but evidently of an irritating character A high enema of warm water and Condy's fluid, pink solution, was given, followed at once by 30 minims of tincture of opium, with 15 minims of solution of atropine (1 in 100) The vomiting ceased in a few minutes nor did it return as long as opium was administered per rectum. Stools occurred from every 10 to 15 minutes The enema was repeated and 10 grains of salol were given every hour by the mouth, with 30 grains of bismuth subnitrate in one dose three times a day Occasional doses of a pill of acetate of lead with one-twelfth of a grain of opium were given on the second and third day and the salol was reduced to four times a day (10 grains to the dose) On the second day the pulse was 98 and the stools were a little less frequent and still smelt. The cramp was not marked On the third day the pulse was 94 The stools occurred about every one and a half hours , they were still small After this improvement was steady The patient took meat juice after the second day at frequent intervals He sat up for an hour or so on the eighth day The first formed stool occurred about the tenth day There was no relapse. He finally went on a sea voyage in order to gain strength The patient was not given alcohol in any form save on two occasions when from pain of cramp at the anus he fainted. In this case the advantage of immediate treatment is obvious, otherwise the patient must have shared the fate of his servant. I think that the pushing of salol (watching the urine at the same time) was a strong factor in his recovery, together with the high enemata

Canton

SOME CASES OF CHRONIC PANCREATITIS

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It is only within recent years that the importance and the frequency of chronic inflammation of the pancreas have come to be recognised. Until Riedel first called attention to the association of thickening of the head of the pancreas with cholelithiasis, chronic inflammation of the gland was not recognised as a clinical condition , and for several years the association was considered most infrequent and of no great surgical importance. In 1900 Mayo Robson, in a lecture published in THE LANCET of July 28th, p 235, and subsequently in a paper read at the International Medical Congress in Paris emphasised the surgical importance of chronic pancreatitis, and repeated the statement of Riedel as to the frequency of its dependence upon gall stone irritation

Chronic pancreatitis as seen by the surgeon is always secondary It is dependent upon infection extending from the intestinal canal or from the bile passages, upon the long standing irritation of gall or pancreatic stones, or upon the invasion of malignant disease which may be primary in the gland itself or may extend into the gland from the duodenum or stomach Certain toxic substances brought by the blood to the gland may set up chronic inflammation , of such are the poison of syphilis, the organism of tubercle, and, it is confidently said, alcohol Pre eminent among all these causes we must without question place cholelithiasis Associated with, and dependent upon gall stone disease may be found every grade in the extension of inflammation to the gland In the slightest cases a little thickening of the head of the gland is found , that portion nearest to the duodenum is denser and stiffer than the body or tail In the severer cases the whole head and a part of the body also may be enlarged and extremely hard and solid, feeling like a plaster cast of an enlarged gland But in all cases the duodenal end is more profoundly affected by the changes which have taken place than is the body The tail is implicated only in the long standing and severer instances During the last two years, since my attention was more especially directed to the pancreas in operations in the upper part of the abdomen, I have seen several cases of chronic pancreatitis. These cases illustrate the association of the inflammation of the gland with pancreatic calculus, syphilis, stone in the ampulla of Vater, stone in the common duct, and suppurative cholangitis due to stone in the gall bladder and cystic duct. The following is a brief summary of my cases. The case of pancreatic calculus, the first recorded in which a correct diagnosis was made and successfully acted upon, is related at length in THE LANCET of August 9th, 1902, p. 355, and the following is a brief epitome of it.

CASE 1.—A married woman, aged 57 years, was seen with Dr. H. M. Robertson of Roundhay. The symptoms which I had to discuss, the relative value and significance of which I had to determine, were briefly these: steady loss of health, gradual wasting, irregular pigmentation of the skin in patches of the colour of *café au lait* (very closely resembling the pigmentation of molluscum fibrosum), persisting attacks of epigastric pain and uneasiness of the type of hepatic colic, though less severe and unattended until very late in the history by jaundice, which was then always trivial though unmistakeable, and pain passing through from the front of the abdomen to the middle of the back. There was no rigor or any complaint of sensations of heat or cold. The stools were occasionally "frothy" and "greasy." On examination under chloroform some indefinite swelling could be felt above the umbilicus and a little to both sides of the median line, though chiefly to the right. I considered that the evidence warranted a diagnosis of chronic pancreatitis. To explain the onset of this condition I suggested that a pancreatic calculus was present, that its transit down the canal of Wirsung had been attended by the attacks of epigastric colic, and that as it approached the ampulla an inflammatory condition had been started in the common duct and a slight jaundice had thereby resulted. Upon this diagnosis I felt justified in basing my suggestion for operative treatment. If chronic pancreatitis were found and no cause were discoverable the condition could be relieved by drainage of the gall bladder; if a pancreatic calculus were found it could be removed either from the pancreatic duct or from the ampulla of Vater if it had travelled so far.

Operation was performed on May 22nd, 1902. The abdomen was opened two inches to the right of the median line by an incision about seven inches in length and the fibres of the rectus were split. On opening the abdomen the gall bladder at once presented; it was tense, well filled, and free from any adhesion; the cystic duct, hepatic ducts, and common ducts were all thoroughly examined, the liver being rotated for that purpose. The ducts were all free from adhesion and nothing abnormal was felt. The head of the pancreas was very much enlarged and hard, the body less so, but still larger and denser than the normal. The chronic pancreatitis affected the whole gland but chiefly the head and in least degree the tail. The duodenum and the head of the pancreas were carefully examined and a small lump was then felt, as it seemed, between the two. The swelling did not feel like a stone and I expressed a suspicion that it might prove to be a growth deep in the ampulla of Vater. I therefore opened the duodenum and exposed the papilla Vateri; this was quite normal in appearance. The lump, however, was felt to be only a short distance beneath the mucous membrane. The papilla was therefore laid open and the cut edges were seized with a small French vulsellum and held apart. At the bottom of the ampulla a small object could be seen and the knife touching it could be felt to be impinging upon soft stone. A small scoop was therefore passed into the ampulla, pressure was made upon the head of the pancreas close to the duodenum, and the stone was lifted out. So far as I could judge—and the ampulla was well opened—the stone lay in the termination of the pancreatic duct with its end projecting into the ampulla. It was certainly not wholly in the ampulla, for it was not at once exposed on slitting up the papilla; equally certain it was not in the end of the common duct. The duodenum was stitched up with continuous sutures. The gall bladder was aspirated and drained and the wound was closed in the usual way. The tube was removed on the seventh day and the wound then slowly healed. The condition of the liver was normal. There were no adhesions around it or any trace of pigmentation.

The following is the report of Dr. J. A. Milroy on the stone removed, clearly showing its pancreatic origin: "The stone contains nearly 50 per cent. of calcium carbonate. A small portion of the solution in which the magnesium was estimated was unfortunately used for qualitative testing, so that I cannot state the exact quantity of magnesium present. These were the only inorganic substances found. I was somewhat surprised to find phosphates absent. The organic substances consisted almost entirely of proteid. Traces of organic substance soluble in alcohol and ether were present. In the residue from the alcoholic and ethereal solutions cholesterin and fat were the only bodies identified. Purin bases and uric acid were absent. The quantity of the original powder was rather too small to allow of an accurate estimation of the constituents."

When seen in September, 1902, this patient had steadily gained in health since the operation and was better and heavier in weight than she had been for years.

CASE 2. *Syphilitic pancreatitis: gumma in the head of the pancreas.*—The patient was a woman, aged 51 years, who was seen with Mr. J. F. Woodyatt of Halifax. For 10 years she had symptoms which were referred to pyloric obstruction and which consisted of pain, which was intensified by taking food in moderate or large quantity, occasional vomiting, and constantly recurring attacks of "spasms." During the last year or more in several attacks the pain had been most intense over the gall bladder region, jaundice had followed, and gall-stones had been found in the motions. The pain had constantly been more severe during the last few months and a gradual loss of flesh had been observed. On examination there was a general tenderness in the upper part of the abdomen to the right of the middle line. No tumour or undue resistance was observed.

Operation was performed on Oct. 1st, 1901. The abdomen was opened by the usual vertical incision over the gall bladder region and the fibres of the rectus muscle were split. On exposing the gall bladder and bile-ducts a number of adhesions were found. These were separated and a good view of the whole region was obtained. No stones were present in any part of the bile-passages. The head of the pancreas was noticed to be very much enlarged, a distinct rounded and very dense mass equal in size to a billiard ball being felt. There was no enlargement of the body or tail. A doubt was felt as to the nature of this local swelling, the diagnosis resting, as it seemed, between malignant disease and chronic pancreatitis, but an opinion in favour of the latter based upon the clinical history was expressed. The gall bladder was aspirated and drained and the parietal wound was closed. There was some trouble from an acute attack of bronchitis for a week or more after the operation, but the patient otherwise progressed well and the wound healed soundly after the tube was removed on the eleventh day from the gall bladder.

At the end of November Mr. Woodyatt asked me to see the patient with him again as he had noticed masses in the abdominal wall as to the nature of which he was in doubt. I saw her on Dec. 1st and found her condition to be as follows. The wound was soundly healed. About two inches to the left of its lower end was a hard smooth ovoid lump of about the size of a pigeon's egg. At the lower part of the abdomen, just above the right external abdominal ring, was a similar lump of about the size of a hen's egg in the abdominal wall. There were three other lumps of the same kind though smaller in the abdominal wall and two on the chest wall. At first I thought that these little nodules must be secondary growths, the mass in the head of the pancreas being the primary source, but on reflection it seemed more likely that they were gummata and that the distinct localised enlargement of the head of the gland was also gummatous. I therefore suggested a trial of iodide of potassium, with the result that all the nodules speedily vanished and the patient regained, and has since retained, perfect health. In July, 1902, Mr. Woodyatt writes that "Mrs. —— is still getting on well and is taking food better than she has done for years."

Remarks.—Syphilitic disease of the pancreas may assume two forms, a chronic diffuse interstitial inflammation or a localised gummatous inflammation. There can be no doubt, I think, that in this case a gumma had formed in the head of the gland, the incidence of the gumma being determined, as is often the case, by the traumatism inflicted by the constant passing of gall stones. Syphilitic pancreatitis has recently been studied by Schlesinger.[1] It is more common in children than in adults and is frequently a congenital lesion. The disease begins as a periarteritis. Oppe has recently described a case in an infant who lived but three hours. The gummatous form is extremely rare. Cases are recorded by Drozda, Chvostek, and Battle. In a case related by Drozda the pancreas was represented by a mass of fibrous tissue containing breaking-down gummata.

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[1] Virchow's Archiv, 1898, p. 501.

Glandular elements were only seen in the head There was characteristic evidence of syphilitic cirrhosis in the liver also

CASE 3 *Calculus in the ampulla of Vater, chronic pancreatitis, duodeno choledochotomy* —The patient, a female, aged 41 years, was admitted on March 23rd, 1901. The history was that attacks of pain in the right hypochondriac region had been intermittently present for eight or nine years 16 months before admission jaundice was noticed for the first time Similar attacks of pain followed by jaundice had been noticed several times since that date On admission she was jaundiced and the colour had been present, though varying in tinge, for four months A stone in the common duct was diagnosed The abdomen was opened and a stone was found impacted in the ampulla of Vater The head of the pancreas was densely hard—as hard as stone. I remarked at the time that the gland felt more like a plaster cast of a large pancreas than like a normal organ. The duodenum was incised and the stone was removed The gall bladder was drained for 11 days The patient made a good recovery and is now quite well.

CASE 4 *Stone in the common duct, choledochotomy* —The patient, a married woman, aged 58 years, was seen in April, 1901 The first attack of biliary colic occurred at Christmas 1896 This had been followed by others at almost regular intervals of three months until January, 1901 when the severest attack of all took place. She was confined to bed after it for three months and it was after this that she suffered from continuing, though varying, jaundice. Shivering was noticed on several occasions, on each the pain was rather worse and the jaundice was a little deeper

At the operation a host of adhesions were found around the common duct, gall bladder, and duodenum A stone was found tightly fixed in the common duct near the termination of the cystic duct An incision was made on to it and a stone equal in size to a Barcelona nut was evacuated. A couple of drachms of pus followed the stone The common and hepatic ducts were thoroughly explored and found to be clear The head of the pancreas was much enlarged and extremely hard, feeling as solid as stone. The adhesions which surrounded it were unusually tough and strong and were with difficulty separated Before the separation was effected the enlarged head of the gland felt very like a malignant growth A large drainage-tube was fixed by one stitch into the common duct and the abdominal wound was closed round the tube After the operation there was retention of urine cystitis following upon catheterisation Healing of the wound was delayed by cellulitis due probably to infection from the pus escaping from the cystic duct. Bile was discharged freely from the wound for several weeks A year later the patient was quite well and her medical attendant informed me that "the relief from operation has been complete."

CASE 5 *Stone in the common duct, marked interstitial pancreatitis, choledochotomy* —The patient, a single woman, aged 55 years, was sent to me by Dr H J Clarke of Doncaster She stated that two and a half years ago she had the first attack of jaundice, preceded by an extremely severe attack of pain lasting for two days The jaundice passed away in 14 days, and afterwards she felt quite well In December, 1901, a similar attack of pain over the liver, passing through to the right scapula, was followed by jaundice slight in character and lasting only for five days After recovery from this attack she felt weak, easily prostrated, and had a "loathing for food." Flatulence was distressing and her weight gradually decreased Six weeks before admission she had a similar attack of pain, followed by jaundice, since then the jaundice had varied in depth of tinge, but had never disappeared, the pain had varied, but a dull aching sense of oppression and weight had always been present. She had had several shivering attacks during the last six weeks She had lost one and a half stones in the last three months The jaundice was said by her friends to be less in the morning and to get gradually deeper in tinge during the day On examination there were tenderness and rigidity in the gall-bladder area but nothing definite could be felt

Operation.—A long incision was made. The gall bladder was found buried in adhesions, thick and contracted There were many adhesions between the abdominal wall, the liver, duodenum, transverse colon, and bile ducts, which were so firm and so widespread that rotation of the liver was not possible. A stone was tightly wedged in the common duct. As the common duct could not be brought to the surface it was necessary to cut down upon the stone in the duct and to remove it with a scoop The stone was of the size of a nutmeg The hepatic and the rest of the common duct were explored, but no other stone was discovered. A large tube was fixed into the opening made into the duct and the abdominal wound was closed. The tube came away on the eleventh day The wound rapidly healed and the patient is now quite well and free from any pain, discomfort, or jaundice The head and body of the pancreas were densely hard and slightly enlarged The condition which I found was certainly the most exemplary instance of chronic pancreatitis that I have observed Mr P J Cammidge, after examining the urine, said that it reacted better to his test for pancreatitis than any sample of urine he had previously examined The following is his report "High colour amorphous urates, no albumin, no sugar A well marked reaction for chronic pancreatitis was given Some obstruction to the common bile duct or pancreatic duct is probably present with a considerable degree of consequent chronic pancreatitis"

CASE 6 *Stone in the common duct, suppurative cholangitis, chronic pancreatitis* —The patient was a female, aged 70 years. For the last eight years the patient had suffered from recurring attacks of pain which were localised in the right hypochondriac and epigastric regions The attacks came on spontaneously, caused faintness, coldness, and vomiting, and lasted as a rule for about four hours The pain had gradually increased in severity during the last year and had been nearer the middle line In recent attacks she had often been cold and had shivered and subsequently had sweated profusely, she had had, in fact, miniature rigors of slighter intensity than those usually seen Up to eight weeks previously she had never been jaundiced. After an unusually severe attack at that date jaundice was noticed which quickly deepened and then almost faded away, to return as deeply as ever She had lost about two stones during the last seven months

Operation was performed on August 27th, 1901. The usual sickle-shaped incision was made and the gall bladder region was exposed The omentum was found intensely adherent in all directions to the gall bladder area. These adhesions were stripped except at the fundus of the gall bladder where they were so dense that the gall-bladder was cut across with scissors and the fundus was left adherent to the omentum On dissecting the fundus out it was found that a stone had ulcerated through the gall bladder into the omental adhesions which had protected the general peritoneal cavity The fundus was removed piecemeal and bleeding vessels in the omentum were secured. The liver was now rotated so as to put the ducts on the stretch and to expose their whole length. A stone was felt in the common duct about three quarters of an inch below the junction of the cystic duct. The common duct was incised, the stone was removed, and the duct, after exploration had revealed its patency and the absence of other calculi was stitched up with a continuous suture of catgut. The pancreas was closely examined. The head was found enlarged and very hard, the body and tail felt normal The difference in the consistence of the duodenal end and the tail was very striking A tube was placed in the gall bladder and the abdominal incision was then closed

Mr Cammidge reported as follows upon the urine "The specimen quickly gave a well marked reaction such as I am accustomed to find in cases of pancreatic disease I therefore conclude that there is extensive inflammatory change in the pancreas and I should expect from the appearances seen that this is most likely due to malignant disease, although I am not quite certain on this point."

CASE 7 *Multiple calculi in the gall bladder, acute cholangitis, chronic pancreatitis* —A married woman, aged 60 years, was seen with Dr L B Hayne of Harrogate The history was that the patient had suffered for many years from "spasms," the pain being chiefly in the right upper quadrant of the abdomen, but radiating thence to the whole body She had never been jaundiced On July 18th, 1902, she had a "feverish attack" Her temperature was 101° F and she had, general muscular pains and frontal headache On the 20th she had an intense colicky pain in the upper part of the abdomen with tenderness in the epigastrium, accompanied by retching and slight vomiting The pain continued paroxysmally ti the 24th In the early morning of the 26th there w another attack, the pain starting from the epigastric notch and radiating thence around the lower edge of the thorax o both sides. The colon was distended There was no sickness. The abdomen moved freely on respiration. There was tenderness under the right costal margin, especially at a point about two inches above and externally to, the umbilicus, under which a distinct resistance to pressure was felt. Later in the evening she was cold and very collapsed. On the 27th the conjunctivæ were tinged with yellow and bile was present in the urine. On the 27th the stools were clearly coloured and 11 small calculi were found in the motions, some were bright green in colour others were lighter but all were cheesy in consistence. On the 30th there was another attack and on the following day three calculi were found in the stools. The next attack was on August 13th and from this date they have been repeated every 48 hours, but no calculi have been found. The attacks usually commenced with a feeling of weight in the epigastrium flatulence was then complained of, and the pain commencing in the upper part of the abdomen, spread generally and became extremely severe, causing collapse and coldness of the limbs. The pulse-rate had varied from 48 to 72

On August 25th the operation was performed The usual incision, splitting the rectus near its outer margin, was made and the gall bladder area was exposed. There were many adhesions those about the ducts and the head of the pancreas being extremely dense and with difficulty separated The gall bladder and the adjacent portions of the liver were thinly adherent to the abdominal wall, omentum and stomach. The head of the pancreas, which was buried in adhesions, was slightly enlarged and very hard, almost stony in consistence. The gall bladder was opened and cleared of 81 stones The cystic and common ducts were free. The gall bladder was drained and the wound was closed in the usual manner The patient made a very good recovery

Mr. Cammidge examined the urine passed on the morning of the operation and wrote 'It gives a slight reaction but I should not like to offer more than a guarded opinion on such a feeble result.

Varieties of chronic pancreatitis —Opie distinguishes two forms of interstitial inflammation of the gland—*interlobular* in which the inflammatory process is localised chiefly at the periphery of the lobule and *interacinar* in which the process is diffuse, invading the lobules and separating individual acini and involving the islands of Langerhans. In all the preceding cases the type of inflammation was the former—the interlobular The distinction between the two forms is important, for in the interlobular variety the islands of Langerhans are rarely affected and then only in the latest stage, and therefore diabetes is exceptional. In 11 cases related by Opie in one only was diabetes of a mild type observed in this the sclerosis was far advanced and affected the islands of Langerhans. In two out of three cases of interacinar pancreatitis diabetes was present.

The relationship of the islands of Langerhans to diabetes has recently received considerable attention from pathologists. Szobalow in 1900 reported two cases of diabetes in which the islands could not be discovered. Opie was the first to make a systematic study of the subject and his results are embodied in most valuable papers in the *Journal of Experimental Medicine*[2] Weichselbaum and Stangl[3] examined the pancreas in 18 cases of diabetes and found it affected in 17 Herzog reports four cases of diabetes in which changes were found in the islands. Steele[4] has summarised the results obtained by previous investigators. Three distinct types of lesion have been described in these cases. 1. An atrophy of the pancreas affecting the secretory glandular epithelium but much more intensely the islands of Langerhans These bodies show evidence of cellular degeneration and are diminished in number There is an increase in the interlobular and interacinar connective tissue which Weichselbaum and Stangl hold to be secondary to the atrophy of the epithelium. 2. Hyaline degeneration of the islands of Langerhans as described by Opie. 3. A chronic interlobular and interacinar interstitial pancreatitis in which the islands have been involved apparently rather late in the process. In this variety the islands appear to resist the invasion quite vigorously and the secretory glandular epithelium is in a much more advanced stage of degeneration than the cells of the islands. The occurrence of glycosuria in this type is usually less pronounced

The cases that I have related show very clearly the various stages in a progressive inflammation of the gland. In the earlier stages a thickening of the duodenal end is found and is merely incidental, being merged in a more serious condition, giving rise to no special symptoms and requiring no special treatment other than the removal of the cause upon which it depends. In a more advanced stage the pancreatic inflammation becomes the dominant condition and in the later stages it may exist alone, long after the irritation which gave rise to it has subsided.

Treatment.—The treatment of chronic interstitial pancreatitis must be mainly concerned with the removal of the cause of the gland implication. But in all cases drainage of the gall bladder is necessary It is my custom to fix an India rubber tube into the gall bladder or into the common duct by a single catgut stitch and to allow the tube to remain until released by the absorption of the suture. This generally occurs between the tenth and twelfth days and the wound then speedily closes

Leeds

PYTHOGENIC PNEUMONIA.

By A. H. Copeman, M D Dub. M R.C.S Eng
L.R.C P Lond

The following details of a succession of cases of pneumonia in one household may not be without interest.

About nine months ago a man, with his wife and family of five children took possession of some old business premises The house was fairly commodious and in good condition but several previous occupants had complained of illness during their tenancy and one of them had died some years before from typhoid fever The drains were said to have been subsequently overhauled and some slight derangements of the system rectified. Almost from the beginning of their occupancy the new tenants commenced to have illness amongst the household. Feverish" and bilious attacks were common amongst the children and one boy in particular suffered continuously from a most distressing cough for which no cause could be assigned and which only yielded to large doses of aperient medicines. The head of the family himself found his energies unaccountably flagging and he gradually assumed the worn out and fagged appearance of the convalescent from acute disease his wife indeed, being the only occupant of the house who retained anything approaching to her former state of health.

One evening I received an urgent summons to attend the eldest son. He had been that morning in about his usual state of health and his mother imagined that he was in for one of his usual attacks of coughing but she was rather anxious as he appeared to be so much more generally ill than was usually the case. I found him flushed and breathing heavily his respirations being 50 his pulse 120 and his temperature 104° F I prescribed the usual dose of calomel and an ordinary fever mixture In the morning I found distinct signs of commencing consolidation at the left base the tongue was already dry and brown and the child was evidently acutely ill On the third day of his illness I was informed that two of the other children appeared to be unwell. One, a girl about seven years of age, did not present the appearance of being acutely ill and in fact, beyond having a temperature of 101° for a couple of days she did not give me cause for any anxiety but the other child an infant, nine months old subsequently went through a very severe attack of broncho-pneumonia, barely escaping with his life. On the next morning I found the mother herself in bed she had been taken with severe pain in the left side during the night having been perfectly well on retiring to rest, and she also subsequently went through an acute attack of pneumonia, ending in crisis on the sixth day The father had gone away for a change of air only the day previous to that on which his eldest boy was seized and in response to telegrams he arrived back the very day that his wife was taken ill. That evening when I paid my usual visit I found him crouching over the fire complaining of severe headache and of feeling altogether very ill. I ordered him to bed at once and the next day I found him to have well marked signs of lobar pneumonia of the left base He very rapidly became worse and on the morning of the fourth day of his illness owing to his extremely critical condition, inhalations of oxygen and hypodermic injections of nitrate of strychnine were resorted to The effect was most encouraging and for two days I had some hope of his ultimate recovery A jaundice which had developed on the third day now, however, added to our anxieties There was intense tenderness and swelling over the region of the liver, and the urine, which had become very scanty, had the appearance of consisting almost entirely of bile. On the sixth day he became absolutely unconscious, inhalations of oxygen and the exhibition of strychnine no longer brought any benefit, mucus began to collect in the tubes, and at night he died, decomposition beginning to set in almost immediately after death

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[2] Vol v Nos. 4 and 6.
[3] Wiener Klinische Wochenschrift October 1901
[4] American Journal of the Medical Sciences July 1902.

The chief features of the epidemic were (1) the very sudden onset, (2) the high temperature, and (3) the extraordinary manner in which the patients appeared to be prostrated from the very onset of the attacks

Immediately after the seizure of the third child I instructed the town surveyor to apply the smoke test to the drains and his report is appended. On receiving it I at once made arrangements for the patients to be removed to another house, but the very serious aspect which the father's illness had assumed rendered this inadvisable, if not impossible I might add that on taking possession of the premises a room situated below the level of the street, which had been previously used as a box-room, was converted into the dining and general living room of the family and it was this room which became absolutely filled with the smoke on the application of the test in the usual manner from outside the house

Report of the surveyor to the urban district council "I applied the smoke test to the drains at the above premises with the following result In applying the test to the gulley in the covered yard a direct communication was found to exist between the drain and the interior of the premises, the smoke finding its way from under the floors into the cupboard around staircase. I also found an untrapped opening in covered yard (leading direct to drain) and a bell trap in the front area."

Cowes Isle of Wight

ON TWO CASES OF PARALYSIS COMPLICATING GONORRHŒA[1]

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SOME of the complications of gonorrhœa have long been recognised, for they are manifestly due to an extension of the urethral inflammation or to accidental inoculation I allude to stricture, abscess in the neighbourhood of the urethra, cystitis, pyelitis, orchitis, and ophthalmia. Other accidents of the disease have been more recently distinguished—namely, the various consequences of ascending infection in the female—ovaritis, salpingitis, and peritonitis The affections due to a general infection are not so obviously related to the urethritis Among these may be enumerated arthritis in various forms (I may say in passing that the agency of urethritis in the development of one variety of articular disorder, a chronic but progressive osteo arthritis, is particularly likely to be overlooked owing to its insidious evolution), endocarditis (a most serious accident, and one that, as recent experience has taught me, may prove fatal in a few weeks), phlebitis, pleurisy, and disorders of the nervous system, with which latter complications we are just now particularly concerned

The discovery of the gonococcus and the determination of the pathogenic qualities of the organism contributed much to our knowledge of the processes of local and general infection Although the gonococcus has sometimes been detected in the blood and in the inflamed tissues when general infection with local manifestations has followed a urethritis, it is probable that in many cases these secondary troubles are excited by the toxins of the organisms rather than by the organisms themselves, moreover, among the agents capable of giving rise to infective troubles are the ordinary pyogenic cocci, often associated with the specific microbe of gonorrhœa.

Gonorrhœa is happily rarely attended with complications involving the nervous system, and accidents of this nature occurring as they may during the progress of what is sometimes regarded as a trivial affection are worthy of attention. Although I am never called upon to treat gonorrhœa I have met with two cases of this disease in hospital practice in which the nervous system was involved I believe these cases to be of sufficient importance to justify my directing attention to them and offering a few clinical remarks suggested by them, and I trust that the subject may be sufficiently interesting to warrant the selection

In seeking for any notice of the nervous accidents of gonorrhœa it is not necessary to go further back than the year 1863 when Stanley described certain paraplegic affections which he had met with in gonorrhœa associated with bladder or kidney trouble According to the views expressed by him the disease of the urinary organs produced a morbid impression on the cord through sentient nerves which by reflection downwards occasioned impairment of sensation and motion, or what he termed urinary paraplegia. Gull, in his lectures on Paraplegia,[2] relates three cases of loss of power of the lower extremities accompanying gonorrhœa and considers that the paralysis was due to an inflammation of the cord occurring as one of the proper sequelæ of the urethritis and produced in the same way as the arthritis Ricord, the weight of whose observations on such a subject cannot be over estimated, states that he has seen symptoms of cerebral and spinal compression arise during the progress of a gonorrhœal arthritis and that the symptoms of paralysis seemed to vary with the extent of effusion in the joints as if it depended on the same mechanism Charcot, who discusses the pathology of Gull's and similar cases, looks on them as examples of myelitis excited by an ascending neuritis originating in the nerves of the inflamed bladder or kidneys[3] He also in 1887[4] relates a case of chronic gonorrhœal arthritis and bursitis with spinal symptoms of a different character—namely, weakness of the legs, muscular atrophy, and spastic disturbance, the arthritis was most marked in the hips, knees, ankles, metatarsal and phalangeal joints, and there was inflammation of the bursæ of the soles of the feet. He also refers to two cases by Hyem and Parmentier presenting precisely the same symptoms Charcot remarks that while he believes that a myelitis may be set up by extension of inflammation to the cord through neuritis associated with gonorrhœal pyelitis, he considers that such an accident was not accountable for the spinal symptoms in these cases He does not believe that the nervous disturbance was due to a specific infection in any degree resembling that of the joints, but that it arose from a reaction on the trophic centres of the cord, of excitations to which the nerves in relation with the diseased joints were subjected, the irritative impulses were reflected through the posterior roots and multipolar cells of the anterior cornua, and gave rise to dynamical trouble, and subsequently perhaps might produce organic mischief The symptoms referred to—disturbance of sensibility, exaggerated reflexes, diminished muscular power and muscular atrophy—may be met with in any forms of chronic arthritis and have been especially studied by Vulpian, Charcot, and Raymond This theory appears to me to be only a more elaborate form of the older theory of urinary paraplegia, with a wider application Vulpian[5] and Raymond also narrate cases of gonorrhœal arthritis with these peculiar spinal troubles and accept Charcot's views Hyem and Parmentier, on the other hand, in their "Contributions to the Study of the Complications of Gonorrhœa,"[6] adopt a different explanation, maintaining that the muscular atrophy and the other nervous disturbances of the lower extremities in their patients originated in a specific gonorrhœal infection causing a meningo-myelitis

It is evident that much difference of opinion has prevailed as to the nature of the nervous accidents which I have referred to The trouble in the spinal cord was by the majority of physicians regarded as not dependent directly on a gonorrhœal infection of that organ, but later, when the pathology of gonorrhœa was better understood, the view enunciated by Gull, that the urethritis "probably brought on paraplegia through a purulent affection of the blood, or through some more specific taint, was generally adopted. Leyden in 1892 remarks that it is impossible to doubt but that certain forms of myelitis are due to gonorrhœa and to the gonococcus itself or to its toxins. Fürbringer[7] has published a case of cerebro-spinal meningitis with gonorrhœa. Fluid obtained by lumbar puncture contained the gonococcus and the post-mortem examination demonstrated the existence of the gonococci in the exudation of the inflamed membranes. So that while we recognise that *gonorrhœa* may excite reflex trouble such as Charcot describes and also a myelitis through an ascending neuritis we also believe that it may by its specific organisms or their toxins or by a mixed infection give rise to inflammation of the cord or its membranes

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[1] A paper read before the Southport Medical Society

[2] New Sydenham Society, 1894

[3] Charcot: Diseases of the Nervous System, Sydenham Society, 1880

[4] Leçons du Mardi à la Salpêtrière.

[5] Maladies du Système Nerveux tome xi, p 587

[6] Revue du Medècine, No 6, 1888

With the recognition that a peripheral neuritis might cause a paraplegia or a more diffused paralysis came the knowledge that such conditions were not necessarily due to a functional or an organic lesion of the cord and when further it became manifest that the peripheral nerves were especially prone to inflame under the action of many and diverse toxic agents and that these toxic agents might be developed within the body as well as be introduced into it from without, our insight into the pathology of *paralytic* affections occurring in association with infective disorders became much more profound.

The infections, then, are active agents in the production of neuritis and cerebro-spinal troubles and in the infections by the pyogenic organisms peripheral neuritis is not uncommon it *may for* example, be provoked by a suppurating wound. I can recall several cases of multiple neuritis associated with *empyema and* cases of neuritis from so simple a cause as pyorrhœa alveolaris have been described by Dr Hunter and *Mr Baldwin Hoyes.*[8] The neuritis in my patients was more or less generalised but I may state that *Fournier*, Raymond, and others have directed attention to the occasional development in urethritis of localised forms of the *affection* limited to the sciatic, crural, or cranial nerves and causing neuralgias or paralyses. I once met with *facial* paralysis in a youth with gonorrhœa, but was not able to satisfy myself that the paralysis depended in any way on the urethral disorder

It should be borne in mind that cerebral symptoms such *as hemiplegia* and aphasia, due to embolism, following endocarditis or phlebitis may develop during the course of *gonorrhœa.* I may now relate my first case, for the notes of which I am indebted to Dr O B Stewart.

CASE 1 —The patient a man aged 48 years, was admitted to the Royal Infirmary, Liverpool under my care on Feb. 13th 1894 He had always been active and thoroughly temperate. He had suffered from typhoid fever at the age of 28 years. There was no history of syphilis but the patient had had gonorrhœa at the age of 28 years and again a month before admission. There was no history of injury or of exposure to cold or to any toxic agent. The patient's father died at the age of 70 years, probably from cancer his mother who was asthmatic, died at 65 years of age and his only brother and sister were in good health On Feb. 3rd he had noticed some weakness in walking—a difficulty in raising his feet and feebleness in the knees with some tingling in the feet. The following day the loss of strength had increased and he staggered there was tingling in the hands. On the third day he could stand only with support. On that day I saw him with his medical attendant, Dr Dunn There were great weakness of all the muscles of the lower limbs and almost complete paralysis of the muscles of the anterior tibio-fibular region. Sensation was normal there was no pain and knee jerks and plantar reflexes were absent. He could just stand if supported. On the fourth day of the disease the hands became weak and in a day or two the muscles of the arms and trunk were involved and he took to his bed Ptosis developed on the 9th the day before he entered the hospital. The urethral discharge had been somewhat profuse, but had almost ceased before the present illness began and on admission it was not noticed

The patient was tall (6 feet 2 inches) and thin. His features were asymmetrical and the lobes of the ears were ill-developed—i.e. he bore the marks of hereditary degeneracy In bed he was perfectly helpless being unable to move his head or to turn or to raise himself. There was no complaint of headache or other pain and the memory was good Owing to double ptosis the eyes were *half* closed, the pupils were equal (3 5 millimetres) and reacted normally to light and to accommo*dation.* There were nystagmus of the left eye when directed far to the left and paralysis of the internal rectus of the right eye. No affection of the lips or tongue was present. The patient swallowed well and his speech was normal His arms were extended by his sides and his fingers were flexed on the palms. The strength of grip was three pounds the power of extension of the fingers being slight He was just able to flex and to extend the forearm at the elbow and could *only* approximate the thumb to the first and second fingers. He could flex slightly and extend the hands at the wrist and also partially pronate and supinate them. He *could* not abduct his arms from his sides. There was evidence of great weakness of the deltoids the sterno-mastoids, the levator anguli, and other muscles of the neck and shoulders and *he could* not shrug his shoulders or move his arms from his sides or turn his head. The tendon *reflexes* were absent A subjective sensation of pins-and needles" which was felt in the hands was aggravated when *they* were *rubbed* together There was some weakness apparently of the lower intercostal muscles as the respiration was largely *diaphragmatic* with some retraction of the lower part of the chest. The respirations were 20 and the respiratory sounds were normal. The legs were extended and flaccid the feet were extended, the plantar arch was exag*gerated*, the *first phalanges* of the *toes* were extended and the distal phalanges were flexed (indicating *paralyses* of the interossei and lumbricales). The patient could not flex his feet or move his toes nor could he raise his heels off the bed, but he could draw them up for a short distance on bending the knees and could adduct the limbs to some extent, but could not abduct them. Sensibility of skin was normal. Knee jerks and plantar and all superficial reflexes were absent. The heart was normal, the pulse was 80 and normal and the temperature on the morning of the day of admission was normal in the evening it was 99 4° F The tongue was furred and the bowels had not acted for five days There was no enlargement of the spleen or of the liver The urine, which was passed with some difficulty, was normal.

On the night after admission the patient was very restless and slightly delirious, constantly desiring his limbs to be moved and complaining of a feeling of pressure round the umbilicus and also of thirst. The feet felt, he said uncomfortable if left long in one position but were free from pain. The respirations chiefly abdominal were 24 the voice was somewhat weak and the pulse was 84 The patient complained of excessive thirst. He passed urine once involuntarily He was ordered salicylate of soda, mercurial inunctions, and counter irritation by mustard over the spine. His symptoms became much aggravated during the next few days. On the 17th the respirations, which were entirely abdominal, were 34 and the pulse was 120 He spoke with effort. He became very noisy at night imagining that he was being pricked with needles and that a cold wind was blowing over him and he was delirious during the day talking incessantly complaining of being stabbed and pricked and galvanised was suspicious and feared that those about him had daggers. Hyoscine was administered and on subsequent occasions morphia. The limbs became weaker the paralysis of the left arm and leg being almost complete. He was just able to flex the fingers of the left hand and to move the right foot. The ptosis became absolute, the eyelids being fastened together by secretion On raising the lids it was observed that he could not direct his eyes upwards, downwards, or inwards but outwards only The pupil remained as before 3 5 millimetres. The tongue was dry thirst was incessant, and the temperature was normal in the morning and almost invariably a little up at night (99 4°) till the 21st. Urine and fæces passed involuntarily the bladder emptying itself when very slightly distended The sphincter ani relaxed on examination. A little later the patient refused his medicine. He had delusions that he was being poisoned that the water given him was narcotised and that he was being stabbed and murdered or set on fire. The restlessness and thirst continued. A bedsore appeared on the sacrum and ecchymosis formed on the heels and between certain toes that were in close contact He was put on a water bed. The gonorrhœal discharge became noticeable and pus was found in the urine with a small amount of albumin. Gonococci were detected in the pus. Examination of the blood gave a negative result.

Five days after admission he became rational and talked about his recent delusions, remembering them but not being able to account for them. He took a very despairing view of his condition. Respiration had improved and the voice was strong. He stated that there was a "flannelly" feeling in the hands, also an aggravation of the old sensation of "pins and needles," and that the legs felt as if they had been bruised. There was then some tenderness of the calves and over the external popliteal nerve. There was much loss of sensibility to interrupted current, especially over the extremities, also some loss of sensibility to heat and to cold, and a gentle touch over the fingers and toes was not recognised. There was some analgesia also to pricking over the same parts. About this time any attempt to move the right arm—i.e., the better of the two limbs—caused tremor from contractions of the pectoralis major. There was also some tremor of the muscles of the arm when at rest and of the facial muscles. On the 22nd, after a night of pain in the left knee and ankle, there was considerable effusion in the knee which became tender but not red. This condition of the knee lasted for five days. Early in March atrophy of the muscles was apparent and was especially marked in the extensors at the back of the forearm the thenar and hypothenar eminences, the deltoids and pectorals, the muscles of the thighs, the flexors of the feet, and the gastrocnemii. The tremor continued. There was mechanical irritability of many muscles. On March 5th in the right arm the long extensors of the thumb reacted to the faradic current, but the extensors of the fingers did not, the small muscles of the thumb reacted. The extensors communis and indicis did not react. Several muscles gave reaction of degeneration, such as the extensor communis of the right and left arms and the tibialis anticus and extensor communis of the right leg, while no reactions were obtained over the same muscles of the left leg. Improvement was first noted on the 6th, when there was an increase in power of flexing the forearm and more strength of grip. There was also some ability to flex, to extend, to abduct, and to adduct the feet, but inability to move the toes. On the 8th the patient could flex the toes of the right foot and a day or two afterwards those of the left foot. By the end of March the ptosis had disappeared and the movements of the eyeballs were normal, though the patient had double vision if he looked fixedly at anything for a long time. Tested with the dynamometer early in April the strength of grip of the right hand was 20 pounds and of the left hand 35 pounds and on April 24th the former equalled 30 pounds and the latter 45 pounds. The patient was still confined to bed and could just stand alone and take a few steps with support. There was loss of power of the extensor communis, the peronei, and the tibialis anticus muscles. The toes felt numb on standing. There was still slight tenderness over the calves, the arms, and the thenar eminence. Paralysis and wasting of the extensors of the hands were still marked, the patient being unable to feel small objects held between the fingers, and he could not button his shirt. He left the hospital on June 7th and a few weeks afterwards had perfectly recovered.

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[7] Deutsche Medicinische Wochenschrift, 1896, No. 27

[8] The Dental Cosmos January 1902.

The ascending paralysis did not follow the usual course and prove fatal through bulbar troubles and during the later period of the illness symptoms appeared which gave us a fuller insight into its nature. For convenience of description my patient's disorder may be divided into two periods, in the earlier the symptoms were those of ascending, or Landry's, paralysis, and in the latter those of multiple peripheral neuritis. The onset of the affection was insidious and was unattended by pain or high fever. The patient only experienced a difficulty in lifting his feet on his way to business. The loss of voluntary muscular power was first noticeable in the distal parts of the lower extremities and the paralysis by the fourth day had involved the muscles of the hands and in a day or two those of the trunk, the arms, and the neck. The knee-jerks and the plantar reflexes were lost on the third day, perhaps earlier, and sensory symptoms were not marked. The faradic irritability of the paralysed muscles was preserved for some weeks and no derangement of the action of the bladder or of the rectum was observed till the eighteenth day (Feb. 21st). On the fourteenth day the respirations and the pulse were quickened, the respirations being 32 and the pulse 120, and the voice was weak. These symptoms pointed to the possible implication of the bulb and its nerves, but the diaphragm did not seem to be affected, there being evidence rather of weakness of the lower intercostals. Although his life at this critical period was menaced the derangement of respiration and circulation gradually lessened. The levator palpebræ and all the external muscles of the eyeballs were paralysed, with the exception of the external recti; there was, therefore, suppression of the functions of the third and fourth nerves, but the sixth nerve and the fibres in the third for accommodation and for the reflex action of the iris escaped.

It is not usual for the facial or ocular muscles to be implicated in multiple neuritis, but they do not invariably escape. The orbital and facial nerves are more frequently involved in Landry's paralysis and the serious forms of toxæmic paralysis, as in post-diphtheritic neuritis, than in the polyneuritis of alcohol and of the organic poisons. It is worthy of note that the sixth nerve—more commonly affected in diphtheritic paralysis than any other orbital nerve—was not implicated. Raymond[9] and others describe cases of toxæmic neuritis with implication of the cranial nerves. I have seen Landry's paralysis accompanied with ophthalmoplegia and blindness and also with facial paralysis.

The peculiar character of the orbital paralysis originated in one of two ways—either there was a lesion of the nucleus of the fourth nerve and the adjoining posterior part of the nucleus of the third nerve (the anterior part of this nucleus, devoted to the innervation of the iris, and the nucleus of the sixth nerve not being involved), or the paralysis was due to a neuritis sparing the sixth nerve and those fibres in the third nerve concerned with the functions of the iris but implicating all the other fibres in the trunk of the third nerve and also involving the fourth nerve. We meet with a similar distribution of paralysis in certain cases of ophthalmoplegia externa, undoubtedly due to degeneration of the nuclei of the nerves concerned.

From our knowledge of the anatomical relations of the nuclei in question it can be conceived that a lesion may be so limited as not to extend forwards to the anterior part of the third nucleus or backwards to the distant sixth nucleus, but we can hardly imagine that the trunk of the third nerve could be involved in an inflammatory process which, while it annihilated the functions of the greater part of the fibres, left the functions of the lesser part entirely intact. I am inclined to believe, therefore, that the peculiar distribution of the orbital paralysis was due to a dynamical disturbance of the fourth nucleus and of part of the third nucleus. Any lesion must have been slight, as the ophthalmoplegia was of short duration, improvement in the condition of the muscles of the eyes being manifested early in March and their restoration to power being complete before the end of the month, at a time when the limbs were still paralysed. I may also say that lesions of the nuclei on the floor of the fourth ventricle are not uncommon in the paralyses from toxæmias.

Much difference of opinion has prevailed as to the nature of the lesion of the nervous system in Landry's paralysis, but the view that best explains my case and coincides at the same time with the convictions of a great proportion of modern writers is that the disease is a toxic or infectious process involving the peripheral motor neuron. Sometimes the ganglion cells are more particularly involved and at other times the peripheral fibres. We might anticipate that these elements of the neuron would be affected by the same toxic agents, as they are functionally and anatomically related. There is evidence in the cerebral symptoms, delirium and delusions, that the cells of the cortex suffered and therefore that the action of the poison was not limited to the nerves. But the derangement of the ganglion cells was slight and fugitive and unattended with destructive changes.

Vulpian has demonstrated that an experimental myelitis may be set up capable of ending in resolution and of leaving no trace in the cord or even in the ganglion cells, but sufficient to produce degeneration in the peripheral nerve fibres. Erb, indeed, has always held that functional disturbance of the atrophic centres in the anterior cornua can induce appreciable anatomical changes in the motor apparatus—nerves and muscles. Raymond believes that amyotrophic paralysis in relation with multiple neuritis and amyotrophic paralysis of manifestly spinal origin are similar morbid conditions and develop under the influence of the same causes, and holds that the dominant element in the pathology of these amyotrophies is an alteration, dynamical or structural, of the special trophic centres. In support of this view he appeals to experimental researches similar in character to those conducted by Vulpian.

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[9] Clinique des Maladies du Système Nerveux.

Landry's paralysis acute anterior poliomyelitis and polyneuritis may develop under the influence of very different causes, but almost always these causes come under the categories of intoxications or infections, one or other of these disorders is excited according as the *deleterious* agent attacks the whole neuron, the ganglion cells, or the nerve trunks.[9] The ganglion cells and nerve fibres may in different cases of ascending paralysis be involved in varying degree—one may be of poliomyelitic and another of *polyneuritic type.* If the poisonous agent attacks the neuron with *great violence* rapid suppression of its functions follows—i.e. *motor* paralysis—and the neuron may be disorganised throughout its length. In these conditions the degenerative changes in the ganglion cells are precocious and at least equal in intensity to those of the axis cylinder and its envelopes. If the deleterious agent acts in a less brutal fashion the peripheral nerves alone suffer in the first assault, since the axis cylinder is the most fragile part of the neuron especially in its more distant portions, in these circumstances a peripheral neuritis results. Or, lastly the toxic substance acts deleteriously on the whole neuron—only the changes which follow in the cells are transitory but in the peripheral nerves they persist for a longer period and their intensity is the greater at the distal extremities of the nerves. This was, I believe, the pathological condition developed in my patient under the action of the toxin of gonococcus or possibly under that of a pyogenic coccus associated with it; in my patient there was probably a *cellulo-neuritis*, the latter preponderating

In some cases of *ascending* paralysis there is ample evidence that the ganglion cells have succumbed to the action of the *irritant—poliomyelitis* characterised by exudation, vascular *lesions* and destruction of the cells of the anterior cornua. In other instances the pathological appearances point to a reaction of a less violent character—chromatolysis *discolouration* of nuclei and dissolution processes. *Without the delicate* methods of staining now at our command the latter anatomical changes would not be perceived and a cord from a fatal case of Landry's disease would if these more minute lesions alone were present, appear normal. I believe that in my case the ganglion cells of the anterior cornua suffered to *some* extent, but not in a degree to cause disorganisation, for a destructive lesion of these trophic centres would have been attended with irrecoverable atrophy of their peripheral nerve-fibres and permanent paralysis and shrinking of certain muscles. Serious implication of the cells *of* the lower neuron or anterior poliomyelitis would have been attended with symptoms of a different character In a poliomyelitis there is usually more or less marked constitutional trouble, the motor power in the affected muscles *falls rapidly* so that the paralysis is as complete in from 24 to 48 hours as it is likely to be, the paralysis is not regular in its distribution, one or more limbs or certain muscles of the limbs involved escaping recovery is rapid regression beginning in from seven to 14 days but it is rarely perfect, some muscles being left in a useless and wasted condition. In my patient the paralysis attained its maximum in from 14 to 18 days the muscles of the four limbs and trunk were symmetrically involved, restoration was much protracted, occupying over four months, but it was perfect.

It may be difficult to differentiate the affections of the lower motor neuron but the attempt should be made to distinguish cases where the motor cells of the neuron are the seat of a gross lesion in part irreparable from cases where a similar lesion interests only the peripheral nerves for an acute anterior poliomyelitis, if not mortal usually leaves irreparable injury behind it, whereas a multiple neuritis is almost always curable.

In a *few* cases of ascending paralysis a cause cannot be discovered. Some cases have developed after exposure to cold or subsequently to over-exertion and therefore may have originated in an auto-intoxication In the great majority of instances the source of the affection in an intoxication or an *infection is* pretty obvious It has followed arsenical mercurial, carbon monoxide, carbon bisulphide, and alcoholic poisoning and has occurred during the course or the convalescence of the following diseases influenza, typhoid fever variola, and syphilis it also has followed the bite of a rabitic dog and what interests us more particularly is the fact that it has been associated with infections by the pyogenic cocci and by the gonococcus. The experimental researches of Molchenoff are of interest in their bearing on the question of gonorrhœal affections of the *nervous system* He[10] demonstrated that the toxins or cultures of the gonococcus *injected into* the pleura of guinea pigs or rabbits produced lesions of the cells of the anterior cornua and cerebral cortex, with degeneration *of the peripheral* nerves at the end of three weeks. Roger had previously shown *that the toxin* of *streptococcus* exerted a pernicious action on the lower motor neuron. *Professor Raymond*[11] publishes a case of gonorrhœal polyneuritis with symptoms closely resembling those of my patient, ascending paralysis certain slight sensory atrophy and facial paralysis.

Derangement of the *functions* of the bladder and rectum are very rare in multiple neuritis but not uncommon in *Landry's* paralysis, in a fatal case of ascending *paralysis* which I recently attended with Dr A. Craigmile of Liscard *retention of* urine was one of the earliest symptoms. The retention of urine in the case under discussion was not due to weakness of the abdominal muscles as it was followed by *incontinence* and also by involuntary discharge of *fæces* and relaxation of the sphincter ani was found on examination. These troubles continued for a few days only *from* March 1st to 5th, and about the same period a bed *sore formed* they depended on a slight neuritis of certain trunks *of the cauda* equina or on dynamical disturbance of their nerve centres, the lesion of the nerves if it existed, *must have been of a* very trivial nature.

The *second* period of this patient's malady, when the symptoms of peripheral neuritis became pronounced may be quickly disposed of. The neuritis was severe as there was considerable wasting of the muscles of the extremities and of the pectorals and more especially of the muscles so commonly particularly implicated in the affection, the flexors *of* the feet and the extensors of the hand The mechanical irritability of these muscles was marked and they gave the reaction of degeneration. The knee-jerks and superficial reflexes were lost from the first There were not the pain in the extremities and the great tenderness of nerve trunks and muscles so commonly found in the peripheral neuritis of alcohol and arsenic—an indication that the sensory fibres of the nerve trunks were not severely implicated. A similar selective action is exhibited in lead and sometimes in alcoholic and other *forms of neuritis* when with much motor disturbance there is little or no sensory trouble. Improvement, as in most cases of polyneuritis was tedious, the derangement of the sensibility of the fingers and toes became rather more pronounced in the later weeks of his illness. Though the neuritis occasioned little pain it seemed to occasion cutaneous impressions of sufficiently disagreeable character to give a direction to his delirium and delusions awakening ideas of pricking burning stabbing &c.

I will not attempt to explain why the urethral discharge ceased at the advent of the paralysis and returned as the nervous troubles lessened you will probably have met with the same modifications of the local trouble in other cases of general gonorrhœal infection—as on the development and decline of gonorrhœal arthritis. In a case of fatal gonorrhœal endocarditis recently under my notice, following on a urethritis and severe arthritis of one knee, the urethral discharge ceased at the onset of the joint trouble and this in its turn was much modified as the cardiac symptoms became pronounced. The temperature was never high but was slightly raised in the evening for about 10 days The joint trouble could *hardly* be due to anything but the urethritis, there being no evidence of rheumatism or gout, and was therefore regarded as an indication of gonorrhœal infection.

My next case may be described in much fewer words

CASE 2.—The patient, aged 17 years, was admitted into the Royal Infirmary on March 6th 1894 complaining of weakness of the legs His family history was good. The only sickness which he had suffered from was influenza in the year 1893. He was liable to migraine. He was very temperate and there was no history of rheumatism, of over fatigue, or of injury and no evidence of exposure to any of the chemical or organic poisons He had had gonorrhœa for two months. A month after the onset of the urethritis he suffered from pain in both knees and in one elbow but did not notice any swelling A day or two afterwards his feet tingled a little and his legs gradually became weak so that for 14 days before coming to the Infirmary he was obliged to stay at home. He was a well nourished, healthy-looking youth. He walked with difficulty, holding on to a bed near him, and lifted his feet high to prevent the toes from dragging. He could stand with his eyes closed. There were decided weakness of the flexors and extensors of the leg and great weakness of the flexors of the feet. Sitting with the leg at a right angle to the thigh he was unable to raise the fore part of his feet off the floor. There was no pain on compressing the calves. The knee-jerks and plantar reflexes were absent. The cremasteric and abdominal reflexes were lively. There was some analgesia of the whole surface of the trunk, the face, and the limbs, which was most marked on the left side, and there was tremor of the hands and lips and closed eyelids. There was some restriction of the colour field, especially of the left eye. The taste was somewhat impaired and he could not detect solution of quinine on the tip of the tongue. The sense of smell was normal. There was pain occasionally under both nipples. The upper extremities, the electrical reactions, and the pulse (114) were normal. The apex beat was normal in site. There were systolic murmurs, probably functional, at the apex and the pulmonary areas. The temperature was usually normal night and morning, sometimes touching 100° F., at other times 99°. The urine was normal excepting for a little pus; the pus cells contained gonococci. Cultures of blood taken on the 15th revealed nothing. He was ordered bicarbonate and citrate of potash at first and subsequently a tonic with massage. He was able to walk well at the end of six weeks and was discharged on April 20th.

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[10] Archives Russes de Pathologie, 1899 tome viii
[11] Progrès Médical, 27 Juillet, 1901

The symptoms here pointed, in my opinion, to a neuritis chiefly involving the motor fibres of the peripheral nerves of the lower extremities and causing muscular weakness and pseudo-tabes. He also had some of the stigmata of hysteria—namely, general analgesia most marked on the left side, some restriction of the visual fields, tremors of the hands and eyelids, some impairment of taste, &c. He was undoubtedly hysterical, but, in my opinion, the paralytic troubles were not due to this disorder. Hysterical paralysis is usually associated with much loss of sensibility of the limbs affected; the sensation in this lad was no more impaired over the legs than elsewhere. The absence of the knee jerks, the loss of the motor power of the flexors of the feet, and the tingling in the toes, pointed to a neuritis. Like the other patient, there was, for a certain period, joint trouble indicating general gonorrhœal infection. In both cases the discharge was not perceptible on admission but required treatment subsequently. Both patients were of neurotic temperament; the patient in the second case suffered from migraine and was hysterical. The other patient had a mother who was an asthmatic subject and he bore the marks of degeneracy. In this neurotic condition we have the predisposing cause, rendering their nervous tissues susceptible to the action of toxins. Raymond observes, "All intoxications seem to me capable of developing a polyneuritis in a subject tainted with a neurotic constitution."

I may point out that it is not possible to obtain positive proof of the causal relation of the gonorrhœa and the paralysis in my cases or in similar cases ending in recovery. The probability of the correctness of the diagnosis rests upon the following facts. Peripheral neuritis is invariably due to some intoxication, often to bacterial infection. Many cases of peripheral neuritis have been set down to gonorrhœal infection, and experiment has indicated that the toxin of the gonococcus is capable of exerting a morbid influence on the nervous tissues—central and peripheral. In my patients there was evidence of gonorrhœal infection in the joint trouble and no other source of intoxication could be discovered. I recognise this to be a weak point in the argument, because, in some few cases of multiple neuritis, poliomyelitis, and Landry's paralysis no origin of intoxication can be recognised.

Liverpool.

BARTON REGIS WORKHOUSE.—The Right Hon. Sir John Dorington, Bart., M.P., formally opened, on Sept. 18th, the new workhouse of the Barton Regis union, which is situated at Westbury on Trym, near Bristol. The institution stands on 13½ acres of land, will provide accommodation for 110 inmates and 24 casuals, and has been erected at a cost of £33,000. The infirmary contains two wards of six beds each, two smaller wards of four beds each, and also two isolation wards of one and two beds respectively.

OPERATIONS UNDER ANALGESIA PRODUCED BY INTRA-SPINAL INJECTIONS OF COCAINE.

By H. LITTLEWOOD, F.R.C.S. Eng.,
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THE article in THE LANCET on anæsthesia produced by intra spinal injections of cocaine which appeared early in 1901[1] induced me to try the method, and the annotation in THE LANCET of April 12th, 1902, p. 1051, suggested to me that probably my experiences might be interesting to other surgeons. My house surgeon, Dr. A. Morton, has very kindly collected my cases and abstracted the notes which I now offer for publication. In addition to these are the notes of a case operated on by my colleague Mr. Ward who has kindly allowed me to publish it. After following the detailed instructions given in your article I had practically no difficulty in puncturing with the needle and introducing the fluid, the resistance offered by the subflavus ligament was readily appreciated, and pushing the needle a little further the cerebro spinal fluid soon began to flow in small drops. After injecting the cocaine I injected a little sterilised salt solution to wash out the needle to be quite sure that I had introduced the full dose. I do not think that I have ever been more impressed in my life than I was with the first case and I believe that all who saw the operation were equally impressed. It was difficult to realise that within a few minutes of introducing a third of a grain of cocaine into the spinal canal one could deliberately amputate through the knee-joint, the patient being conscious all the time and yet not feeling any pain. In all the cases with the exception of the one operated on in April, 1901, it answered admirably. This patient was a very nervous man and I think it was more from fear than from pain that he cried out. I was not quite satisfied that I had given him a proper dose and the solution of cocaine had been twice sterilised, which may have altered its composition. The faintness of some of the patients was a little alarming; two or three of the patients I gave a hypodermic injection of 10 minims of liquor strychninæ before the injection, and this I think, had a good effect. In your article you refer to the conservatism of English surgeons. One can well understand this attitude towards anæsthetics, which are now, as a rule, so well given and with such excellent results both for patients and surgeons that any new methods must have a great deal in their favour before a trial is ventured on. I was really induced to try the method in the first case because I felt a general anæsthetic of any kind would be a serious factor in the case and I certainly believe there are some cases where this means of producing analgesia must be useful and valuable. I have not operated on any case by spinal cocainisation since April, 1901, and I may fairly be asked, Why? I do not feel it is so immensely superior to other methods; my last case was not quite a comfortable experience; the fact that the patients are conscious of what is going on is to some very distressing, and I think I rather shirk the dual responsibility of acting both as anæsthetist and surgeon. The cases are arranged in chronological order.

CASE 1. *Senile gangrene of both feet; Stokes's amputation, right side.*—The patient was a man, aged 58 years. Operation was performed on Jan. 24th, 1901. Intra spinal injection of a quarter of a grain of cocaine was given. Operation was commenced eight minutes after the injection. The patient felt no pain during the operation, although he felt a vibrating sensation when the bone was sawn. The pulse increased from 96 to 108 and was intermittent. He sweated profusely towards the end of the operation. Respiration was laboured. He retched a little and tried to vomit, but this gradually passed away. About three-quarters of an hour after the operation he began to recover sensation in the stump. He took food soon after the operation. For the first week he appeared to be making good progress, the stump healing well. On Feb. 4th the patient died suddenly without any previous indication of failing except the pulse, which had been feeble and irregular both before and after the operation. His peripheral arteries were most of them rigid and calcareous.

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[1] THE LANCET, Jan. 12th, 1901, p. 137.

CASE 2 *Senile gangrene of the foot Stokes's amputation*.—The patient was a man, aged 43 years Operation was performed on Jan. 28th, 1901. Intra spinal injection of one-third of a grain of cocaine was given. There was partial analgesia to pricking three minutes after injection and total analgesia to pricking four minutes after injection, not only in the lower limbs, but to a point two inches above the umbilicus. Operation was commenced seven minutes after injection. The patient felt practically no pain during the operation a violent contraction of the thigh muscles when the great sciatic nerve was divided caused slight pain The sawing of the femur and patella caused a jarring sensation but no pain. The patient was quite quiet during the whole of the operation. His colour remained unaltered and his breathing undisturbed. The pulse fell from 120 to 80 and became less in volume. There was slight sweating but no vomiting The pupils became smaller After the operation was over he complained of thirst and he had a few ounces of water this he vomited back again in a few minutes During the rest of the day the patient slept quietly He complained of some pain at times and tingling in the legs. In the evening he had two slight epileptic seizures. Between and after these he was drowsy He made a good recovery

CASE 3. *Hydrocele of the tunica vaginalis, radical cure*.—The patient was a man, aged 55 years Operation was performed on Jan. 28th 1901 Intra spinal injection of one-third of a grain of cocaine was given In about five minutes from injection the patient said he felt an advancing numbness in the limbs and a minute later he could not feel pain in the scrotum when it was being pinched, although he could feel it being touched. Operation was commenced seven minutes after the injection The patient felt no pain during the whole of the operation He felt the fluid from the hydrocele trickle down his thigh. During the operation the patient became ghastly white and the pulse was very rapid and almost imperceptible at this time he felt very sick but spoke when questioned quite naturally and said that he felt no pain anywhere only a little tightness across the chest and a sinking feeling in the epigastrium. He was given 10 minims of liquor strychninæ hypodermically the pulse re-acted immediately and became slower and fuller though the patient was still very pale. General sensations, including sensations of heat and cold (which were tested), were retained he could feel no pain from a pin prick, although he knew that he was being pricked by a pin. He was given a little brandy at the end of the operation This was promptly vomited and he continued vomiting and retching for a few minutes after this. An hour after operation the pulse was 98, regular and less easily compressible, pallor was much reduced He was having some tea. He complained of a little tightness across the chest. The skin was clammy and perspiring He had clonic spasms in the lower extremities.

Notes by Dr W H M Telling.—Three minutes after the commencement the pulse was 88 and numbness was felt in the soles of the feet. Four minutes after the commencement numbness was felt in the knees. Five minutes after numbness was felt in the scrotum. Eleven minutes after an incision was made The pulse was 68. The patient got rapidly paler collapsed, and the pulse could not be felt. Fourteen minutes after ten minims of strychnine were injected hypodermically Fifteen minutes after brandy was given by the mouth, the pulse was better (64) Eighteen minutes after the operation ended The patient vomited a little. He made a good recovery

CASE 4 *Inguinal hernia radical cure Bassini's operation*.—The patient was a man, aged 34 years. Operation was performed on Jan. 30th, 1901. Intra spinal injection of one-third of a grain of cocaine was given The patient was quite conscious during the whole time Although quite free from pain he could feel the touch of anything Two minutes after commencement the pulse was 100 Three minutes after numbness was felt in the toes Five minutes after numbness was felt in the knees. In six minutes the scrotum was analgesic Seven minutes after the pulse was 80. Eight minutes after an incision was made the patient felt the cutting sensation but no pain. Nine minutes after the pulse was 44 The patient felt sickly and hot, his lips were paler and he vomited with some straining Twelve minutes after the pulse was 52. Fourteen minutes after the hands were numb and he was sweating slightly Fifteen minutes after he was sweating profusely and there was an aching sensation at the site of the wound. Seventeen minutes after the pulse was 62. Twenty five minutes after the pulse was 88 Twenty six minutes after the patient winced slightly and complained of sensation of weight. Thirty minutes after he felt the pulling of tissues, when the deep stitches were put in. Thirty three minutes after the pulse was 88 and the operation was ended He felt the superficial stitching but it was not painful Sensation to heat and cold was lost. Although the patient got collapsed slightly and faint when the pulse was slowest there was never any real anxiety as to his condition. Vomiting improved the pulse. The patient had a chop for dinner. He made a good recovery

CASE 5. *Radical cure of inguinal hernia Bassini's operation*.—The patient was a man aged 26 years. Operation was performed on Feb. 4th, 1901. Intra spinal injection of a quarter of a grain of cocaine was given. A few days after the operation the patient developed acute pneumonia, otherwise he made a good recovery He had no pain or inconvenience during the operation.

CASE 6. *Varicose veins of the lower extremities*.—The patient was a man aged 30 years. Operation was performed on Feb. 5th 1901 Intra-spinal injection of one-third of a grain of cocaine was given. During the early part of the operation the patient complained of a little pain but after a slight nausea this was unnoticed. Portions of the veins of the right lower extremity were dissected out. The operation was inconvenienced by clonic spasm which affected the muscles of both thighs. Two hours after the operation the patient was insensible to pain in the lower extremities and was numb as high as the fourth costal cartilage. He did not feel the pain but only the pressure of the prick of a needle in this area. The skin could be pinched tightly while pressure on the testicles was painless. Sensation to cold existed. Five or six hours after the operation the patient complained of aching in the small of the back. Clonic spasms in the thigh muscles were also present these gradually passed off. On Feb. 14th the left internal saphenous vein was ligatured under an intra-spinal injection of one-third of a grain of cocaine. The patient had no pain and made a good recovery

CASE 7 *Varicose veins of the lower extremity excision*.—The patient was a woman, aged 28 years. Operation was performed on Feb. 11th 1901. Intra spinal injection of one-third of a grain of cocaine was given at 10 39 A.M At 10 46 operation was commenced. There was no sign from the patient. At 10.50 the face and hands sweated profusely there was retching and the pulse was 60 regular and full. At 10.52 the pulse was 62, regular and full. At 10 53 the sweating had considerably diminished The patient retched at intervals. At 10.55 the pulse was 70 and the patient drank a little water At 10 57 the pulse was 100, not quite as full. At 10 58 the pulse was 84 The feeling of sickness was much relieved by water Throughout the operation the patient constantly declared that although she felt something there was absolutely no pain. At 11 0 the operation was finished. The pulse was 84 regular and the fulness was increasing There was slight sweating but the mucous membranes and finger nails had remained of a good colour throughout. The patient was smiling and quite cheerful. At 11.2 the skin was quite dry The pulse was 76 and full The patient had her meals as usual after operation. She suffered from headache in the afternoon after the operation, also for two or three days following She made a good recovery

CASE 8. *Radical cure of femoral hernia*.—The patient was a woman aged 36 years. Operation was performed on Feb. 11th 1901. Intra spinal injection of one-third of a grain of cocaine was given. The operation was commenced seven and a half minutes after the injection and was completed at the end of 25 minutes. The patient had entire loss of sensation of pain and seemed hardly conscious of pressure or weight She perspired freely and felt very hot. The pulse at the commencement was 96 per minute and varied between 100 and 110 during the operation. The patient neither vomited nor felt sick and had no sensations of tingling either before or after operation. She had a drink of water during the operation She made a good recovery

CASE 9 *Radical cure of double inguinal hernia Bassini's operation*.—The patient was a man, aged 44 years. Operation was performed on Feb. 11th, 1901 (left side). Intra spinal injection of one-third of a grain of cocaine was given. This patient asked to be operated on under cocaine, as his experience of ether was unsatisfactory and the patients in the two beds on his left had been operated on by this method. The patient had no pain during the operation but was sensitive to pressure. On the 25th the right side was operated on One third of a grain of cocaine was injected as before. The injection was not as successful as on the former occasion The patient felt pressure as he did on the left side and he had painful sensations when the needle was used for stitching, though the primary skin incision did not apparently trouble him at all He made a good recovery

CASE 10 *Senile gangrene of the foot, Stokes's amputation* —The patient was a man, aged 61 years Operation was performed on April 25th, 1901. Intra spinal injection of one third of a grain of cocaine was given This was not very successful, probably because the cocaine had been twice sterilised and the needle was not washed out with salt solution, so that the patient might not have had the full dose. He was a very nervous man and appeared to feel acutely some parts of the operation. It was difficult to estimate how much he really felt. His pulse was 140 throughout. He had no sickness He made a good recovery

CASE 11. *Gangrene of the leg* —This case was operated on by Mr Ward The patient was a woman, aged 43 years Operation was performed on Feb 20th, 1901 Intra spinal injection of one third of a grain of cocaine was given In 10 minutes there was complete analgesia in both lower extremities Amputation was done through the middle of the thigh After the operation 10 minims of liquor strychninæ were given hypodermically The patient vomited after the operation. The parts remained analgesic for about two hours The patient made a good recovery

Leeds

LEUCOCYTE ENUMERATION FOR ROUTINE WORK

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THE estimation of the number of leucocytes in the blood is acknowledged to be of great value and should be practised more frequently as a routine method of examination It will probably be admitted, however, that it is by no means as frequently, and as an every day practice, carried out as its value warrants This, I think, is largely due to the extra time and trouble involved in making a separate leucocyte count and to the considerably larger amount of blood required The method of enumeration advocated by most authorities is by means of the Thoma Zeiss apparatus, using the large special pipette provided for that purpose A diluting solution, such as very dilute acetic acid, is used to lake the red corpuscles Such a method necessitates a collection of the blood and an enumeration quite separate from that for the red corpuscles A distinctly larger quantity of blood is also required, and this in many cases is not obtained without considerable difficulty when it is remembered that pressure and other aids to blood flow must be avoided. Patients, particularly in private practice, object to the deep puncture required.

The object of this brief note is to call attention to the value of the method advocated by Stengel[1] and to give a convenient mathematical formula for the enumeration. In his article Stengel explains how the calculation can be made but does not give a convenient formula which is always available. The method is slightly less accurate than if a separate dilution of 1 in 10 is made, but is sufficiently accurate for routine work, and with a formula to save calculation the extra enumeration of the leucocytes occupies only a few minutes One collection only of blood is required, the red and white corpuscles being counted in the same preparation and only one pipette has subsequently to be cleaned, in this way a considerable amount of time is saved It has the advantage that if the white corpuscles are very numerous they can be counted on the squares in the same way as for red corpuscles Professor C S Sherrington has also pointed out the importance of counting both red and white corpuscles in the same blood preparation.

In brief the method is as follows Use a Thoma Zeiss small pipette—i.e., the one ordinarily used for red corpuscles —and collect the blood exactly as for the enumeration of red corpuscles except that the blood should always be collected up to the 1 0 mark and the dilution should be made with some coloured fluid such as Toisson's solution[2] or Sherrington's fluid The red corpuscles are first counted in the ordinary way To count the leucocytes, draw out the eyepiece until a diameter of the field of vision is just spanned by an exact number of squares Call this number x—i.e., x=the number of squares which exactly stretch across a diameter of the field of vision. The ruled squares need now no longer be taken into account but only the fields of vision Count the number of leucocytes in any recorded number of fields of vision, taking care that the fields do not in any way overlap The stained leucocytes can be readily distinguished from the red corpuscles Divide the number of leucocytes by the number of fields of vision counted to obtain the average number per field of vision Let this = y—i e, y = the average number of leucocytes per field of vision The larger the number of fields of vision counted the better Then, with the blood diluted 100 times, as recommended, the number of leucocytes per cubic millimetre = $\frac{5,600\,000\,y}{11\,x^2}$.

x and y only have to be determined and a simple calculation gives the result. Such a formula is available for any microscope and for any eyepiece, &c

A note on how the formula is obtained is appended

x = the number of sides of squares to go across the field of vision Each square is $\frac{1}{20}$ millimetre the diameter of the field of vision is $\frac{x}{20}$ millimetre, and the radius (r) of the field of vision = $\frac{x}{40}$ millimetre The area of any circle = πr^2, and the area of the field of vision = πr^2 $\pi = \frac{22}{7}$ (near enough for practical purposes) the area of the field of vision in questio = $\frac{22}{7} \times \left(\frac{x}{40}\right)^2$ The depth of blood in the countin cell is $\frac{1}{10}$ millimetre, the cubic capacity of the field o vision = $\left(\frac{22}{7} \times \left(\frac{x}{40}\right)^2 \times \frac{1}{10}\right)$ cubic millimetre y = the average number of leucocytes per field of vision—i e. in 1 field of vision = y leucocytes, in $\frac{22}{7} \times \left(\frac{x}{40}\right) \times \frac{1}{10}$ cubic millimetre = y leucocytes, and in cubic millimetre $\frac{7 \times 40 \times 40 \times 10 \times y}{22 \times x^2}$ leucocytes = $\frac{56,000\,y}{11\,x^2}$ (This is in the diluted blood.) The blood i diluted 100 times, in 1 cubic millimetre of the undiluted blood = $\frac{56,000\,y \times 100}{11\,x^2}$ leucocytes = $\frac{5,600,000\,y}{11\,x^2}$

Cardiff

BUPHTHALMOS, OR CONGENITAL HYDROPHTHALMOS[1]

BY GEORGE WHERRY, M.C CANTAB, F R C S

THREE cases of buphthalmos, or congenital hydrophthalmos, are here remarked upon

CASE 1.—In this case the patient was an infant with ver large and nebulous corneæ and rather blue sclerotics. Th pupil of one eye could just be seen The cornea measure across from 13 to 14 millimetres in each eye, but there w no conicity or local bulging

CASE 2.—The patient was a girl, aged 14 years, with larg nebulous corneæ 15 millimetres in diameter and wit nystagmus. The vision was greatly impaired—with both eyes together for distance about [illegible] with *movements of the head* and effort. She had been under observation all her life at long intervals and was first seen when 10 months old. No *accident or disease preceded the condition described.* The mother stated that her father and her husband's father were first cousins, and their respective mothers were sisters. She told me that she was not sure of the relationship on her husband's side in the previous generation but that of her four grandparents on her own side three bore the same name as herself originally

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[1] Diseases of the Blood Twentieth Century Practice of Medicine, vol vii

[2] Toisson's solution consists of methyl violet 0 025 gramme, chlori of sodium, one gramme, sulphate of sodium eight gramme glycerine 30 grammes, and distilled water 160 cubic centimetre The solution does not keep well It must be quite clear and should filtered just before use

[1] A paper read before the Cambridge Medical Society.

CASE 3—A specimen was exhibited of a right eyeball lately excised from a lad aged seven and a half years. The patient was a large boy with a big appetite The disease had existed from birth and had been under observation ever since. The cornea was large and *fairly* translucent and the coats were thinned and the eye gradually increased in size until discomfort and photophobia necessitated excision of the globe *The vision was entirely lost and the nerve could* be seen to be atrophied before operation. The cornea was about 15 millimetres across—according to Priestley Smith the normal cornea should measure from 11 to 12 millimetres It was only just possible to deliver the eyeball during the removal without cutting the outer canthus It measured 30 millimetres and 33 millimetres in long and short diameter The other eye (the left) had less than normal vision ($\frac{6}{18}$ partly) The cornea measured the extraordinary diameter of 14 millimetres and the eyeball appeared large, but there was no lack of lustre in the cornea and it only suggested an unusually fine eye. The pupil acted well to light and there was no tension. There was nothing remarkable in the family history

Buphthalmos, as in these cases, is a congenital disease, but it is quite possible to have a similar disorder in young subjects as a consequence of disease or injury *Treacher Collins has made observations which fully confirm* the opinion of clinical observers who consider the disease to be glaucoma but occurring in young subjects. The coats of the eye yielded under the intraocular pressure. The iris structures in the prenatal state failed to be separated from the cornea at the filtration angle, and the microscope revealed that this was not inflammatory in the first instance but a congenital failure.[2]

In treatment operative proceedings, sclerotomy or iridectomy have not proved satisfactory it would be best in most cases to use eserine, and in any case to avoid atropine. The patient in Case 1 is improving under eserine. In diagnosis the large surface area of the cornea with no injury or disease to cause stretching softening or opacity is the most important to notice. Here the keratometer of Priestley Smith is of great use in making the first observation and record. The unusual size of the left cornea in the lad who lost the right eye from this disease (Case 3) must be evidence that the mischief was symmetrical.

The cornea is the *most precocious* of all the structures of the body The eye generally may be said to take a precedence, and the cornea is the earliest part of the eye to attain *perfection. It is a most interesting fact* that the cornea attains its full size at five years of age (Priestley Smith) The corneæ are formed thus early and we look *through* the same *sized* windows at *five years of age* as we do when we attain to the age of 40 years. Very different is this from the growth of the crystalline lens which grows slowly and *steadily* through early life to old age and *this fact* has bearings on glaucoma of the middle-aged or senile eye. This precocity of the corneal growth has a most interesting effect on opacities and scars. Compare, for instance, the scar on the skin of an infant—a familiar instance is a vaccination scar which grows until the infantile mark has become in the adult arm a cicatrix of great size and usually is far larger than any subsequent cicatrices from vaccinations of later life. It has been well remarked by Sir James Paget that a scar the size of the little finger of the infant might grow *to* the size of the little finger of the adult. But in the face, which does not grow proportionally with the limbs, the growth in the scar is not so evident. On the cornea, as a non vascular structure the cicatrix is likely to become relatively smaller and in any case the opacity has little chance of growing to impair further the translucency of this most precious structure In fact, the opacity or cicatrix on the cornea does not grow at any time of life, on the contrary *it tends* to lessen in size and becomes less opaque The scar of a perforation in the infantile cornea, as in pyramidal cataract, is often extraordinarily slight and difficult to see in the adult, but if the iris be adherent and remain so the tissues are vascularised and the opacity is more dense.

Nebulous conditions of the infantile cornea, though they cause great anxiety are often serious not so much from the opacity which may prove transient, as from the various complications which result, as squint, nystagmus, and loss of retinal function. It is a serious matter to shut off light from the retina during the first years of life and the windows thus early opened must not be opened in vain. A cloudy cornea may clear up and yet leave the vision seriously impaired *The feeble vision of a squinting eye, when the* other eye does all the work shows the importance also of the stimulus of objects ignored by the squinting eye *(amblyopia from exclusion) The eye affected never learns* to fix an object or to see it clearly The eye moves with amazing rapidity under the stimulus of a flying object. Even nystagmus may be observed under certain conditions of experiment, as when flying objects are watched from the window of a travelling railway-carriage movements of the eye are produced which without such stimulus would be impossible

The foregoing considerations are put forward to show that, even if the buphthalmos be stationary as to the essential glaucomatous symptoms, from the point of view of an opaque or stretched cornea the disease is very grave and threatening The congenital condition described by Treacher Collins led to the progressive stretching of the eyeball from intraocular pressure and in Case 3 to the loss of the eye Richardson Cross[3] has related cases both of congenital buphthalmos and of buphthalmos when secondary to injury *or disease* The latter would be recognised by the same signs. It is well to notice that opacities of the cornea the result of hereditary syphilis are of the nature of interstitial *deposits* like *gummata* and rarely appear in early infancy but usually at the age of from six to 15 years—i.e. not until the cornea has attained its full size Here also considerable vascularity of the *cornea* is commonly associated. It is not difficult thus to exclude congenital syphilis from the diagnosis

The three cases above *mentioned at three stages* of growth from infancy to adult age illustrate very well the course of buphthalmos in its clinical aspect.

Cambridge.

A NOTE ON SYPHILIS IN RELATION TO LIFE ASSURANCE, WITH AN EXAMINATION OF 800 CONSECUTIVE CLAIMS

BY F PARKES WEBER, M.D CANTAB F R C.P LOND
PHYSICIAN TO THE GERMAN HOSPITAL, DALSTON; ASSISTANT PHYSICIAN TO THE MOUNT VERNON HOSPITAL FOR CONSUMPTION

PROFESSOR J W RUNEBERG[1] of Helsingfors in his *address* to the third Northern Life Assurance Congress, analysed a consecutive series of 734 deaths amongst persons assured by the Kaleva Company extending over the period from the foundation of the company in 1875 to the year 1897 inclusive. He came to the conclusion that 15 per cent. of the deaths were more or less brought about by syphilitic infection whilst *during the same period* 21 3 per cent. could be assigned to tuberculous affections and 10 per cent. to pneumonia. Thus syphilis according to Runeberg's estimation, ranked next *to tuberculosis in frequency* amongst the causes of death Moreover Björksten the medical director of the company found that of persons insured during the 20 years up to *1895* 12 6 *per cent* of those who gave a history of syphilis died, whilst the mortality was only 6 1 per cent. amongst those who denied infection. Out of the 734 deaths Runeberg *first selected* 84 which he considered might be regarded as to some extent the result of previous syphilitic infection most of them as syphilitic or post-syphilitic affections of the heart and central nervous system In not all of these cases, however, was there undoubted evidence of primary or secondary syphilis Thus, of the 22 cases of general paralysis in 11 cases a history of syphilis was given at the time of assurance and in five others medical evidence of syphilis was obtained, but in three there was a history of "soft chancre" only, and in the remaining three no evidence of infection was forthcoming In the following cases also a history of "soft chancre" only could be obtained a death from tabes dorsalis and cardiac valvular disease at the age of 30 years, a death from aortic aneurysm at the age of 37 years, fatal apoplexy at the age of 40 years, and deaths from "heart stroke" ("*Herzschlag*," syncope) at the ages of 35 and 50 years These 84 cases, however, constituted only 11 4 per cent of the total number of deaths from all causes Runeberg tabulated 47 other cases in which there was no history of syphilis but in which death occurred under the age of 50 years from "heart-stroke," cerebral hæmorrhage, or cerebral softening He argued that about 75 per cent. of these cerebral cases and about 50 per cent of the "heart-stroke" cases were probably in reality due to syphilitic disease of blood-vessels, and in this way he brought the number of deaths more or less caused by syphilitic infection up to 15 per cent of the total

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[2] Transactions of the Ophthalmological Society of the United Kingdom vol xvi p. 348.

[3] Ibid vol. xvi., p 342.

[1] Ueber den Einfluss der Syphilis und die Sterblichkeit unter den Versicherten, Deutsche Medicinische Wochenschrift 1900 No 18 to No 20

Various objections may be raised against Runeberg's figures In the first place, in the cases in which a history of syphilis, or at least doubtful syphilis, was obtained and in which Runeberg considered the death to be more or less the result of the specific disease it may be questioned whether the actual cause of death ("heart-stroke," cerebral hæmorrhage, &c) was not in some of them altogether independent of the syphilis Furthermore, in regard to the cases without any history of syphilis but in which death occurred under the age of 50 years from "heart-stroke," cerebral hæmorrhage, or cerebral softening (thrombosis), was Runeberg justified in considering so high a proportion (75 per cent. of the cerebral cases and 50 per cent. of the cardiac cases) as probably due to syphilitic vascular disease? Was he justified in attributing all the deaths from general paralysis and tabes dorsalis to previous syphilitic infection? Was he right in supposing that the aortic aneurysm which caused the death at 37 years was of syphilitic origin?

Few will, I think, consider Runeberg wrong in regarding syphilis as a factor in all the cases of general paralysis and tabes It is not necessary to go as far as some authorities do and affirm, "No syphilis, no general paralysis or tabes," in order to admit, as I believe the balance of evidence forces us to, that general paralysis and tabes seldom or hardly ever occur in persons who have never had syphilis Overstrain, &c, are doubtless exciting causes of aortic aneurysm, but syphilis has long been suspected to be a predisposing cause [2] The disease shows a partiality for the classes of men (soldiers, &c) amongst whom syphilis is specially prevalent, and, moreover, the favourite age of incidence for aortic aneurysm is not the same as that for ordinary atheroma. Dr Thomas Hayden, out of 92 cases of aortic aneurysm analysed by him, found that 60 occurred between the ages of 30 years and 50 years, whereas he found that atheroma was most common after the age of 60 years I believe I happened to be one of the first to bring forward this relatively early age at which aneurysm occurs as an argument in favour of its inflammatory, not merely degenerative, origin In a short paper in 1896[3] I concluded "that aneurysm of the aorta is induced more often by the yielding of a portion of its wall affected by syphilitic or other inflammation than of a portion affected by simple atheroma", and now I feel disposed to regard aneurysm (of course excluding the rare cases due to embolism and malignant endocarditis) as *usually* the result of a specific syphilitic disease of the arterial wall

Without discussing each point separately I will state my belief that Professor Runeberg can hardly have much overestimated the influence played by syphilis in the series of cases which he investigated, that is to say, if one may read his conclusions as follows that syphilis played some part in inducing 15 per cent of the total number of deaths. It would be a very different thing to affirm that 15 per cent of the deaths were due to syphilis, for in many cases one may suppose (by analogy with one's own and other observations) that other causes have played a part as well as syphilis and that such other causes would sometimes by themselves have been sufficient to induce death, at a later period indeed, but still prematurely

Yet, though so far accepting Runeberg's conclusions, I wished to get the opportunity of comparing his figures with some obtained from an English source Such an opportunity was given me by the courtesy of Mr H. Cockburn, the manager and actuary of the life department of the North British and Mercantile Insurance Company in London The last 500 claims were examined—that is to say, a consecutive series of 500 in which a medical examination had been required on insurance, those in which the life had been accepted without special medical examination were altogether omitted Most of the 500 were males, only 45 being females The males aged 65 years or over numbered 219 and the females 21 The males who died before the age of 65 years numbered 236 and the females 24 In only three out of all the cases was a history of syphilis given and in none of these cases did the syphilis seem to have anything to do with the death All the three persons were males One died at the age of 56 years from vesical calculus, ulceration, and hæmorrhage, another died at the age of 31 years from tetanus consequent on a fracture, and the third died at 53 years of age from shock connected with an operation for appendicitis The last was a big stout man of the kind who bear operations badly, at the age of 35 years, when his life was accepted, he was six feet two inches high and weighed 18 stones

The following list, however, shows, I think conclusively, that syphilis was to some extent a cause of death in a certain number of the cases The list includes all the deaths out of the total 500 which may be regarded as throwing light on the question

No	Sex	Years of age	Cause of death
1	M	37	General paralysis
2	M	43	" "
3	M	46	General paralysis convulsions
4	M	46	General paralysis apoplexy
5	M	51	General paralysis
6	M	52	" "
7	M	52	General paralysis diarrhœa, exhaustion
8	M	53	General paralysis exhaustion
9	M	68	General paralysis
10	M	70	General paralysis exhaustion
11	M	47	Locomotor ataxy chronic cystitis
12	M	51	Tabes dorsalis (two years), ascites (four months) cardiac paralysis.
13	M	45	Cardiac and respiratory paralysis locomotor ataxy
14	M	59	Cerebral apoplexy tabes dorsalis
15	M	58	Posterior and lateral sclerosis (12 years) bedsores exhaustion
16	M	49	Ataxic paraplegia (11 months) septicæmia (four months) cardiac failure
17	F	39	Acute softening of the brain
18	M	43	Cerebral softening coma
19	M	43	" " "
20	M	44	Apoplexy
21	M	47	Apoplexy (four hours)
22	M	49	Syncope due to fatty degeneration of the hear
23	M	49	Acute dilatation of the heart.
24	M	43	Sudden death probably from the heart
25	M	49	Cardiac disease, syncope
26	M	43	Aortic regurgitation angina pectoris, syncop
27	M	50	Gout angina pectoris
28	M	50	Heart failure.
29	M	46	Thoracic aneurysm (ascending aorta)
30	M.	63	Aneurysm of aorta (six months) asthenia

I think that it is not too much to suppose that in the cas numbered 1 to 8, all cases of general paralysis in whi death occurred before the age of 55 years, syphilis had s share in the death. I would, however, omit No 9 a No 10, which, though certified as general paralysis, may account of the age have really belonged to a differe category In all the cases of tabes dorsalis (No. 11

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[2] See Dr F W Mott's account of "Syphilitic Arteritis" in Allbutt's System of Medicine vol vi 1899 pp 303 et seq

[3] Syphilis and the Etiology of Atheroma, American Journal of the Medical Sciences May, 1896

No. 14) syphilis probably played a part. In the cases of other spinal affections (No. 15 and No. 16), however, there is no sufficient reason for believing that syphilis was a cause. No. 17 to No 21 are apparently all deaths under the age of 50 years from cerebral hæmorrhage or thrombosis, and (following Runeberg) I will suppose that syphilis was a factor in 75 per cent.—that is in at least three of these five cases. No 22 to No 30 are deaths from heart-stroke" at 50 years of age or under and deaths from aortic aneurysm. In one of the two cases of aneurysm, however the age was 63 years and in two of the seven heart cases the age of 50 years was already reached but in order to compare results with those of Runeberg I admit that in three cases (i.e. in half of the remaining six cases) a syphilitic infection may be presumed to have been present and to have helped to induce the early death.

According to this way of looking at the certified causes of death syphilis played a part in 18 out of 500 cases (eight cases of general paralysis four cases of tabes dorsalis, three cases of brain disease, and three cases of cardiac or aortic disease) —that is, in 3 6 per cent. I do not think that this is too large an estimate, and it is not improbable that syphilis may have had a share in a few of the other deaths—e.g in one or two supposed to be from cirrhosis or hypertrophic cirrhosis of the liver As in patients known to have been infected with syphilis the ultimate death is comparatively rarely connected in any way with the syphilis, it becomes quite clear that if death can with any probability be attributed to syphilis in 18 of the cases the disease will have occurred in a vastly greater number Yet at the medical examinations for life insurance a history of previous syphilis was forthcoming in only three of the total 500 cases However in some instances the disease may have been contracted after the date of assurance, and in some cases the applicant for insurance may have under estimated the importance of the previous venereal disease or have been really ignorant that he had had any at all Although it is probable that a history of syphilis should have been given in many more cases than it actually was the percentage of cases in which syphilis was probably partly the cause of death (3 6 per cent.) was far below that in Runeberg's series (15 0 per cent.) This may to some degree be explained by the class to which the insured persons belonged being on the average different in the two series. In conclusion I may further mention that, whereas in Runeberg's series 21 3 per cent of the deaths could be assigned to tuberculous affections, in the present series I find that in only 7 8 per cent.—that is to say in 39 cases—are tuberculous affections mentioned as having been present, and in these 39 cases three of 'fibroid phthisis are included—viz. in men aged respectively 59 61 and 63 years at death. In connexion with this relative rarity of tuberculosis it must be remembered that in 240 out of the 500 cases the age of 65 years or more was reached. Probably therefore, the series of the English insurance company represents a higher average standard in regard to chances of longevity than did Professor Runeberg's series from the Kaleva Company

Harley-street, W

Clinical Notes.

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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FOREIGN BODIES IN THE CORNEA

By WALTER WILLIAMS, M.B.

THE extraction of small particles of iron or stone from the surface of the cornea is generally such an easy matter and, provided due precautions are taken is attended with so little reaction that it might well appear presumptuous to relate a method which I have found on occasions to be serviceable.

When the little brown or black speck is situated, as is generally the case, towards the middle of the outer aspect the enlarged pupil which follows the instillation of cocaine makes it very difficult, and often impossible, to see the offending particle. To obviate this and to secure a clear view of the object to be removed I find it useful to instil a drop of eserine sulphate (1 per cent. solution), or preferably *from* 1 *to* 2 per cent solution of pilocarpine hydrochloride, so as to neutralise the mydriatic effect of the cocaine. In this way one secures the anæsthetic effect of *the cocaine without its drawbacks* for the eserine spreading the iris as a curtain behind the dark speck renders it visible and its removal comparatively easy and that irrespectively of the direction in which *the patient is looking*

There are doubtless many in active practice who may have found some such method as I mention to be of *service*, but its usefulness has so often forced itself on my attention especially when scraping the so-called iron scale (the ferroso-ferric oxide) which follows the deposition of iron in the corneal tissue that I thought a word about it *might prove* acceptable.

Portmadoc.

THE AURICULAR REFLEX.

By E DONALDSON L.R.C P & S IREL.

SURGEON TO THE LONDONDERRY EYE, EAR, AND THROAT HOSPITAL.

I AM much indebted to Dr Walker Overend for his remarks on the above subject [1] When I published my note I regret I did not know that he had already made observations on this reflex. After reading his last communication I sent for the patient whose case is recorded[2] and whose reflex is easily obtained. I found that the middle-ear was quite dry that the polypus was gone, and that the reaction was as lively as ever A camel's hair brush thrust into the neighbourhood of the external meatus produced a forward movement of the auricle effectively quite as well, and I think better than a puff of air When testing with the air bag it is well to use a nozzle with a small bore, for in this way a sudden forcible little blast can be produced. The use of the camel's-hair brush as suggested by Dr Overend, is more convenient and better *When making* observations care should be taken that the patient does not smile or close the eyes as these movements are accompanied by upward movement of the auricle It is probable that this reflex would have been long ago noticed but that aurists when inserting the speculum insufflating powders, or applying anything to the meatus or middle-ear hold the auricle upwards and backwards to straighten the canal and by so doing often prevent this reflex movement.

Londonderry

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib iv Proœmium.

PRETORIA CIVIL HOSPITAL.

A CASE OF LABOUR AT FULL TERM COMPLICATED BY PLACENTA PRÆVIA AND HYDRAMNIOS DELIVERY OF A DEAD CHILD, FOLLOWED BY PUERPERAL FEVER, TREATMENT BY ANTI STREPTOCOCCIC SERUM, RECOVERY COMPLICATED BY MALARIAL FEVER.

(Under the care of Dr HERBERT JAMES GODWIN)

THE value of anti-streptococcic serum in septicæmia is still far from being accurately determined and the question can only be decided by the careful report of cases in which the serum has been employed we are glad therefore to be able to publish the following two cases, in which the improvement that occurred appeared to be definitely due to the administration of anti-streptococcic serum. This remedial

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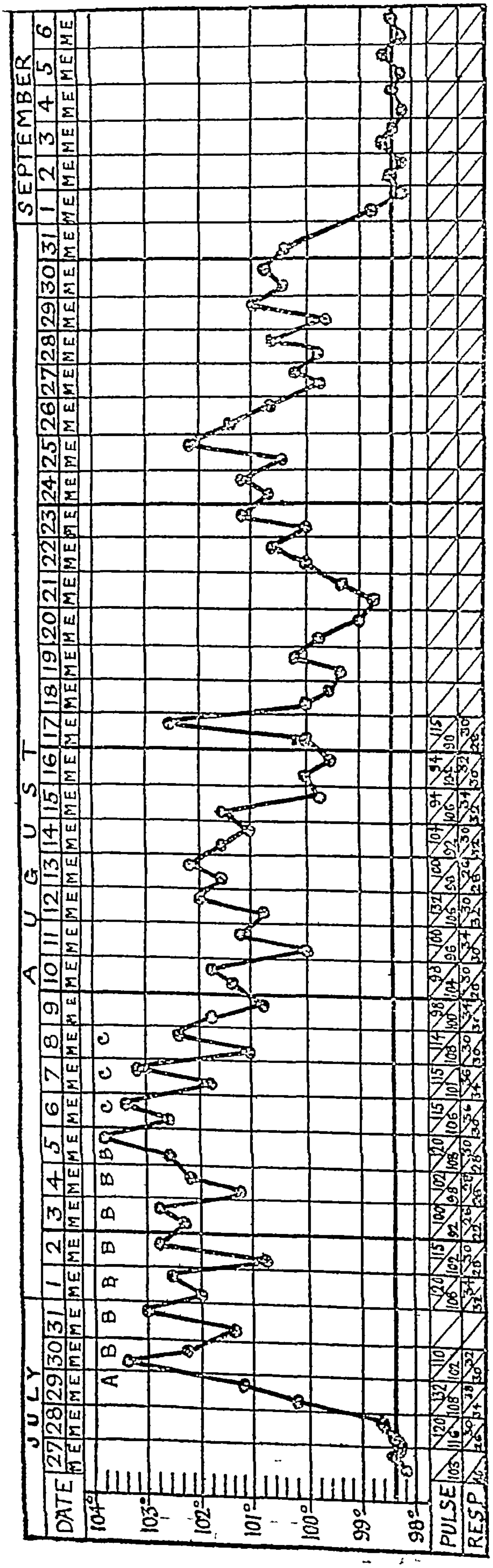
[1] THE LANCET, Sept. 6th 1902, p. 672.
[2] THE LANCET August 2nd 1902, p 606.



A 20 c.c of anti-streptococcic serum injected at 6 P.M B, 20 c.c. of anti streptococcic serum injected at 10 A.M; and 10 c.c. at 6 P.M C 20 c.c of anti-streptococcic serum injected daily

agent was first brought forward in 1895 by Marmorek who had employed it with good results in 46 cases of erysipelas Many important papers have been written on the matter At the annual meeting of the British Medical Association held at Portsmouth in 1899 Dr Herbert Spencer[1] opened a discussion on the value of the serum in puerperal fever, and the opinion he expressed was to the effect that but little was to be hoped for from its administration, and in this opinion most of those who took part in the discussion concurred. The report of a committee of the American Gynæcological Society[2] was, if anything, more unfavourable, for it concluded with the words "We find nothing in the clinical or experimental literature or in our own experience to indicate that its employment will materially improve the general results in the treatment of staphylococcus puerperal infection" The late Dr J W Washbourn[3] read at the Harveian Society of London a paper upon Treatment with the Anti-streptococcic Serum in which he spoke favourably of the serum when employed in suitable cases Dr G E Herman at a meeting of the Obstetrical Society of London on Nov 1st, 1899, related particulars of two cases in which life appeared to have been saved by the use of the serum Many other cases have been reported, with a large percentage of recoveries, but it must be recognised that recoveries are far more likely to be published than fatal cases The chief fallacies in forming a judgment on the matter are two in number In the first place sapræmia, in which only septic products have been absorbed, is very likely to have been mistaken for septicæmia and the former disease is far more likely to end spontaneously in recovery than is the latter It is therefore before all things important that bacteriological examinations of the blood should be made We would not urge that the serum should only be given when streptococci are found to be present in the blood, but for the advancement of knowledge the examinations should be made The other fallacy is that there are several varieties of streptococci and a serum prepared through the action of one form of streptococcus may prove quite unavailing against another streptococcus morphologically and tinctorially indistinguishable from the former The conclusion of the whole matter is that by a more complete examination and report of the cases in which the serum is employed is a correct estimation of the therapeutic value of anti streptococcic serum likely to be gained

A woman, aged 36 years, was admitted into the Pretoria Civil Hospital on the morning of July 27th, 1901, said to be suffering from obstructed labour and profuse hæmorrhage With regard to her past history the patient was a refugee from the North Western Transvaal and was brought to the hospital by a woman friend of hers who gave us the following history The patient was a multipara and her previous confinements were natural, she had had no miscarriages, during the first five months of the present pregnancy she was quite well, at the end of the sixth month she noticed that her abdomen was as large then as it had been in previous pregnancies at full term and that now it was nearly twice as large. At the beginning of the seventh month she began to lose blood at intervals, sometimes the floodings were profuse, at other times slight, lately they had been very frequent and at times accompanied by severe pains in the abdomen. Labour pains commenced on the 25th, two days before admission to hospital, the pains were weak and accompanied by bleeding From this date the pains continued until shortly before admission. On the night of the 26th a great deal of bleeding was said to have occurred and the pains were more severe, and as no progress was made a medical man was sent for in the early morning who after examination ordered her immediate removal to the hospital

On admission the patient was found to be a tall, dark woman Having been washed and put to bed in a private ward she presented on inspection the following appearances She looked extremely ill—the pallor of the face was death like. The mucous membranes were blanched and she had an anxious, worried expression The respirations were quick and shallow The breasts were large and full, and milk was escaping from both nipples The abdomen was very large and tense and painful on handling The lower part of the abdomen and vulva were œdematous Blood was oozing from the vagina. The feet and legs were swollen and œdematous The general condition of the patient was tremely bad, the pulse was 103, the respirations were 40 e temperature was subnormal, and the marked pallor made e wish that she had been sent to hospital earlier After a nsultation with Dr Thornton it was decided to give the tient chloroform and to empty the uterus as quickly as ssible. Having well washed the parts and given a vaginal ouche (1 in 1000 perchloride of mercury) and having taken e strictest antiseptic precautions Dr Godwin passed his and into the vagina which was very capacious the perineum aving been torn in previous labours. The os was fully ilated and nothing could be felt but a large soft mass, the lacenta. When Dr Godwin had nearly finished separating e placenta all round with his fingers the membranes rup ured and flooded the bed with an excessive amount of liquor mnii pushing his hand on up into the uterus and the lacenta to one side he felt the child's head, he then turned e child and brought down a leg delivered the child quickly, hich was dead and then the placenta, which was nearly wice the size of a normal placenta. The child a full term etus, was small and had evidently been dead several hours.

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[1] Brit Med Jour vol ii 1899 p 965.
[2] American Journal of Obstetrics, Sept 1899
[3] THE LANCET, Nov 11th, 1899 p 1299

There was considerable hæmorrhage during delivery and n intra uterine douche was next given consisting of gallons f hot perchloride of mercury solution, 1 in 1000 followed by uantities of hot boric acid lotion. The patient was removed to clean bed and a pad and binder were applied. The uterus, lthough firm, did not contract like a uterus after normal abour but the hæmorrhage practically stopped after the hot ouche (and ergot given internally) The patient, although n a desperate condition, bore the operation better than was xpected 10 minims of liquor strychninæ with digitalis vere given, also brandy The pulse was very bad but mproved after injection of two pints of normal saline olution with an ounce of brandy per rectum given with a ong tube, this was repeated later The following treat nent was ordered Diet milk and beaten up eggs, raw neat juice, soda water and brandy and champagne, given frequently at regular intervals A mixture containing five grains of sulphate of quinine was administered every four hours. Hot iodine douches (one drachm of tincture of iodine to a pint of water) were given three times a day The milk was taken from the breasts and they were strapped with belladonna plaster On the evening of the 27th the patient's condition caused great anxiety and strychnine and digitalis had to be again administered There was no more hæmorrhage. The pulse was bad and the patient was very restless The temperature was normal. The bowels were opened once Later the patient became so restless and delirious that morphia had to be given. On the 28th the patient had a few hours sleep after the morphia. She was taking her nourishment well and there was no vomiting The pulse was 115. She was slightly better but complained of pain in the abdomen The urine had to be drawn off in the morning The bowels were opened once, there was no hæmorrhage The lochial discharge was scanty, there was no smell. A douche was given in the morning of tincture of iodine (one drachm to a pint of water). On the evening of the 28th when giving the douche many clots were washed out and there was a slightly offensive odour The patient still complained of pain in the abdomen she passed urine naturally and had taken nourishment well during the day She had a rigor during the night, she was very restless all night and was delirious at times On the morning of the 29th the temperature was 102 2° F, and the pulse was 120. The bowels had been opened twice. The uterus remained the same size. The lochial discharge was becoming very offensive. An iodine douche was ordered every four hours The dose of quinine was altered from five grains every four hours to 10 grains twice a day Dr Thornton, who had seen the case with Dr Godwin several times daily agreed that the uterus must have become septic and that puerperal fever was starting and that it would be best to try anti streptococcic serum at once if it could be obtained. Captain Whitstone R.A.M.C. in charge of the advanced medical store depôt, Pretoria, was able to supply plenty of serum, and Dr Godwin injected 20 cubic centimetres in the patient's flank at 6 P M During the evening the patient's temperature was 103°, the pulse was 120 and she was delirious at times and morphia was given as the patient was so restless. She slept a little during the night after half a grain of morphia and seemed a little better the next morning (the 30th). The lochial discharge was very offensive, Douches of tincture of iodine were continued four hourly The uterus was still large, there were no signs of involution The temperature was 103 2° and the pulse was 115. The tongue was dry and coated with a thick, white fur On the evening of the 30th the temperature was slightly lower The patient was still restless there was delirium at times. Some offensive clots and shreds of sloughy membrane came away in the douche in the evening The patient took her nourishment well and the pulse had slightly improved. For the following week the same routine treatment was followed but and the patient held her own. Injections of anti-streptococcic serum were given twice daily as follows: 10 A.M., 20 cubic centimetres and 6 P.M. 10 cubic centimetres. The lochial discharge was scanty and daily became less offensive. During this week the patient's general condition was often most alarming, dyspnœa, rapid pulse, faintness, and delirium were marked features and called for immediate treatment. The serum injections, which were commenced on July 29th, were continued twice daily till August 5th, after which a single injection of 20 cubic centimetres was given for the next three days. The patient by this time was daily improving and the lochial discharge was only slightly offensive. The uterus was beginning to get decidedly smaller and there had been no hæmorrhage since delivery to speak of The patient took her nourishment well which was daily increased. The temperature remained high. The pulse showed great improvement. The bowels were kept regular with small doses of calomel and great hopes were entertained of the patient recovering On August 12th, although her general condition was rapidly improving the uterus becoming smaller and the lochial discharge less offensive, douches were continued three times daily but in spite of all this the temperature still kept high. There was nothing to account for it in the chest or the abdomen as far as could be made out. Dr Godwin thought that perhaps a pelvic abscess might be present. Enteric fever being prevalent in Pretoria, Dr Godwin sent several specimens of the patient's blood to be examined, and Captain Beverage, R A M C in charge of the army bacteriological laboratory kindly examined the blood and prepared slides. He found the blood to contain the most typical specimens of the malarial parasite. From this date the dose of quinine was increased to 15 grains three times a day the diet, both solid and fluid was increased, and in spite of the temperature remaining high the patient gained flesh and strength daily The œdema of the legs had all passed away The anæmia was still very marked On August 17th she had a slight rigor followed by sweating and the quinine was increased to 20 grains three times a day The temperature did not reach normal till Sept 2nd but afterwards remained so. The quinine was stopped and a mixture of sulphate of iron was given. From Sept 2nd to 8th the patient made rapid progress and was discharged to convalesce at a friend's house in the town on the 9th The anæmia was still very marked and she continued to attend as an out patient for two months. Last Christmas Dr Godwin met her in Pretoria looking stout and well and she stated that she felt as well as ever she did in her life

Remarks by Dr GODWIN —For the kind help received in this case my sincere thanks are due to my colleague, Dr Thornton medical superintendent, Pretoria Civil Hospital also to Captain Whitstone R.A.M.C. for the supply of serum, and to Captain Beverage R.A.M.C. for several examinations of the blood and to the sister in charge of the patient, whose constant care and attention did much to save the patient's life.

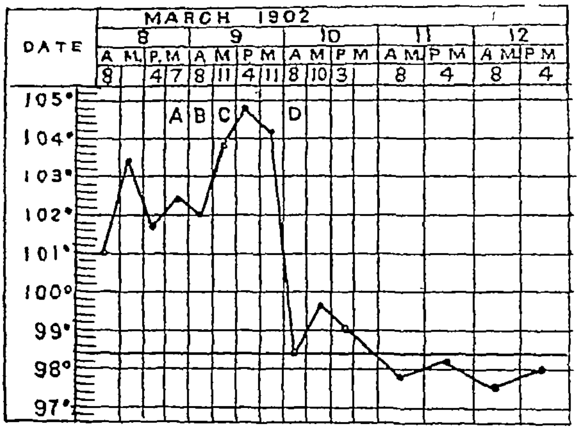
GENERAL HOSPITAL, LIPIS, PAHANG, FEDERATED MALAY STATES

A CASE OF ACUTE SEPTICÆMIA TREATED WITH ANTI STREPTOCOCCIC SERUM

(Under the care of Dr PERCY N GERRARD.)

THE following typical case of acute septicæmia treated with anti streptococcic serum deserves publication both on account of the unusually rapid improvement in the patient's symptoms and also on account of the time which had elapsed since the preparation of the serum

The patient was a Chinaman aged 27 years, and was admitted to the General Hospital Lipis, Pahang on March 7th 1902, suffering from debility and inanition. He was in a miserable condition but no organic disease existed at the time of his admission. The day after his admission his temperature rose to 103° F in the afternoon and he complained of pain in the left temple and posterior auricular region Early on the morning of the 9th a hard swelling accompanied by an erysipelatous blush was noticed involving the left side of the face so as to cause puffing of the eyelids and cheek of that side At 7 30 A.M he had a severe rigor lasting about half an hour Owing to deep tension the inflamed area was incised and about half an ounce of pus was evacuated. This operation was performed at 8 A.M His temperature continuing to rise from 102° to 103° at 11 A.M. and his general condition becoming so grave as to necessitate prompt measures if his life was to be saved led Dr Gerrard to decide upon what he considered the forlorn hope of injecting old anti streptococcic serum, and this operation was accordingly done at 11.30 A M, the patient being in a semiconscious condition, his pulse was 109 per minute and thready, and his temperature was 104° During the forenoon and afternoon no improvement evidenced itself and on seeing the man late the same evening Dr Gerrard considered him to be practically moribund. Towards midnight the temperature, which touched an acme of 104 8° at 4 P M, began to show slight signs of abating and at 7 A.M on March 10th it reached 101° To Dr Gerrard's surprise on visiting the ward about 10 A.M on the morning of the 10th his temperature was normal, the erysipelas was fading, and his general condition was much improved.



A, Rigor B, Incision of abscess C, Serum injected. D, Counter-opening made

The subsequent history of the case needs no comment. Dr Gerrard was called away from the station in the afternoon of the 10th and the following extract from a letter of his chief dresser (Mr Philips) will suffice to complete the history of this interesting case "I have pleasure in informing you that satisfactory results have been obtained with the injection of anti streptococcic serum. The patient is now quite recovered. There is no further fever The abscess is almost healed He eats and sleeps well. No medicine whatever has been administered throughout except whisky as a stimulant. He is now walking about the ward."

Remarks by Dr GERRARD —In concluding the history of this case I would lay special stress upon the age of the serum which had been in my possession for over two years in the Malay States without any preservative precautions other than its being kept in the dark. This shows that in case of need even an old serum may be serviceable. What was used on this occasion was the desiccated serum prepared at the Pasteur Institute, Paris, and recently boiled water was the vehicle

Reviews and Notices of Books.

Studies in Physiological Chemistry Edited by R. H CHITTENDEN, Ph.D New York Charles Scribner's Sons London Edward Arnold. 1901 Pp 424 Price 17s

THIS volume contains the results of the more important studies relating to the work of investigation carried out in the laboratory of physiological chemistry of the Sheffield Scientific School of Yale University during the years 1897-1900 The work contributed by the students in this laboratory continues to be of a most excellent and valuable description The editor himself contributes in collaboration some important papers That on the Influence of Borax and Boric Acid upon Nutrition, with Special Reference to Proteid Metabolism, is, in particular, *apropos* at the present time Professor Chittenden and his colleague Professor William J Gies find that moderate doses of borax up to five grammes per day, even when continued for some time, are without influence upon proteid metabolism. Large doses have a direct stimulating effect and tend to retard assimilation Boric acid is practically without influence upon proteid metabolism Both borax and boric acid are quickly eliminated in the urine, but neither has any influence upon the putrefactive processes of the intestine A paper on the Chemical Composition and Nutritive Value of Some Edible American Fungi is contributed by Professor Lafayette B Mendel. In this he concludes that the fungi form no exception to the ordinary classes of fresh vegetable foods and, indeed, that they take a decidedly inferior rank in comparison with many Thus the expression "vegetable beef-steak," he writes, "would seem to be scarcely appropriate when applied to mushrooms in a strictly chemical sense." In another interesting paper Professor R. H. Chittenden and Mr A. N Richards discuss the variations in the amylolytic power and chemical composition of human saliva. They find that mixed saliva contains normally no sodium carbonate whatever, the alkalinity shown by litmus being due to alkaline phosphates The alkalinity is greater before breakfast than after the morning meal—a conclusion which stands in direct opposition to the statement that the alkalinity is least when fasting Mechanical stimulation, as when chewing a tasteless substance, and alcohol taken into the mouth, lead to the outpouring of a secretion richer in alkaline reacting salts and in amylolytic power than the secretion coming without stimulation. We suggest that it would have been interesting to determine what influence smoking has upon the saliva. In another paper, on the Occurrence of Iodine in the Thymus and Thyroid Glands, Professor Mendel concludes that the accessory thyroids in man may contain both relatively and absolutely more iodine than the thyroid proper of the same individual. He confirms the observations that the thyroids of newly born children contain no iodine, while he failed to obtain any satisfactory evidence to show that the carefully isolated thymus of man or animals contains iodine Altogether, this volume presents an interesting series of physiological studies

The Theory and Practice of Medicine By HENRY WALTER SYERS, M A, M.D Cantab, &c, Senior Physician to Out-patients to the Great Northern Hospital In two vols Vol II London Rebman, Limited 1902. Pp 480 Price 10s net (Vols I. and II., 25s)

IN reviewing the first volume of this work we were unable to speak favourably of it, nor is our opinion altered by a perusal of the second volume now before us Most of the diseases are so briefly and scantily discussed that very little information is conveyed to the reader There are, however, a few exceptions The remarks on Pernicious Anæmia are distinctly good, and had all the sections in the two volumes maintained the same standard we should have been able to speak far more highly of the work The consideration of Diabetes, on the other hand, is dismissed in five and a half pages, only about three quarters of a page being devoted to the treatment of the disease The modern method of allowing patients to partake of a certain amount of carbohydrate food is not even mentioned The etiology and morbid anatomy are disposed of in one page and yet the title of the work is "The *Theory* and *Practice* of Medicine."

Dr Syers is certainly at his best when giving an account of symptoms, and some of the diseases of the nervous system are well and accurately described His remarks on Tuberculous Meningitis, General Paralysis of the Insane and Locomotor Ataxy certainly convey a good deal of information. He has made an error, however in not dwelling more strongly on differential diagnosis

A work of reference on practical medicine to be of value to the practitioner must contain suggestions which will assist him in cases of doubtful diagnosis, but each section in Dr Syers s book contains only three divisions (with headings in the margins)—namely Symptoms" 'Causation and Morbid Anatomy and "Treatment" As we have already hinted, the description of the symptoms is usually good, but the other divisions are greatly wanting in detail and in the discussion of the most modern views and methods.

Some Apostles of Physiology By WILLIAM STIRLING M.D Edin. D Sc. Brackenbury Professor of Physiology and Histology, Owens College. 1902. Privately printed by Waterlow and Sons, Limited London

THIS beautiful volume is dedicated to Mr Walter Whitehead, 'whose love of art and whose liberality have made it possible to issue this volume in a manner worthy of the event it is designed to celebrate. The event is the 1902 Manchester meeting of the British Medical Association and author and patron have indeed united to produce a work at once creditable to themselves and a *κτημα ες αει* for those who are fortunate enough to possess a copy Professor Stirling tells us that in his Lectures on Physiology he has been in the habit of giving a short sketch of the lives and of showing the printed works of illustrious "Apostles" and of their colleagues and the present work is founded on these notes Although a few earlier observers are mentioned the book practically begins with an account of the great Vesalius. After him comes the great Servetus, hat pathetic figure in the history of medicine and theology All the world knows how Servetus the heretic was burned by Calvin the schismatic, and with him nearly every extant copy of the 'Christianismi Restitutio in which to quote Professor Stirling he showed that he had grasped the true features of the pulmonary circuit.

Of the great Haller Professor Stirling says His knowedge was encyclopædic his tastes catholic, his aspirations poetical, and he was supremely devout withal." Haller was one of the many interesting people with whom that prince of adventurers, Jacques Casanova, foregathered and his account of his interview with Haller may fitly be referred to here 'Monsieur Haller was some six feet in height, big in proportion, and handsome, in fact, he was a kind of Colossus, both physically and mentally He received me with politeness and when he had read the letter of Monsieur De Muralt he was still more affable, a fact which showed me that a good recommendation is never out of the way The great *savant* opened to me the treasure house of his knowledge, answering all my questions with precision and with a modesty which sometimes appeared to me overdone for t the same time that he expounded to me the most ut-of the-way subjects he did so with an air of a student who seeks instruction. Haller was a great physiologist, a great physician and a great anatomist. He called Morgagni his master During my stay with him he showed me a quantity of letters from Morgagni and from Pontedera a professor of botany a science in which Haller excelled o a great degree. Haller was a *savant* of the first rder but he never posed as such for the sake of showing ff, neither in his family circle, nor when he found imself in the society of people who for the sake of musing themselves wished to talk science. Nobody knew etter than he how to bring himself down to any other erson s level. He was pleasant in all kinds of society and rarely displeased anybody In what consisted this quality of being universally agreeable I cannot tell and it would be easier to give a catalogue of those qualities which he had not than of those which he had. He had neither haughtiness nor vanity nor a tone of superiority in fact none of those faults with which those who are called learned and witty are often rightly reproached. He talked well, always said something worth listening to, and never monopolised the conversation

As Casanova, although a scoundrel was a very shrewd judge of character, the above remarks show that Haller was no ordinary man. So the tale of intellect goes on through Hunter and Lavoisier Bichat and Bell, Ludwig and Pasteur down to Sharpey Waller and to Huxley as a finish— for 'the present," says Professor Stirling—of the story of Some Apostles of Physiology" The illustrations, the majority of which are collotypes, are most beautifully executed and reproduced and the whole work is highly creditable to everyone concerned.

LIBRARY TABLE.

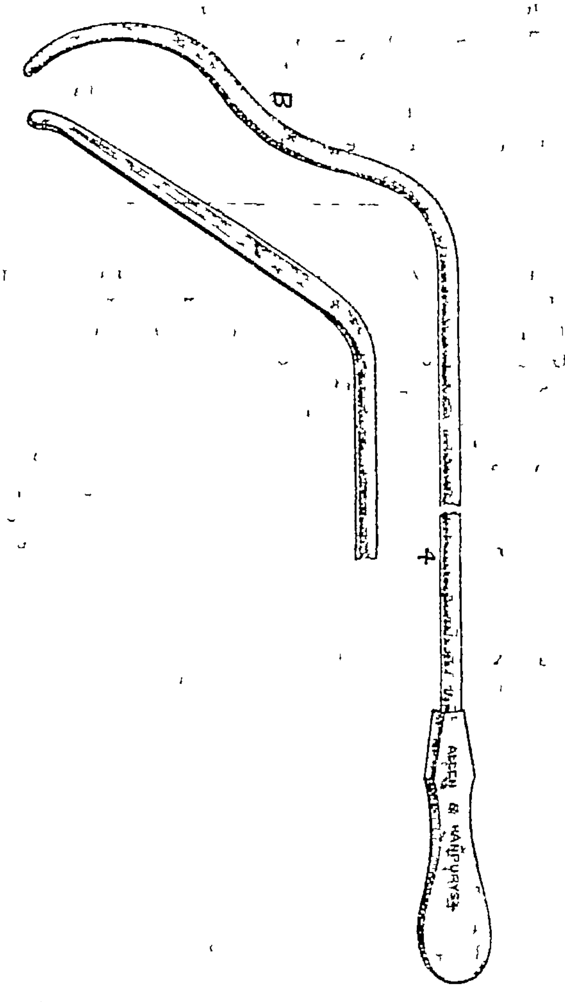
Atlas and Epitome of Otology By GUSTAV BRÜHL, M.D Berlin, with the collaboration of Professor Dr A. POLITZER of Vienna. Authorised translation from the German, edited by S. MACCUEN SMITH M.D Clinical Professor of Otology Jefferson Medical College, Philadelphia and Otologist and Laryngologist to the Germantown Hospital, Philadelphia. With 244 coloured figures and 39 lithographic plates and 99 text illustrations Philadelphia and London W B Saunders and Co. 1902. Pp 292 Price 13s net.—A review of this work in its original edition has already appeared in our columns in which we spoke very favourably of it. The coloured illustrations are, as we said, excellent, a very large number of them being from preparations in the possession of Professor Politzer while in the text his master hand is amply evidenced. The translator has, he tells us, not adhered rigidly to the original text, but has endeavoured to express the author's ideas correctly and where necessary has made certain additions In the chapter on Examination of Patients this free translation falls in with what we said with regard to the almost too terse and condensed chara er of the original text thus making the book more easy to read and also more easy to digest. Certainly such a work as this in the English language has long been wanted Dr MacCuen Smith has succeeded admirably in his task and his translation will be welcomed by students of otology who are not conversant with the German language. Considering the small size of the book the amount of information which it contains is enormous The only portions of the book which do not perhaps quite express the current opinions in England are those which deal with the major operative proceedings on the mastoid process, all mention of the use of large grafts according to Ballance s method being ignored and intracranial complications are evidently considered to come more into the province of the general surgeon, the symptoms of cerebral abscess being rendered in an extremely condensed form even in the translation. As a handbook of otology we do not think that there is a better one of its size in the English language, it will be of great assistance to senior students and will be welcomed by all post-graduate teachers for the use of their classes.

DONATIONS AND BEQUESTS —Under the will of Mr H. W Watts of Highbury the Great Northern Central Hospital receives £200 the London Fever Hospital Hospital for Di eases of the Chest, Islington, the Royal Hospital £100 each the Royal City road and the London Hospital and the Islington Dispensary and the Free Hospital, £200 Holloway Dispensary £50 each.

New Inventions.

A NEW SOUND AND A URETHRAL STAFF

THE instruments here illustrated I have found to possess definite usefulness The instrument marked 4 shown with its handle I intend chiefly for cases where it is desirous to bring the vesiculæ seminales, the base of the bladder, and the prostate more satisfactorily within reach of the finger, placed in the rectum for purposes of examination usually, but sometimes for operative procedure. Personally, I never, without its use, satisfied myself that I could feel the normal vesicles The instrument being passed, the prostate fits into the space B, and this gland, together with the parts named, is easily forced down by gentle properly directed pressure towards the finger, and at other times towards the perineum if desired The staff, of which the beak only is shown, is intended chiefly for purposes of fixation and approximation in abscess in and about the prostate whilst incisions are made. By its aid however, I have treated two cases of annular stricture in a way which, I think, is quite novel I introduced the tapered beak through the strictures and cut from the outside nearly down to, but not through, the mucous membrane The strictures were then continuously dilated from within without rupture of this membrane—a very desirable thing when possible.



The instruments were made, from models shown to them, by Messrs Allen and Hanburys, Plough court, Lombard-street, London E C.

Finsbury pavement E C. JAMES MACMUNN

A SANATORIUM FOR PULMONARY TUBERCULOSIS —The subscriptions to the Didworthy Sanatorium for Consumption for the counties of Devon and Cornwall are steadily increasing, upwards of £5000 having now been received towards the £6000 required to commence the scheme.

THE WATER-SUPPLY OF LISBON

IN past years the city of Lisbon must have suffered considerably from want of water During the earlier part of the eighteenth century it is estimated that the supply amounted to no more than seven litres per head.[1] About the middle of that century (1748) some fresh sources were tapped and the quantity per individual was raised to 8·4 litres In 1835 an aqueduct was completed which served, by bringing in a new supply, to raise the amount per head to 14·3 litres From this date nothing very much was done (except the utilisation of some ancient sources in 1869) until 1880, when for the first time water was brought from Alviella, a place situated at a distance of about 100 kilometres from Lisbon

On the introduction of these new supplies those already in use were not abandoned, and at the present time water is obtained from three distinct sources, about which a few words may be said 1. The low waters are derived in the neighbourhood of the city from the southern slope of the hill of St. Jorge This is the water which has been longest in use It is not only liable to pollution but is undoubtedly polluted, as shown by the fact that the bacillus coli has been frequently found in it No method of purification is adopted in the case either of this or any of the other water which is distributed in Oporto 2 The high waters are derived from a large number of separate sources, 58 in all, which are situated at a distance of 12 or 13 kilometres from the city, to which the water is conducted by the aqueduct of D João V The sources of this water do not all appear to be above suspicion. Some are near houses and some are near ponds used by laundresses These supplies cannot be considered altogether free from the possibility of contamination. They ought to be, and, in fact, are, it is said, the objects of special "surveillance" "Field observation" as to the probability of contamination does not satisfy the writer of the water company's report, he awaits with more confidence the results of bacteriological examination 3 The water of Alviella, the latest of the supplies obtained, is the most ample in quantity and the best (or least bad) in quality It is true that the bacillus coli has been found in specimens of it which were taken in Lisbon, but the pollution has apparently been traced to a source which affected the water *en route* The spring itself seems to be free from suspicion as it is derived on high ground from "vast subterranean reservoirs and calcareous caverns," whence it is conducted through an aqueduct to the city

The manner of distribution is so arranged that the water derived from each of these three sources has its own area of supply About 25 per cent. of the water is distributed by gravity and 75 per cent is pumped up to the reservoirs, of which there are 11 It is arranged that in case of emergency each of the three systems can be utilised to aid either of the others The supply is in the hands of a company which is required to supply gratuitously to the municipality all the water required for public purposes The quantity of water which is required for municipal purposes is considerable, it always greatly exceeds the amount used by private consumers The income of the company is derived from payments made by private consumers and by the Government.

The private supplies are given by metre—the method favoured by some authorities in the City of London Many varieties of gauges are in use and amongst these may be mentioned the "positive" instruments of Pinto Bastos, Frost-Tavenet, Frager, Kent and Worthington, and the "inferential" metres of Tylor and of Siemens and Halske. Lisbon therefore offers a fine field to those who wish to observe the practical working of metres and the advantages or disadvantages attending this method of supply Those of our countrymen, however, who may have occasion to go to Lisbon will do well to eschew rather than to swallow the water of that city

The Compagnie des Eaux de Lisbonne may be congratulated on having produced an excellent pamphlet which gives a full account of the water supply of the city The volume contains good illustrations of the aqueduct of the high waters of the Alviella Springs, and of various parts of the aqueduct, the arcades of Lounceira and of Pero Filho, of the siphon in the Valle de Torno, and of the bridge siphon at

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[1] Notice sur l'Alimentation de la Ville de Lisbonne en Eaux Potables Compagnie des Eaux de Lisbonne Lisboa Typographia da Companhia Nacional Editora Largo do Conde Barão, 50 1900

Sacavem. There are pictures also of things of less interest, of boilers, of an engine-room and of a reservoir under construction. Excellent maps show the course of the aqueducts and the distribution of the water service in the City of Lisbon and coloured charts graphically illustrate the amount of water derived from each of the different sources, and the amount used respectively by the Government by the municipality and by private consumers.

VENEREAL DISEASE IN PRUSSIA.

AN inquiry into the prevalence and distribution of venereal diseases amongst the inhabitants of Prussia has recently been carried out under the auspices of the Minister who is charged with the supervision of medical affairs in that country Early in March, 1900 the whole of the medical men engaged in the active exercise of their profession within the limits of the kingdom were called on by the authorities of the various medical associations (*Ärztekammer*) to complete returns showing the number of adult patients who on a given day were under their professional care for venereal affections of every description. The number of practitioners exclusive of medical officers of the army and navy to whom circulars were issued was 14,000 but no more than 9204 replies were received upwards of a third of the recipients having apparently declined to respond.

From the completed returns which have been collated by Professor A. Guttstadt[1] it would seem that on April 30th 1900 the day on which the enumeration took place no fewer than 40 902 adults were under treatment privately in Prussia on account of venereal disease in some shape or form other than hereditary 30 383 individuals being males and 10 519 females. The distribution of the cases according to sex and centrés of population is well shown in the subjoined table —

Males

—	Population of Prussia (adults) Jan 21st 1900		Cases of venereal disease treated privately on April 30th 1900.	
	Number	Percentage.	Number	Percentage.
(a) Berlin	600,907	5·68	8,629	28·07
(b) 17 towns of 100 000 inhabitants and upwards..	1,012,822	9·40	10,116	33·29
(c) 42 towns of from 30 000 to 100 000 inhabitants	702,249	6·62	4 101	12·50
(d) 47 towns of less than 30 000 inhabitants ..	245 933	2·28	1 103	3·65
(e) Total for the 107 towns	2,561,911	23·78	23,854	78·51
(f) Villages and rural districts ..	8,212 964	76·22	6,529	21 49
(g) Total males	10 774 875	100·00	30,383	100·00
Females.				
(a) Berlin...	671,070	5·90	3,069	29·17
(b) 17 towns of 100 000 inhabitants and upwards	1,194 000	10·49	3,330	31·66
(c) 42 towns of from 30 000 to 100 000 inhabitants	789 462	6·76	1,354	12·87
(d) 47 towns of less than 30 000 inhabitants. ..	270,684	2·33	457	4 35
(e) Total for the 107 towns..	2,905 186	25·53	8,210	78·05
(f) Villages and rural districts ..	8 475,461	74·47	2,309	21·95
(g) Total females	11,380 657	100·00	10,519	100·00

It is clear from the foregoing table that venereal affections in Prussia are enormously more prevalent amongst dwellers in crowded centres than in the sparsely peopled country In 107 towns with an aggregate population of 5 467 107 adults of both sexes there were 23,854 males and 8210 females under treatment privately on the day the census was taken, whereas in the rural districts, containing 16 688 425 inhabitants, the corresponding numbers were for men 6529 and for women 2369 That more males than females were affected is also shown, but the disproportion is believed to be considerably less than would appear from the returns In the first place, women are said to be able to procure for themselves clandestine treatment, and secondly they are far more prone than men to the concealment of their disease. However this may be it is certain that if hospital patients had been included in the inquiry the discrepancy between the sexes would have undergone sensible diminution During the year 1899 14 405 women chiefly prostitutes, were treated for venereal disease in the public hospitals, while the number of male cases for the same period was 15,181. In this connexion the remarkable fact stands out that on one single day the persons under the care of qualified medical men as private patients exceeded by more than a fourth the contingent treated during an entire year in the hospitals

The diseases reported by the 9204 private practitioners have been classified as shown in the following table —

—	Number			Percentage.			Per 10 000 adults		
	Males.	Females.	Total	Males	Females	Total.	Males.	Females.	Total
Blennorrhagia	16 676	5,295	21,971	54 89	50·34	53·72	15·43	4·65	9·92
Soft chancre	2,103	277	2,380	6·92	2·63	5·82	1·95	0·24	1·07
Syphilis primary and secondary	8,112	3,188	11 300	26·70	30·31	27 63	7·53	2·80	5·10
Tertiary syphilis	3 492	1 759	5 251	11·49	16·72	12·83	3·24	1 56	2 37
Total	30,383	10,519	40,902	100·00	100·00	100·00	28 20	9·24	18·46

Three fifths of the diseases were returned under the first two heads but the others indicate a sufficiently serious state of affairs more especially when it is considered that nearly a third of the syphilis was classed as tertiary

In the army the inquiry seems to have been restricted to a body of troops numbering 460,000 men. Amongst these, on April 30th 1900 there were 444 cases of blennorrhagia, 74 of soft chancre, 174 of primary and secondary syphilis and seven of tertiary syphilis. The total 699 gives a rate of 15 20 per 10,000 of strength and compares very favourably with the corresponding totals in civil life. In Berlin the rate per 10 000 adult males was 141 94 in 17 town with more than 100 000 inhabitants it was 99 88 in 42 towns with from 30 000 to 100 000 inhabitants 58 40 in 47 towns with less than 30 000 inhabitants 45 06 and for the whole kingdom, 28 20.

In Prussia there are provident societies having an aggregate membership of more than 4 000 000 but until recently no member disabled through venereal disease was allowed to draw the indemnity which is granted for ordinary affections In April 1892, the Government made it possible for this to be done but the whole of the societies have not as yet availed themselves of the permission In 1899 only about a third of the venereal patients who had been treated in the hospitals were allowed their expenses

In order to combat the spreading pestilence a number of prophylactic measures have been devised amongst them being (1) an improved system for teaching venereology" in the medical schools (2) free post-graduate instruction by salaried professors (3) enlightenment of the public regarding the gravity of the question by means of pamphlets and leaflets in collaboration with the Order of Good Templars,[2] the fact that continence is far from exercising an injurious influence upon physical and intellectual development being especially impressed upon the youth of both sexes (4) special provisions for the guidance of medical officers attached to the sanitary police in town and country (5) a scheme to ensure the instruction of midwives regarding venereal diseases—their clinical characteristics and modes of dissemination. Finally the surveillance and regulation of prostitution have received renewed attention with a view to the suppression so far as possible of clandestine prostitutes.

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[1] Zeitschrift des Königlich Preussischen Statistischen Bureaus, Berlin 1901.

[2] Der Guttemplerorden.

THE LANCET.

LONDON SATURDAY, SEPTEMBER 27, 1902

Small-pox in Lambeth in 1901-2

VARIOUS questions of interest are referred to in a report just issued by the medical officer of health of Lambeth, Dr JOSEPH PRIESTLEY, on the prevalence of small pox in that borough during the recent epidemic in London.

The statistics of the report furnish the usual evidence of the power of vaccination and revaccination to control small pox. In children under 10 years old it is estimated that the proportion of unvaccinated to vaccinated persons in Lambeth was as one to five. The vaccinated five sixths furnished 11 cases of small pox and the unvaccinated sixth furnished 39 cases If the vaccinated children had contributed to the prevalence of small-pox in the same proportion as the unvaccinated they would have yielded not 11 cases but 195 As regards fatal small-pox, the vaccinated five sixths under 10 years old had among them one case, while the unvaccinated sixth had nine cases, of which four were under a year old Over 10 years of age, owing to partial wearing out of protective power, the differences between vaccinated and unvaccinated are not so striking, especially as to attack rates, though as concerns fatality rates there is still abundant evidence of the virtue of vaccination, the deaths being only 37 instead of 204

It is a favourite sophistry of opponents of vaccination that statistics and observations supporting the value of the Jennerian prophylactic are untrustworthy because of the bias of the observer or reporter There are circumstances, however, in which no such bias can have any scope, and an example of this is provided in the statistics of "quarantine" contacts in Lambeth These people were under observation as to their vaccinal condition before ever small-pox had appeared on them, and when it was impossible to know who among them were in the incubation stage of the disease and who were not. Among 3876 adult contacts who had been vaccinated or revaccinated 103 developed small pox, whilst among 37 unvaccinated 12 developed small pox—one case in 37 among the former and one in three among the latter Of contacts under 10 years old there were 935 vaccinated or revaccinated, and six of these, or one in 133, took small pox , whilst among 73 unvaccinated, 18, or one in four, were attacked Among 133 visitors to the small-pox hospitals only one caught small pox and he was a "conscientious objector" who had refused revaccination.

To prevent so far as possible mistaken diagnosis between chicken pox, lichen, and other diseases, and small pox, Dr PRIESTLEY issued a circular to medical men in Lambeth offering to consult with them in doubtful cases As a result 277 cases were intimated, of which 94 were small-pox, 84 chicken-pox, 17 lichen, 15 erythema, 19 acne and ecthyma, and so forth These consultations were obviously most useful, but Dr PRIESTLEY'S speculation as to what might have happened had all the 94 small pox patients been treated at home seems unnecessary, as it is inconceivable that this uniformity of error would have occurred in any circumstances The Order of the London County Council making chicken pox notifiable in London came into force on Feb 7th of the present year and by the end of August 988 cases had been notified in Lambeth Of these only four proved to be small pox, and it is pointed out that the four would have been heard of through the system of voluntary notification, so that Dr PRIESTLEY holds compulsory notification of chicken pox to have been practically useless in Lambeth In other places, however, where, perhaps owing to the medical officer of health being in general practice or to the existence of less friendly professional relations than fortunately seem to exist in Lambeth, compulsory notification of chicken pox in presence of the prevalence of small pox may be by no means useless

"Quarantining" was resorted to very extensively in Lambeth and with very good results The term, as used in the report, appears practically to mean that contacts were kept under observation at their own homes for a period of 16 days after exposure to infection. A special building was regarded as unnecessary, except for a few hours during disinfection of dwelling and clothing, and there was no hindrance to the "quarantined" going about. There appears to have been some restriction to their going to work, as it was only under conditions satisfactory to the health officer that certain of them were allowed to do so The report does not discuss or explain the differences between the risks of going to work and of going about the streets, or the system upon which the one was sanctioned and the other hindered. The total number of persons kept under observation was 5087, and of these 137 (or 141) developed small pox and were removed to hospital, with the very satisfactory result that no single further case followed from any one of them.

The problem of the prevention of small pox epidemics and of the value of measures such as quarantine and isolation must continually vary as between one place and another and between one time and another, according to the vaccinal condition of the threatened population. If the whole of London or of Lambeth were unprotected against small-pox, quarantine and isolation would be, of course, impracticable In Lambeth, we are glad to learn from Dr PRIESTLEY'S report, conscientious objectors are almost non existent, but in the years 1893-97 the official returns show that the children "unaccounted for" averaged nearly 25 per cent. Among the 5000 contacts kept under observation any such percentage was greatly reduced immediate vaccination, and under these circumstances disease was held in check to the degree recorded Dr PRIESTLEY If vaccination and revaccination w to fall into abeyance the uphill battle which was so fought this time against small pox in Lambeth would s other time become a downhill *débâcle*, notwithstand quarantine and isolation and disinfection. If, on the other hand, vaccination and revaccination were to become universal there would be no epidemics of small pox involving all the elaborate and expensive measures of control which have to be adopted in this country in the present day, the worries and difficulties and disputes about sites and sizes of small pox hospitals would vanish and there would be no necessity in Lambeth or elsewhere for consultations regarding hundreds of doubtful cases or for quarantining" thousands of contacts or for disinfecting tens of thousands of articles of bedding and clothing Once in a while a case might indeed occur as in Germany but epidemics, with all their labours and anxieties and outlays and their toll of disfiguration and death would be matters of history The nearer we approach to universality of vaccination and revaccination the nearer shall we be to reaching this goal, the farther we depart from it, though hospitals be multiplied all over the country the more hopeless will it become to cope successfully with small pox epidemics We trust, therefore that Dr Priestley's fear that public apathy regarding vaccination will result in its further neglect, so that Lambeth and other places will be able to depend on it even less in the future than in last year's epidemic, may prove to be unjustified and we hope that the Government next year will be found alive to its duty in the matter of legislation with regard to vaccination so that not merely the protection of infants but of adults, will become a matter of national concern and the various defects of detail which have been discovered in the course of the legislative experiment begun in 1898 will be remedied in which case the country will obtain the full benefit of the experience which has now been gained alike of the strong points and the weak of the existing vaccination laws.

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Methods of Intestinal Anastomosis

THE question of the treatment of a wound of the intestine must have presented itself to the notice of members of the healing art from the earliest times, for even palæolithic implements were fully capable of inflicting such injuries. Doubtlessly from time to time attempts were made to bring together the divided edges with more or less success but it is certain that the failures must have far exceeded in number the successes for sepsis was almost inevitable under the conditions then obtaining The earliest description of intestinal suture that we possess is found in a somewhat obscure passage in a Sanscrit Veda. Celsus advised the use of sutures for wounds of the large intestine but says nothing as to the method employed. Galen was in favour of suturing the stomach and the large intestine but he tells us that if the small intestine is sutured recovery rarely follows. The Arabian physician Abulcasis, recommended suture of a wounded bowel and advised the employment of catgut. Roger of Parma and Roland in the thirteenth century made use of a little elderwood tube which was placed in the bowel and the edges of the wound were united with silk In the succeeding centuries many writers on surgery advocated intestinal suture and they described many different methods gradually drawing near to those employed at present. If suture of the bowel is important for wounds it is still more important in cases in which excision of a portion of bowel is necessary for gangrene or new growth Reybard in 1833 first attempted to excise a complete segment of intestine he removed three inches of the colon united the divided ends by sutures, and the patient recovered Three years later Dieffenbach operated on a case of strangulated hernia he found the bowel gangrenous and having excised the necrosed portion he sutured the ends together in this case also recovery followed.

It is clear, then that for many centuries the question as to what is the best method of uniting two portions of bowel, and of closing a wound or rupture of the intestine has been considered and discussed. The question appears to be simple and it might be thought that in the many years which have elapsed since it was first propounded surgeons would have become fully agreed on the answer, yet we must confess that it is not so and the reason for this want of unanimity is to be found in the fact that the question is by no means so simple as it may appear at first sight The introduction of antiseptic and aseptic surgery has cleared away one great obstacle to intestinal surgery The older surgeons were hampered by sepsis and their most earnest endeavours could only occasionally succeed. So far the problem has been simplified but it is still difficult Before any method of suture can be characterised as perfect it must fulfil many diverse requirements. It must be simple in principle easy in application and rapid in use. Moreover it must approximate the several layers of one piece of bowel to the corresponding layers of the other thus, the mucous membrane must join the mucous membrane, the muscular layer must become continuous with the muscular layer and the peritoneum with the peritoneum. The method must not tend to produce any noticeable narrowing of the gut. What method can fulfil all these requirements? There has been no lack of ingenuity in devising new procedures, for up to the present more than 200 methods have been described. It is difficult to realise that it is possible that there should be so many different ways of joining two pieces of intestine, but in many cases old methods have been re-invented and this is true of some very recent devices. Practically the methods may be divided into those employing some form of mechanism and those which make use of no such adjuvants.

Mechanical aids for intestinal anastomosis have been very numerous. We have already referred to the elder wood tube which was employed 600 years ago by surgeons of the school of Salerno and this is the type of many others. Senn's plates Mayo Robson's bone bobbins Paul's tubes *et hoc genus omne* have been invented and employed In some cases they have been composed of a digestible material so that the digestive juices may be able more or less to destroy them when they have accomplished their function, in other cases they are intended to be removed immediately before the bowel is sutured in others again, they are left to be carried away with the fæcal masses. This form of apparatus has culminated in Murphy's button, which is a marvel of ingenuity It undoubtedly affords in skilled hands an extremely rapid method of joining two pieces of bowel and numerous favourable results of its employment have been recorded, but in hands unfamiliar with its employment the button may readily prove useless, moreover, it is not rarely badly made, with the spring too hard or too soft, and its weight tends to drag down the piece of bowel in which it is placed. That it is sometimes or even frequently retained within the bowel for long periods is also an argument against its employment. Yet in spite of its disadvantages, which are many, it will probably remain for years one of the most rapid methods of intestinal anastomosis The absorbable mechanical supports such as the "bobbins" and "tubes" are certainly of great value and assist the operator enormously in suturing the intestine, but they are frequently not available when they are required LAPLACE'S ingenious forceps deserves mention, but it has been adopted to only a very small extent

If any method can be devised which is rapid and safe and yet dispenses with any mechanical appliance it will surely prove a definite advance in intestinal surgery Simple drawing together of the edges by LEMBERT or CZERNY LEMBERT sutures is preferred by many surgeons, for nothing more is required than a needle and silk, but except in very practised hands the process is certainly tedious, and in this operation time is often of the first importance. In 1892 MAUNSELL introduced a very rapid method of intestinal anastomosis It consists in bringing out both the ends of the bowel through a separate longitudinal slit in the wall of one portion of the intestine Sutures are passed through all the coats of the bowel, which is then returned, and the longitudinal incision is closed. The method is speedy, but it has not been very widely adopted, for it has been felt that it is undesirable to make a fresh incision if it can be avoided At the present time it may be said that probably the majority of surgeons employ simple suturing The latest contribution to the subject is by Dr F H. WIGGIN of New York in a paper read before the New York Academy of Medicine in March of this year His method is essentially a modification of MAUNSELL'S, resembling that method in the sutures being inserted through the whole thickness of the bowel, but omitting the fresh longitudinal incision through the intestinal wall. The operation is as follows the two ends of the bowel are united by means of two sutures passed through all the coats, one suture being placed at the mesenteric border and including a portion of the mesentery on both sides, and the other being situated immediately opposite to the first By means of these two sutures the bowel is held in position while the other sutures are being inserted. These sutures are passed through all the walls of the bowel and the knots are left in the cavity of the gut This suturing is continued until only one suture remains to be placed and at this spot a LEMBERT stitch is employed If the sutures have been correctly placed about one-eighth of an inch apart and at the same distance from the edge of the bowel the peritoneum will have been turned in and no stitches will be visible except the last. Slight modifications of the procedure enable two portions of bowel of unequal size to be united It is, of course, early yet to say what will be the fate of this operation, but it appears to include all the merits of MAUNSELL'S operation without its chief disadvantage and deserves, and will doubtlessly receive, the due consideration of surgeons

Some Lessons of the Late War

THE war in South Africa having terminated it will before long possibly possess as little interest, as far as the general public is concerned, as a last year's almanack. If the announcements are to be relied upon, however, that General DE WET has been occupied in writing a book about it, that ex President KRUGER has been preparing another on the same subject and on the causes which led up to it, and that in addition an official Boer record of the war is to make its appearance we are not yet likely to lose sight of the subject altogether Before it reaches a stage when time's obliterating sponge is applied to it and public attention is solely directed to the settlement of the newly acquired country there are a few facts and considerations which seem to be worthy of being recorded

In the first place the view that the losses in modern warfare would be enormously increased—with a correspondingly large increase, of course, of medical aid of all kinds—owing to the improved weapons employed, has not been borne out by the experience obtained in South Africa. But it must be remembered that the conditions in that country were altogether exceptional However sound theoretically may be the reasoning about the range, rapidity, and accuracy of modern firearms as applied to ordinary European warfare, its deductions are practically inapplicable in the case of the tactics employed by the Boers operating in a country which is, topographically speaking, so eminently suited to defensive warfare Their object was always to conceal themselves and to refuse to be drawn, never to show themselves in the open unless it suited their purpose to do so, and always to reserve their fire until an attacking force reached a given point where previous experience had shown that they could be hit with an almost automatic certainty This is what actually happened in the fighting in Natal until the British, having learnt the lesson of a dearly bought experience, altered their system It is doubtful whether the lessons of the war are altogether applicable to European conditions, but it is certain, if we judge from the late foreign military manœuvres, that continental armies in fighting with the Boers would have fared no better than, if as well as, we did Taken as a whole, the British losses in killed and wounded during the late war were relatively small as compared with some of those in WELLINGTON'S campaigns or with the losses in the Franco-Prussian and other wars The deaths from disease and the inefficiency caused by sickness in South Africa, as is almost always the case, were far in excess of those attributable to gunshot wounds and injuries received in action Still, the losses in the field from disease compare favourably with the previous war records of other nations or with those of some of our own in other campaigns. And this brings us to the main factor in swelling the list of sickness and mortality among the troops serving in the late South African war—namely, enteric fever

Much misapprehension apparently exists with respect to the history of enteric fever in South Africa and as to the part played by the Army Medical Service in regard to it. Briefly stated what are the facts? Enteric fever is, as we know to our cost from previous campaigns, a very common disease in that country The occurrences which led up to and culminated in, an epidemic outbreak in the recent war indicate that the disease, after it had once made its appearance among the troops at the Modder river soon grew apace. DE WET having left Natal for the relief (which he failed to accomplish) of CRONJE, who was enclosed as by a net at Paardeberg nevertheless succeeded in most seriously hampering the advance of Lord ROBERTS by his capture of the great convoy at Riet river This caused the soldiers of Lord ROBERTS's force to be put upon short rations and gave rise in order to replenish their stores and supplies to a delay of about two months at Bloemfontein and for some reason or other which has never been fully explained the waterworks in its vicinity were most unfortunately left in the hands of the Boers. Exhaustion and epidemic sickness on a large scale and attended with great loss of life rapidly followed as a matter of course. We are perfectly aware that the American Commission appointed to report upon the causes which led to the wholesale prevalence of enteric fever among the American troops in the Spanish war of 1898 found that infected water was not such an important factor in the spread of that disease as personal contact and pollution of the soil in and about camps. In the case of South Africa all these factors were also present, but that the chief and most operative among them was in all probability a contaminated water-supply no one reading the medical history of the events that followed Paardeberg can doubt. There was no railway or other transport available at the time to bring up all the hospital stores and supplies to meet a situation which was created and brought about by military and not medical causes Logically and dispassionately regarded it is not easy to discover how the unexpected movement of CRONJE's force to Paardeberg and other circumstances could have been foreseen and provided for If this be as we fully believe it to be, a correct description of the position, we cannot see why the Commander-in-Chief did not himself emphatically say so instead of leaving it to others who could not, of course, speak with his authority to declare it Had this been done we venture to think that the medical service would not in this matter have been made a scapegoat for occurrences which, however deplorable were outside and beyond its control.

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Physical Training and Defective Children

EARL EGERTON of TATTON in his inaugural address to the Sanitary Congress at Manchester dwelt upon the wisdom and necessity of providing means of healthy living in adult life and in the surroundings of childhood especially among urban populations. It is interesting to observe that while sanitarians have long endeavoured to deal with questions of sewage, of the construction of houses and roads, and of the prevention of infectious diseases and of fogs, there is now arising a desire to investigate more widely the conditions affecting the healthy physical and mental development of children and to found a scientific basis for the study of mental hygiene concurrently with sanitation. If the sanitary and educational authorities become one, as is anticipated it should follow that health of body and of mind will be equal objects of care. After describing the good sanitary work done in Manchester Lord EGERTON referred to the provision of open spaces as affording opportunities for recreation and games, for the full enjoyment of which town children need some preliminary training Physical training is now recognised by the Board of Education as a part of the school curriculum and it is recommended that this should be taught by the ordinary school staff. The usefulness of primary education will doubtless be increased by the general introduction of physical exercises and also by the development of sanitary surroundings, at the same time, this general advance in the conditions of school life and in the quantity and quality of work done will increase the necessity for provision for the benefit of those scholars who on account of physical or mental weakness, are unable to follow the ordinary school training Lord EGERTON traced the history of provision for defective children from their first official recognition as a class by the Royal Commission on the Blind, Deaf and Dumb of which he was chairman while the reports furnished to other commissions and public bodies on 100 000 children seen in schools by Dr FRANCIS WARNER were followed by the Education Act for Epileptic and Defective Children. Special schools and classes are now provided in most cities for the feeble-minded and crippled children, while those under the Poor law are received into resident homes provided for their care and education. The Childhood Society was founded in 1896 for the scientific study of the mental and physical conditions of children, and it is largely due to the amount of public attention which that society has directed to the subject that such advances have been made. A meeting of the society was held in Manchester on Sept. 12th under the chairmanship of Dr J KERR and the homes for the feeble-minded at Sandle Bridge were visited by members of the Congress

There is much work to be done in studying these sub-normal children and further accuracy in diagnosis and classification and in knowledge of the complications met with is much needed. Many pupils who are mentally dull, backward and in the opinion of their teachers, incapable of being trained are really suffering from deafness due to removeable causes or errors of sight while other cases are dull from the effects of heart disease or other physical disturbance The methods of caring for and training children who are either slightly defective in cerebral development or at a disadvantage from defect of the senses or organs, require to be worked out by the same scientific system of clinical research as has been applied to other conditions of cerebral disturbance. Briefly it may be said that all these children usually require to be trained to speak and to be controlled in all actions until they have acquired correct and social habits of response training should be conducted stage by stage, with the objec of obtaining control over the child's natural spontaneity and of encouraging his or her growth to coördinated action. If the teacher's efforts are mainly devoted to training action in the pupil rather than to implanting knowledge there is no reason why school life should not commence early, experience shows that useful attempts in adapting the defective child to social amenability are most successful when commenced at the age of three or four years. The defective classes differ in capacity for improvement, but even those who are not educable may be trained so as to prevent them from becoming offensive and harmful in adult life We are glad that Lord EGERTON gave prominence to the social importance of hygiene in educational life and that he directed the attention of sanitarians to the means of improving both the developmental standard and the mental potentiality of the people.

Annotations.

"Ne quid nimis"

THE ILLNESS OF PRESIDENT ROOSEVELT

WITHOUT fuller information it is impossible to speak with certainty of the nature of the lesion from which President Roosevelt has suffered, but apparently the accident at Pittsfield gave rise to a hæmatoma of the leg and this in its turn, by the separation of the fibrin, resulted in a cyst containing serum This was drawn off by an aspirator and in all probability no further harm will result, but hæmatomata at all stages have a tendency to suppurate and this tendency would be distinctly promoted by exercise The President, therefore, has wisely been advised to rest Though the condition in many of the reports has been spoken of as an abscess it does not appear that any suppuration has yet occurred

SCHOOLS FOR CRIPPLES IN LONDON

THERE are now eight of these schools, officially called "Physical Defective Centres," under the London School Board, their establishment following as a natural, but rather belated, corollary on the formation of special schools for mentally weak children People were naturally horrified to find that many maimed or crippled children, unable to attend the ordinary schools, were locked up alone the whole day while their parents were at work and ran a risk of never developing such brains as they had, others were mixed up in the schools for the mentally deficient. The first reform was made three years ago as a joint effort on the part of the Passmore Edwards Settlement and the London School Board, and this school we were enabled to visit a few days ago Children are admitted in the first place by the lady medical officer of the board and are regularly inspected every month, so that if they become fit they may be drafted into an ordinary school. A trained nurse is supplied by the board who fetches the children in an ambulance carriage in the morning, dresses any wounds which require it, compels the children to eat a substantial midday dinner, and takes them home again in the afternoon when lessons are done On the day of our visit 42 children were in attendance, 24 had been fetched by the ambulance, three had been wheeled to school by their relatives, and 15 had walked Each child pays twopence per day for an excellent meal of meat, vegetables, and pudding, and the lesson hours are from 9 30 to 12 A.M and again from 1.30 to 3 P M., the intervening time being spent in hobbling about, sometimes on crutches or digging in the sand heap in the Duke of Bedford's garden The children vary in age from five to 16 years, and after attaining the latter age those who are fit are apprenticed out to various sedentary trades by the After-training Committee At present five have been so started in the hope that they will by learning a trade be able to support themselves Half the children are in the infants' school, which the board calls 0 standard, and here they learn reading, writing, arithmetic, and some kindergarten work. The more advanced boys and girls learn all the board subjects from the first to the sixth standard, in addition to extra handiwork. The children are all attending different hospitals and are mostly suffering from spinal curvature, hip disease, infantile paralysis, tuberculous joints (chiefly the knees), and heart disease, both congenital and acquired after rheumatism The nurse tactfully advises parents with regard to cleanliness and to keeping windows open in the house Without in any way interfering with the out-patient treatment of the various hospitals it would be interesting if a register were kept of the weights of the children They ought to be gaining weight, but some of them looked very thin, and it occurred to us that possibly the substantial dinner might be followed by a ration of cod liver oil or its equivalent. For the school to become quite ideal marquees with a permanent roof and moveable wings should be erected in the spacious garden during the summer months so that all lessons could be done in the open air It must not be forgotten that every one of these cripples is predisposed to the onslaught of the tubercle bacillus

THE LUNACY PROBLEM AS IT AFFECTS LONDON

IN the thirteenth annual report of the Asylums Committee to the London County Council it is stated that the total number of pauper lunatics under the cognisance of the committee was, on Jan. 1st, 1902, 22,155, being an increase of 786 on the previous year This increase is the largest for any year since 1896 The fact that a portion of the parish of Hornsey became, through the provisions of the Local Government Act of 1900, attached to the County of London accounts for a small fraction of this increase, and the report states that with this exception the present considerable increase in the lunacy population still awaits explanation. On apportioning the figures among the different classes of institutions for lunatics it is observed that whereas the number of lunatics in workhouses or in the charge of friends and relatives has decreased by 30 the imbeciles in the asylums of the Metropolitan Asylums Board have increased by 40, and the pauper lunatics in the asylums and licensed houses of the County of London have increased by 776 The Asylums Committee, from a consideration of the statistics of the increase of insanity in London during recent years, is inclined to the belief that provision for accommodation as calculated by it—viz, to meet an increase of 500 per annum by building a fresh asylum to accommodate 2000 patients every four years—is justified On March 3rd, 1902, the Horton Asylum was opened for the reception of patients This asylum is built to accommodate 2000 patients—900 males and 1100 females—and the committee has now under consideration the necessity of proceeding with the construction of a new asylum, the ninth under the jurisdiction of the London County Council, to cope with the continued increase in lunacy As the result of inquiries made as to the type of building to be erected for this purpose the committee proposes to adopt for its ninth asylum "a modified form of the villa type, with central administrative buildings," and the council has voted a sum of £1000 for the preparations of preliminary plans in connexion therewith. From the collated medical statistics for the year ending Dec 31st, 1901, it appears that the total number of patients admitted to the asylums at Hanwell, Colney Hatch Banstead Cane Hill Claybury Bexley Heath and the Manor (Epsom) was 3621, which number comprised 1549 males and 2072 females. Of these 3226 were first admissions. The total number of cases discharged as recovered during the year amounted to 1054—viz 426 males and 628 females, or 7 2 per cent. of the average number resident. The deaths during the year amounted to 1270 or 8 6 per cent. as calculated on the same basis. Of the deaths 334, or 27 per cent. were due to general paralysis of the insane, and 160, or 12 6 per cent. were due to pulmonary and other forms of tuberculosis. From a comparison with the returns of the previous year it appears that the recovery rate has fallen slightly—viz. from 9 per cent. in 1900 to 8 6 per cent. in 1901, while the death rate has also fallen from 9 3 per cent. to 8 6 per cent. for the corresponding years Among the causes of insanity in patients admitted hereditary predisposition played the most important part, as it accounted for 987 cases, or 27 per cent. of the admissions, while alcoholic intemperance was responsible for 608 cases or 17 per cent. The weekly maintenance rate for patients was 11*s* 8*d*. per head, and in view of the continued high prices for provisions and stores the committee considers that there is no likelihood of a reduction of this rate. A report is appended by Dr F W Mott, pathologist to the asylums, giving a summary of the work done and of the researches in progress at the pathological laboratory at Claybury Asylum a full account of which will be included in the second volume of the Archives which the committee hopes will shortly be in the hands of the publishers. Various interesting charts and tables are included in the committee s report, one of the most important of these being a graphic chart in colours showing the steady rise in the proportion of lunatics to population in the County of London since the year 1889 the curves being drawn to scale on the basis of the census returns and the annual returns received by the Asylums Committee.

"PTOMAINE POISONING

IN our issue of Sept. 20th, p 825, we referred to the recent cases of poisoning by food which have been popularly attributed to the action of ptomaines. On Sept. 23rd the inquest into the circumstances attending the death of Joseph Swinson who died at Uttoxeter after eating one of the pork pies purchased at Derby was concluded. Professor Sheridan Delépine, who gave evidence, said that he had discovered both in the pies and in the bodies of those who had died after eating them, a bacillus belonging to the colon group, known as bacillus enteritidis Gaertner There was no evidence to show that the meat of the pies was contaminated but the jelly was full of bacilli and he presumed that it had become infected whilst exposed in the course of the preparation of the pies The person who sold the pies, however careful he might be, could not possibly tell that there was anything wrong with them. Food contaminated by this particular bacillus did not alter in either taste or smell. Professor Delépine added that he had inspected the building in which the pies were made and that there was every indication of careful management, but there were, nevertheless, several sources of possible contamination. Dr W J Howarth, medical officer of health of Derby agreed with Professor Delépine that Mr Cope the butcher from whom the pies were obtained managed his business carefully He went on to give several sources of possible contamination, such as a privy and ashpit a few yards away from the slaughter house. He could not say that Mr Cope had been guilty of culpable negligence, for he had not received any complaints concerning Mr Cope s premises from any of his inspectors However the case opened up the whole question of the management of such places of business and he intended to make important recommendations to the Derby town council. The jury returned a verdict to the effect that Joseph Swinson died from the effects of eating pork pie which had been accidentally contaminated by the presence of bacilli, but that, so far as the evidence went, no blame could be attached to any person engaged in the preparation of the pies. It seems to us that this case is one more argument in favour of the total abolition of private slaughter houses. Private slaughter houses in a large town are nothing but an anachronism and are always liable to lead to infection of food, cruelty to animals, and, in many cases to the sale of diseased or unwholesome meat. The public abattoir which is open at all times to the inspection of the sanitary authorities, which can be properly drained and which should be situated at a distance from other buildings is the only method of ensuring that our meat-supply shall be provided with as little suffering to the animals who afford it and with as great safeguards of the purity of the meat and of the health of those who consume it as is possible.

DUTY AND DEATH

A SHORT paragraph with the above heading which appeared in one of the Manchester papers on Sept. 13th seems worthy of notice. It states that Samuel Short, aged 50 years, an engineer whilst lowering 24 men down a coal pit at Tyldesley had an apoplectic seizure, but with great presence of mind stopped the engines. He died almost immediately It is difficult for anyone to put himself mentally in this poor fellow s place, but whatever his sensations may have been his first thought was to secure the safety of the 24 men whose lives he held in his hands. He must have felt that what had to be done must be done quickly and his action taken at once, showed that in his last moments of consciousness his movements were directed by his care for the safety of his fellow men and not for his own life

A REMARKABLE CASE OF FAMILY DEGENERACY RESULTING FROM ALCOHOLISM

IN the *Quarterly Journal of Inebriety* for July last Dr A. MacNicholl of New York publishes an account, together with a genealogical table of a family in which the results of degeneracy and disease, arising mainly from alcoholism, have been traced and studied for four generations. The investigations of the various members which comprised this family tree were carried out with great fulness of detail and the facts ascertained constitute a striking illustration of hereditary sequelæ of alcoholic intemperance. The first generation comprised a married couple of good social position in the United States. The man was a well to do and respectable merchant of English parentage while his wife was of Huguenot descent. Both indulged in social gaieties, lived well, and took wine habitually and daily They had two daughters, each of whom developed in early life a fondness for wine and spirits. The elder of the two gave herself up to alcoholic and sexual excesses of the wildest description, became the mistress of various men, and contracted loathsome venereal diseases. She died a raving alcoholic maniac at the age of 40 years. The second daughter married a wealthy banker and indulged in a very gay life full of excesses which led to a temporary mental breakdown at the age of 35 years. She bore eight children, two males and six females. The two males grew up to be drunkards and were at the date of publication of the above article alive and aged respectively 50 and 60 years. Of the six daughters five died from phthisis between the ages of 20 and 35 years. The surviving daughter married a man of good position who was healthy and a moderate drinker They led a fashionable and eventually a fast life, observing few social restraints She became a drunkard and an opium-eater and ended her days in poverty Of this union 17 children were born, constituting the fourth generation Ten of the 17 children died from phthisis below the age of five years The seven surviving children showed the following remarkable histories The eldest, a female, showed great moral perversion as a girl, became a concert-singer and female prize fighter, led a drunken and immoral life, and was the mother of several illegitimate children The second, a male, became a moderate drinker and showed signs of phthisis, but was alive when last seen, at the age of 45 years. The third, a male, became an insurance agent. He was a moderate drinker and showed suicidal tendencies on more than one occasion. The fourth, a male, became a habitual drinker and morphia eater, had delirium tremens several times, and ended his life at the age of 35 years by an overdose of morphia taken whilst drunk The fifth, a female, married early, took to drink, and developed suicidal-mania. The sixth, a male, exemplified in his life all the characters of a psychopath Thus at 12 years he was an industrious and studious boy but peculiar in his ways, at 16 he was a moderate drinker, at 21 he married, but showed himself to be lazy, indolent, and neurasthenic, at 23 he was a confirmed drunkard, neglectful of his home, at 24 he abandoned his wife and two children, and at the age of 28 years he committed suicide by drinking carbolic acid. The seventh and last member of this unfortunate family of degenerates was a male who received his education in a high school and who at the age of 21 years was the subject of moral perversion and suicidal impulses The whole family tree during the four generations traced above thus exhibited all forms and grades of mental degeneracy and deterioration in a remarkable manner

SAMSU

SAMSU is an alcoholic beverage used in Eastern Asia and is, in fact, a variety of arrack, being obtained by the distillation of a fermented liquor prepared from rice. A description of samsu, as well as of the characteristic fungus used in its manufacture, was given by Mr B T P Barker on Sept. 17th at the meeting of the British Association at Belfast He said that rice was boiled in water and after cooling a powdered substance which caused fermentation was added to the mixture At the end of this fermentation the liquid was subjected to three successive distillations, the final product constituting the true samsu and containing a high percentage of alcohol. The powdered substance was sometimes made up in the form of small round greyish cakes One of these was obtained by Mr D T Gwynne Vaughan at Singgora during the Skeat expedition to the Malay Peninsula, and Mr Barker was indebted to him and to Mr R H Yapp for an opportunity of examining it and for information concerning the manufacture of the spirit. The composition of the cake was a secret but there were apparently several ingredients of which pepper and fruit of some kind formed a part. On adding a portion to boiled sterilised rice a fungoid growth soon appeared and a red or purple colouration was produced. This was due to a species of monascus A bacterium capable of fermenting glucose had also been isolated The biological processes on which the manufacture of the spirit depended were the conversion of the starch of the rice into fermentable sugars by fungi, in particular by a species of monascus, and the alcoholic fermentation of these sugars by a bacterium, and possibly also by wild yeasts. Monascus was one of the simplest sexual ascomycetes but the genus had been placed in the hemiasci on account of a supposed formation of spores in a sporangium, surrounded by an investment of hyphæ.

CHOLERA IN EGYPT

THE Director General of the Sanitary Department of Egypt reports that for the week ending Sept 8th, 7758 cases of cholera had been notified, during the week, 3469 of these were found dead out of hospital and 2863 deaths took place in hospital During the week 131 cases occurred in Cairo and 133 in Alexandria, against 149 in Cairo and 18 in Alexandria in the previous week Up to Sept. 8th the authorities had notification of 1168 towns and villages being infected throughout Upper and Lower Egypt.

THE RELATION OF SCIENCE TO ART IN REFERENCE TO TASTE AND BEAUTY

SIR SAMUEL WILKS has republished in pamphlet form a very interesting lecture which he recently delivered to the Hampstead Scientific Society[1] The subject is a large one on which much could be said on many sides and it is inconceivable that any two people would agree on all the questions which might arise out of it. It has long been, and is likely to remain, a common subject of table talk and of general conversation, especially at those social gatherings at which physicians and artists meet. The analytical spirit which is common amongst the votaries of science is, as he says, antagonistic to the emotional and artistic temperament. From the artistic point of view this fact was once very happily expressed by an inmate of the Bethlem Hospital who gave it as his opinion that "an analysis of the emotions is a filthy process" Sir Samuel Wilks deals with a very popular subject of dispute when he discusses the relation which exists between the utility and the beauty of buildings He does not agree with Ruskin in disliking the London terminus of the Midland Railway Company, which, "being Gothic, suggests an ecclesiastical edifice." Ruskin's criticism cannot be adequately expressed in so crude a form, and however erroneous his teaching may have been Ruskin had at least some knowledge of architecture and was aware that many of the finest public buildings are Gothic and not ecclesiastical He disapproves the admiration which Ruskin expressed for what he calls "continental patchwork churches, however irregularly built, because they were put together piecemeal as necessity dictated." "Patchwork churches" is not a happy phrase and many of the buildings which he would place in this category are of the greatest interest not only to all those who admire beautiful things but also to archæologists, and ecclesiastical archæology is more a science than an art The interest to the archæologist is an intellectual one, and archæology, like anatomy, has a pathological side The paper is so suggestive in every direction that it appears to invite digression, but on the question of architecture we must be content to suggest that the works of Pugin might prove of interest to the writer, they deal with some of the questions he raises and, as a matter of general principle, utterly condemn the idea of shams, or what he, perhaps derisively, calls "the modern cultivated taste" for a veneer of lath and plaster It is hardly likely that the Hampstead ladies agreed with all the remarks in the lecture. The author maintains that "the gait displays the woman of breeding" Ladies will probably take no exception to that This dictum is, however, followed by a rather curious theory, founded on observation, as to the gait of maid servants The theory is briefly this Spanish and Italian ladies have high insteps, this is supposed to show high breeding, hence the fashion for high heels, whence comes a habit of the middle and lower classes of life of clamping their heels as they walk along" Sir Samuel Wilks found that his maids when they walked along his hall clamped loudly enough to be heard throughout the house, influenced no doubt by a feeling of superior dignity' Most ladies would probably give a different explanation of these phenomena. It is perhaps a little doubtful whether either science or art properly so-called has any relation to women's dress or for that matter to men's dress. He discusses the perennial question as to whether there is a standard of beauty existing in the human mind and he favours the negative view on the ground that the Hottentot and the Greek ideals are not identical. He quotes Ruskin's opinion that why we receive pleasure from some forms and colours and not from others is no more to be asked or answered than why we like sugar or dislike wormwood Darwin was unable to account for the fact that many men and animals delight in brilliant colours. The story is told of the lady who informed Turner that she had never seen such a sunset as one he had painted and to whom he exclaimed I dare-say you wish you could." The author remarks that this is called genius or a spark of the heavenly fire. It appears possible that Turner may have meant to be sarcastic and the story is not unlike that told of the young lady who asked the Duke of Wellington whether he was not surprised at Waterloo No but I am now was the reply We trust that the lecture will have a circulation far beyond the metropolitan borough—for it must no longer be called the ' charming suburb —in which it was delivered

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[1] The Relation of Science to Art By Sir Samuel Wilks, Bart M D, LL.D F R S Hampstead: Sydney C Mayle 1902

THE FEEDING OF INFANTS

AT the Battersea Coroner's Court on Sept. 22nd Mr B Henslowe Wellington held an inquiry into the death of Frederick William Adams, aged five months. Evidence was given by the parents that as the child did not seem to thrive on cow's milk he was fed on a patent food which was sold in packets The mother said that she first gave the child the food on Sept. 7th and that afterwards she saw about half a dozen maggots in the powder The child got worse and she took the food back to the druggist who had supplied it. The sanitary inspector to the Battersea Borough Council said that he saw the maggots in the food in Adams's house and that he then went to the druggist's shop where he found five packets of food containing maggots. Mr William Robinson, who had attended the child, said that he thought that death was due to convulsions caused by epidemic enteritis the result of improper feeding Even if the food had not been maggoty it was not a suitable food for an infant five months old. The jury returned a verdict in accordance with the medical evidence but added a rider to the effect that the food should form the subject of further inquiries We do not suppose that the maggots had anything to do with the death of the child for they probably actually were or else were something allied to the ordinary meal worm. Neither do we know what particular patent food the unfortunate child was fed upon but, as we have said over and over again the practice of feeding children upon patent foods which in the majority of instances are nothing but starch or starch derivatives is one of which no condemnation can be too strong When in addition they are dirty and contain the ova or larvæ of insects they are more unfit than ever for the purpose of human food. The provisions of the Food and Drugs Act are very fairly stringent but the penalties for adulteration should be made a great deal heavier than they are. We suppose it is impossible to prevent accidental contamination of food, but it is quite evident that the particular food in question must have been contaminated before being put up into packets and we hope that when the jury's recommendation is carried out the premises of the manufacturer who supplied it will be made the subject of a most searching investigation.

THE GERMAN RED CROSS AMBULANCE IN SOUTH AFRICA

THE total number of patients treated in the German Red Cross Hospital during the late war in South Africa was 1358, of whom 707 were in patients The mean duration of the cases was 11 days. 70 cases of 'abdominal typhus (enteric fever) and 108 of dysentery were treated in the ambulance. The author of the report Dr Matthiolius believes that flies play an important part in the dissemination of the former disease and he is also of opinion that gastro-intestinal affections are widespread amongst the Boers Malarial diseases were comparatively rare 33 cases in all having been treated. 487 wounded men were attended to but with the exception of trephining only a few capital operations were performed. As far as he can judge there is very little to choose with regard to severity between the injuries resulting from Mauser and Lee Metford bullets In wounds of the thorax due to the latter the prognosis may have been somewhat more grave and possibly a tendency towards suppuration may have been more frequently observed in those of the brain In summing up Dr Matthiolius gives it as his emphatic opinion that explosive projectiles were not employed on either side. The stories about poisoned bullets are equally devoid of foundation and there is likewise no truth in the reports that lyddite fumes produced injurious effects. Lyddite shells were easily recognisable by the yellowish green colour of the fragments which seldom exceeded from four to six in number The latter circumstance fully accounts, in Dr Matthiolius's opinion, for the rarity of the wounds that could be attributed to the ' famous lyddite bombs.

SYMPATHY WITH PROFESSOR MURRI

IT seems but yesterday writes an Italian correspondent under date, Bologna, Sept. 15th that Augusto Murri celebrated the first 25 years of his tenure of the chair of clinical medicine in our university amid the congratulations of pupils and compatriots from far and near and to-day he is receiving messages of sympathy and condolence from the same hearts and hands under the most dreadful, the most desolating calamity that can befal the head of a household. His son Signor Tullio Murri, a young man of high ability and varied culture destined to shed lustre on the Bolognese bar the proud participator in his father's honours at the jubilee above referred to is a fugitive from justice, having confessed through the medium of his unhappy parent to the murder of his brother in law Count Bonmartini, in this city on August 28th—a crime in which Professor Murri's daughter the Countess Bonmartini is charged with having assisted her brother and for which she is now imprisoned at San Giovanni à Monte Other arrests for complicity in the murder have been effected—one if not two, of the accomplices being I regret to say medical men—while the judicial authorities are steadily and indefatigably following out the clue which they believe they have in hand towards the solution of the mystery Till they think fit to formulate the charge or charges which seem inevitable it were idle and indecorous for the layman however interested, to attempt to solve it All the same the Italian press for which such horrors have a morbid fascination fills its columns from day to day with the results of interviews more or less authentic, of individuals more or less likely to have some cognisance of the facts Such a breach of the reticence binding on the higher minded journalist I have no intention of committing At the proper time I may give your readers a summary of the indictment and the verdict. Meanwhile, they will join, I am sure, in the message of sympathy, reinforced from every quarter at home and abroad, with the illustrious pathologist and exemplary citizen who, in the zenith of a brilliant and useful career, lies crushed beneath a domestic visitation as sudden and as appalling as ever inspired the tragic muse of Greece "

THE DISTRIBUTION OF PLAGUE

THE Director General of the Sanitary Department of Egypt reports for the week ending Sept 7th that there were 5 new cases of plague admitted, all of which occurred at Alexandria. The deaths numbered 2 and the recoveries 2. The sanitary measures carried out were as follows 6562 rooms were disinfected and 428 were limewashed, 308 sacks of effects were disinfected and 6460 sacks of rubbish were burned The number of rats killed and burned was 167 As regards Hong Kong a telegram from the Governor, received at the Colonial Office on Sept 18th, states that no case of plague had occurred within the previous 10 days With regard to Cape Colony the medical officer of health reports that for the week ending August 23rd no case of plague had been discovered at any place in the colony but that a number of rats dead from plague had been discovered in a forage-store at Port Elizabeth on August 24th For the week ending August 30th, however, the medical officer reports that there had been no case of plague in either man or rat discovered at any place in the colony

AMERICAN "CULTURE" AND "CHRISTIAN SCIENCE"

JUDGING by numerous instances, we are sometimes tempted to inquire whether whole civilisations are plunging down the dark slope that leads, in the case of private individuals to the lunatic asylum The degenerate side of the American mind—its *megalomania* and shoddy mysticism —has long interested students of sociology, but interest becomes grieved astonishment when we find an apparently decent American literary and philosophic journal turned suddenly into an exponent of a murderous heresy The *Conservator*, published in Philadelphia, has always maintained a high reputation for the quality of its matter and manner It has been amiably notorious too, for its imitations of Walt Whitman, whose quite inchoate "philosophy" the journal aims at "conservating" But now, in an editorial article, the ghostly influence of the author of the "Ode to Lincoln" is pressed into the service of "Christian Science" in a manner as decadent as it is likely to be harmful The article is at once a eulogy of, and a rhapsody over, two recent American books with typical titles "The Truth in Christian Science" and "How to Get Acquainted with God"! Here is a specimen, some way after Whitman, America's one world poet.

> The drug is a confession We resort to it in the extremity of our ignorance and lack of faith And the drug will go because all disease that does not disappear will yield to a direct spiritual effluence We are cowards trembling before the mays and mustnots of the physical world .. Only the soul is convincing We only begin to see what the mind can do with the body The mind, that makes of God and man the unified substance of immortality It would be rash to set any limit whatever to the ability of the mind to take care of man The mind that is man The mind will do all the good the drug will do and will not do the harm the drug excites The scoffers scoff But meantime man is gaining in self acquaintance and self acquaintance will in its consummations retire all grosser forms of physicianly counsel " -

Thus speaks the new Jefferson Brick. Even if read aloud with a gentle nasal twang to suggest Boston "culture" the stuff remains dangerous It could be passed over, however, were it not put forward in a *format* and with pretensions reminiscent of our own best reviews Philadelphia has a great past in medicine, social reform, and humanitarianism, and poor old European Germany has fathered Kant, Goethe, Virchow, and others, and even when damaging the world's "moral currency" has done so robustly in the person of a Bismarck. It is melancholy, therefore, to find a Philadelphian editor with a German patronymic—Mr Horace Traubel—openly disseminating the views above quoted Their weird English and scant sanity do not render them less misleading What would be said of England were Mr Knowles or Mr W L Courtney suddenly to turn quack doctors in the columns of the great reviews which they direct ?

ACROMEGALY AND GIANTISM

A SOMEWHAT new and interesting light was thrown from an anthropological point of view upon the question of acromegaly in its connexion with giantism by some papers read at the late meeting at Belfast of the British Association for the Advancement of Science by Professor D J Cunningham, F R S, and Professor A F Dixon Professor Cunningham's paper was on Cornelius Magrath, the Irish Giant, whose skeleton, by permission of Trinity College, Dublin, was exhibited, and the paper by Professor Dixon was in connexion with a skull modified by acromegaly Magrath, who was seven feet five inches in height, was born in Tipperary in 1736 and died in Dublin in 1760 He was exhibited in all the principal cities of Europe as a giant The picture of this giant as drawn by Professor Cunningham's conception of him when living presented many points of alliance with acromegaly, and in Professor Cunningham's opinion supported the idea that giantism was a morbid process closely allied to that disease He upheld the view advocated by Dr Woods Hutchinson that giantism and acromegaly were virtually the same morbid process, differing according to the time at which the disease made its appearance If the individual was attacked in early youth before the skeleton was consolidated there was a more or less uniformly excessive growth of the limbs and enlargement of the face and a giant was produced, if attacked after 26 years of age when the skeleton was consolidated acromegaly resulted, with enlargement of the face, hands, and feet, and the other physical changes indicative of that disease. Professor Dixon exhibited a skull modified by acromegaly and observed that it showed an extraordinarily large face associated with hypertrophy of the pituitary body Up to the present time no satisfactory explanation has been given as to why a pathologically enlarged pituitary body should be associated with an enormous development of the face Professor Dixon went on to refer from an anthropological point of view to the historic and folklore record about acromegalic and giant and to trace out various points of resemblance Moreover, in further elucidation of the subject we may call attention to another paper read by Professor E A. Schäfer on the Diuretic Action of Pituitary Extracts, diuresis being often present in acromegalic subjects It is not the first time since Marie called general attention to the disease in 1886 that the points of similarity between the partial giant growth seen in acromegaly and the universal form of growth present in giants have been noticed But it has been commonly held that there was this important distinction between them—namely, that whereas the one was a morbid process and constituted a disease, the other giving rise to giantism was simply an over-development of a normal process This is not, however, the view that was apparently taken by the authors of the papers read at the meeting of the British Association, who regard them both as merely varieties induced by different conditions of one and the same morbid process. Physiology has only, however, to overstep its limits to give rise to a perverted tissue-nutrition and to become pathology

In a typical example of acromegaly which not long ago came under our observation all the features of the disease were at that time well marked but it was at first erroneously regarded as a case of rheumatoid arthritis. The patient's attention was specially directed to the progressive enlargement of his hands by his having so frequently to provide himself with larger sized gloves. The subsequent appearance of changes in the face, feet and bony skeleton, with the facial physiognomy and other symptoms indicative of acromegaly left no doubt as to the diagnosis. But much still remains to be ascertained about the nature and pathology of this disease and the nature of its relation to the pituitary body

LECTURES AT THE MEDICAL GRADUATES COLLEGE AND POLYCLINIC

A SOMEWHAT novel scheme, and one which has *primâ facie* much to recommend it, is we are informed, in process of realisation at the Medical Graduates College and Polyclinic. The proposal is to have a long possibly interminable, course of lectures on medicine, surgery and their allied specialities in which every member of an association of lecturers shall take a subject to which he has given special attention. Thus it will constitute a sort of *vivâ voce* encyclopædia of which new and amended editions will be constantly appearing The lectures will be systematic as distinct from clinical and good summaries of up-to-date knowledge are desired rather than original views For the latter the college considers that it has already made ample provision. The arrangements for the first series of this course (to extend from October to Christmas) have been completed Sir William Broadbent is to lecture on the Pulse, Dr Patrick Manson on Dysentery and Sprue Dr Theodore Williams on Pulmonary Tuberculosis Dr Seymour Taylor on Enteric Fever Dr James Taylor on Tabes, Dr Judson Bury on Peripheral Neuritis, Mr James Cantlie on Plague, Mr C B Keetley on Coxa Vara, Mr J Hutchinson on Syphilis, and Dr T Colcott Fox on Lupus. The fee for the course of 22 lectures will be one guinea and the council has decided to reserve a certain number of tickets for women practitioners who will be admitted also to certain other lectures given in the college. There will now be a lecture on some subject every afternoon except Saturdays at 5.30 P M. The council has under consideration the practicability of admitting fifth year students also to these lectures Members of the college are of course free, but neither students nor ladies are eligible as members.

HELP FOR THE WOUNDED IN NAVAL WARFARE

IN order to meet the requirements of the wounded in naval battles, which in his opinion are perhaps now nigh at hand Dr Duclot of the French navy suggests in the *Archives de Médecine Navale* for August last, that dressing bags should be served out before the decks are cleared for action, the care of them being entrusted to trained men if possible, but should none be available, to responsible warrant or non-commissioned officers. 'Five minutes of explanation and demonstration would suffice, he thinks to render these men, usually so handy, well nigh as skilful as he is himself in the application of the appliances and dressings Under the conditions of modern warfare it will be quite as impossible for medical officers to continue to visit the different parts of the ship during the heat of an engagement as it will be to convey the wounded to the hospital The definitive treatment of the wounded must necessarily be postponed until hostilities are ended or suspended, but if the means of affording first aid could be made immediately available it is certain that a great many valuable lives would be saved and also that the wounded men, when at last they came under the surgeon's hands would be in a far more favourable condition to undergo operations than if their injuries had remained unattended for a considerable period of time. Dr Duclot gives a list of the articles which he thinks should be provided in each dressing bag and adds Everything which enters into the composition of our modest ambulance-sack is to be found on board a man-of war A few days should suffice for the construction of the cases under the orders of the commander as well as for the teaching of all concerned by the medical officer and that without occasioning the expenditure of a single centime."

THE borough council of Lambeth at its meeting held on Sept 18th unanimously voted to the medical officer of health, Dr J Priestley an honorarium of 100 guineas in recognition of the energy and skill displayed by him in dealing with the epidemic of small pox within the borough of Lambeth.

A complimentary dinner to Professor W Erb of Heidelberg to be given by the medical staff of the West London Hospital will be held at the Trocadéro Restaurant on Saturday Oct. 11th at 7 30 P M Dr Donald W C Hood, C V O will be in the chair

THE testimonial to Mr Edmund Owen subscribed for by past and present students of St Mary's Hospital will be presented on the occasion of the annual dinner to be held at the Whitehall Rooms Hôtel Métropole, on Friday Oct 3rd

SLEEPING SICKNESS IN PRINCE'S ISLAND AND THE PROVINCE OF ANGOLA

THE following is an abstract of the report of the Portuguese Commission on Sleeping-sickness (Sleeping Dropsy African Lethargy Negro Lethargy) in the Ilha do Principe (Prince's Island) and the Province of Angola (1901)

Sleeping sickness is supposed to have been imported from Gaboon by the slaves who were brought from that country to the regions above mentioned before 1799 and who, by marriage with the people of Angola, originated the inhabitants of Prince's Island. Before 1887 there were but few cases of this disease and the increase of it in the last few years is doubtless due to the great importation of coolies from the infected parts of the West Coast of Africa, for many of them are suffering from the disease when they land and these have had every opportunity of infecting their companions, accommodation on board ship being as bad as possible.

In the island the exciting causes of the disease appear to be defective nourishment, excessive labour and want of hygienic care in clothing and lodgings Alcoholic excess and smoking of *liamba* cannot be causes because neither is possible

All the negroes of either sex and any race who come to the island are liable to be attacked, except children under three years of age and old people, but there are very few old people. The season of the year and the place of abode make no difference in the spread of the disease which attacks about 2 6 per cent. of the negroes in infected stations. A case is detailed from which it appears that the disease may be contagious to those who eat together and these people eat from the same bowl with their fingers and lick their fingers. Wives and children do not eat together with their husbands and fathers

No facts could be ascertained about the period of incubation The onset may be sudden and marked by furious delirium, with sometimes homicidal tendencies but commonly there is a prodromal period of general malaise weakness of the lower limbs loss of appetite, incapacity for work in normally active persons, and finally somnolence these symptoms are accompanied by spinal pains and occipital headache. Impotence in males and amenorrhœa in females are constant early symptoms. As to the duration of the disease, cases of speedy death were heard of but could not be verified, as a rule, those attacked do not die within 20 days and the average duration is two or three months, though some cases outlive a year. The average death rate of the island in 1900 was 175·4 per 1000—i.e., 67·4 per 1000 of Europeans and 179·6 per 1000 among the blacks, out of 821 blacks who died in the year 48 deaths were owing to sleeping sickness, but this proportion is probably much too low, the causes of death being carelessly tabulated.

The symptoms of sleeping sickness are notable disturbances of the lymphatic, nervous, and circulatory systems and of temperature. There is always as an early symptom congestion of the lymphatic glands, sometimes local in the mylo-hyoid or anterior or posterior cervical regions, but sometimes general throughout the body. These enlarged glands are variable in size, indolent, non adherent, moveable under the skin, hard, and with no tendency to suppuration or changes in the superjacent skin, the intermediate lymphatic vessels are rarely congested. Sensibility to touch remains unchanged until the final stage of complete lethargy. Sensitiveness to pain is also unchanged except that it is sometimes increased. The power of distinguishing between heat and cold remains, though sometimes dulled in the lower extremities. Muscular sensation and consciousness of passive movements remain perfect. There are no subjective disturbances of sensibility beyond the general cutaneous pruritus on the trunk and limbs which seems to be independent of whatever eruptions may appear through mechanical irritation or infection. Patients do not complain of formication, numbness of the limbs, or lightning or other pains, except of headache, which is transitory and not severe. There is no important disturbance of the senses, they hear, smell, and taste up to the last moment. Vision is preserved, but those who can read complain that their eyes are soon tired so that the letters dance, but this trouble disappears after rest and is not due to any fault of refraction.

The superficial and deep reflexes show different modifications according to the period and form of the disease. When signs of nervous depression do not accompany the commencement of the disease, as was observed in one case in which everything was an excuse for laughter and other signs of noisy joy, the reflexes are increased. Later, in spite of profound mental depression, somnolence, and want of power to rise from the bed, the reflexes may remain exaggerated, accompanied by muscular atonicity, and a kind of contractions which are comparatively easily overcome and allow of active and passive movements of the limbs. Absence or marked diminution of the cremaster reflex accompanies the loss of power of erection. The Argyll Robertson sign was not observed in any case. The reaction of the iris to light remains normal up to advanced stages of the disease, in these stages the pupils are in general dilated, reacting sluggishly to light, and after a series of slight contractions of the sphincter returning to the former degree of dilatation, although still exposed to the light. The conjunctival reflexes are retained up to the end.

In all the patients there were muscular tremors, which were generally slight and of slow rhythm and did not appear at the very commencement of the disease. At first these were merely contractions of isolated fibres, now in one muscle, now in another, which caused no movement of the limbs, these became a little more marked, causing contractions of the whole of some one muscle, with slight tendinous jerks, which could be seen and were easily felt, finally, these tremors became definitely established and produced rhythmic oscillations of the limbs, trunk, and at last of the face, the intensity varying during the day. The fingers did not show the slight individual tremor of alcoholic subjects. The tongue was sometimes the seat of fibrous contraction, quite visible when it was put out. The extrinsic muscles of the eyes were sometimes affected by these muscular tremors and the globe of the eye occasionally showed oscillatory movements. These tremors ceased in the final stages.

In the early phases of the disease all movements were possible and coördinated. The patients walked and could even run with ease, and execute delicate movements well, such as tying and untying their shirts, but were soon tired, especially in the lower limbs. Gradually walking became slower and more difficult, till at last they could not walk or even stand. Romberg's symptom was never present. There was no paralysis even when the patients could not leave their beds.

There were no convulsions or marked contractions, but sometimes rigidity of the nape of the neck, which was easily overcome, and, to some extent, hypertonicity of the muscles of the limbs which produced to the touch a sensation of hardness of the muscles, though it did not interfere with active or passive movements, in these cases pressure of the muscles caused pain. There was no pain on pressure of the nerves in any part of their course. There was no atrophy of the muscles, excepting in the final stages, when bed sores were formed. The somnolence might be overcome at first but later became irresistible so that patients fell asleep with their mouths full of food. The frequency of the fits of somnolence did not increase regularly, there were days together when this symptom was exaggerated and then other periods when it was less marked but these intervals became shorter and rarer as the disease progressed, until at last the sleep was almost continuous but not so deep that the patients could not be roused pretty easily, though they quickly relapsed into torpor when left in quiet. The eyes had a less lively expression and the upper eyelids drooped slightly. The sleepy state before death resembled the coma which precedes death in many debilitating diseases. One patient became furious if hindered in some stupid action, another was melancholy and continually crying, whilst a third was unnaturally and foolishly hilarious and then suffered a period of torpor and deep cerebral asthenia. In the early stages there was no marked mental change, but later there was remarkable depression of mind. Even up to the final stages patients understood questions perfectly and answered them correctly, but the answers were morose and in advanced cases reduced to a few words or even to one. (The surviving patients in Lisbon, however, smiled on being roused and spoken to and were pleased at a present of a cigarette.)

The memory was but slightly affected if at all. Volition was evidently influenced by the somnolence, as that increased, the energy for acts of volition diminished, and was finally almost *nil*. Patients had progressively increasing difficulty in concentrating their attention on what they were doing. The two patients who were more enlightened than the rest—one a mulatto and the other a black—stated that reading, writing, and other intellectual occupations became difficult to them because of the rapid fatigue of the brain and of the somnolence which this easily induced. There was no real interference with speaking or writing, no paraphasia, jargonphasia, or any other important change, but speech might be somewhat tremulous when the tremors were intense.

Diminution of arterial tension was a constant and very early symptom, in some cases tension became so low that Potain's sphygmo manometer would not record it. The pulse was at first small but equal, rhythmic and of normal frequency, but later it became unequal, usually fast, and at last irregular and thready. There was no arterio sclerosis. No abnormal heart sounds were heard and the most common modification of the normal sounds was diminution of intensity of the first over the mitral and tricuspid valves, at times the second pulmonary sound was more accentuated than the second aortic. In the advanced stages there was generally tachycardia with more or less marked embryocardia. The percentage of hæmoglobin in the blood was always diminished, ranging between 8·19 per cent. and 10 per cent. No abnormal forms of the red or white corpuscles could be distinguished. In no case was the filaria perstans found which Manson discovered in several cases.

There is no regular variation of temperature in this disease, the temperature may rise (generally in the evening) from time to time to 100·5° or 102° F. At the approach of death either the temperature rises to 104° or higher, or more often it sinks as low as 77°. In the only case of which a chart is given in the report the morning temperature fell to 77° two days before death, rose steadily to 84° the next evening, and fell again to 81° the next morning, when the patient died. In this case the temperature had not reached the normal for 15 days and had steadily fallen from 93° for eight days before death. In some cases pulmonary hepatization with rise of temperature occurred. The respiratory rhythm is usually maintained unchanged until the end even when the heart becomes irregular, but in the cases where the temperature falls in the marked way described above two or three respirations are followed by prolonged pauses. In general there is no disproportion between the pulse and the respirations.

There is no running at the nose or other symptom of morbid change in the pituitary mucous membrane nor are there any lesions of the pharynx, gums or teeth except occasionally slight mucous inflammation in cases with malarial taint The tongue is always somewhat coated but moist the tonsils are not enlarged and there is no profuse salivation. Occasionally in young children one-sided parotitis appears without fever or salivation The patients have a good appetite until the end, they do not suffer from vomiting or nausea; but there may be sometimes diarrhœa or even dysenteric symptoms but these are common in those latitudes independently of this disease At times in young patients gastro-intestinal tympanites is marked but on the other hand the abdomen may be depressed and hollow as in cases of meningitis The liver is never diminished but sometimes increased in size—always when the spleen is enlarged—and the surface of the liver is smooth to the touch. No biliary pigment is found in the urine though there may be icteric colouring of the mucous membranes The spleen is frequently enlarged to beyond the edge of the ribs but is moveable and not painful. The urine almost always contains a slight amount of albumin and casts may be found in the sediment as well as urobilin in excess. Quantitative analysis of the urine could not be made owing to disobedience of the patients. In some cases there was an appreciable diminution of urea and phosphates with a low specific gravity but no notable polyuria. Emaciation is very marked as the disease progresses to its end

The most important fact revealed in the necropsies was the constant presence of infra arachnoid exudation and in consequence increase in quantity of the cephalo-rachidian fluid in the ventricles and subserous spaces, which in cases that had a rapid course assumed quite remarkable proportions This fluid was never transparent but more or less turbid though not purulent. This exudation was evidently owing to a meningo-pia arachnoid inflammation variable in intensity and rapidity of progress. The arachnoid was slightly and unequally thickened cloudy or opalescent in some parts the pia mater was congested but not uniformly These lesions predominated always on the convexity of the hemispheres and especially from the posterior third of the first convolution to the occipital extremity of the brain and more markedly at the level of the paracentral lobes. In the cerebellum these lesions were chiefly found on the monticulus cerebelli. This localisation was more evident in the cases where the progress of the disease had been slow the inflammation extended then to the dura mater and there resulted adhesions of this to the subjacent meninges sometimes difficult to remove and when removed there remained yellowish mammillated irregular patches more or less large which were foci of secondary pachymeningitis There were no adhesions of the pia mater to the cerebral substance. On the lower surface of the cerebrum and cerebellum the cephalo-rachidian fluid, thus modified in appearance and transparency naturally accumulated in the sub-arachnoid spaces and on the anterior surface of the bulb and pons Varolii. On cutting into the brain in cases in which the meningeal congestion was more marked and the exudation sanguinolent punctiform hæmorrhages were found in the white matter but of no great extent. In the ventricles there was an increased quantity of fluid of the same character as that which accumulated on the convexity of the hemispheres. Only once were adhesions of the ependyma observed in the left lateral ventricle a little above the foramen of Monro The central ganglia in general retained their normal consistency only in one case in which all the cerebral substance was softened, the optic thalami and corpora striata were also softened. In another body on the internal aspect of the left optic sheath a small yellowish zone of diminished consistency was noticed The grey commissure was with one exception always decidedly thickened. In the cerebellum beyond the predominance of inflammation in the superior vermiform process no pathological change was visible to the naked eye, except in one case which showed in the right hemisphere general diffluence in all the central white matter On opening the rachidian canal there was frequently observed meningeal congestion, always more marked in the pia mater and in it generally predominating in the lower half of the medulla. The cephalo-rachidian fluid always of the same character as that which was found in the brain, constantly accumulated in the sub-arachnoid space at the level of the terminal portion of the medulla and the cauda equina. In one body, besides these usual pathological changes, there was general cysticercosis, a large number of cysts being found in the substance of the encephalon, and in the jejunum a very thin tænia.

The only fairly constant morbid changes in the heart were the yellowish colour of the surface and thickening of the muscle. There were no signs of endocarditis and seldom lesions of the pericardium. Apart from old pleuritic adhesions there was mostly nothing abnormal in the respiratory organs but in two cases extensive pulmonary infiltration had produced long areas of red hepatisation, another case was complicated with pulmonary tuberculosis Congestion of the tracheo-bronchial glands was frequent The spleen sometimes enlarged sometimes diminished was always of a lead colour, slightly tinged with purple occasionally with whitish yellow zones more or less extensive over the convex surface, due to perisplenitis. The organ was smooth on its surface and its consistency was generally increased and on section its substance was not diffluent and the structure of the organ could be seen. The liver was sometimes increased in size but otherwise was normal, and seldom showed signs of circumscribed perihepatitis The gall bladder was always full of dark green (occasionally almost black) bile there was no catarrh or other obstruction in the ducts. The kidneys sometimes showed signs of congestion and even of slight inflammation. There was no perinephritis the capsules being always easily detached. The abdominal lymphatic glands were generally congested.

Microscopic sections were cut chiefly from those parts of the surface of the brain over which the meninges were most thickened from the pons Varolii, medulla oblongata, and cervical dorsal and lumbar cord and from the upper vermiform process the corpus striatum and optic thalamus In general the infiltration of leucocytes in the meninges of the pia mater and arachnoid was intense, and more pronounced in the curves of the vessels of the pia mater and of those which penetrate into the nervous substance and the vascular walls were often found considerably thickened and surrounded by round cells in the white matter of the cerebrum and medulla oblongata. This infiltration was also remarkable in the grey matter of the centres and was more or less diffused or intense the round cells being accumulated in some cases round the nerve cells, above or near the great pyramids of the cerebellum where the form was not infrequently modified by the vicinage of three or four small round cells (with strongly coloured nuclei) which rested on them hollowing out a depression in the edges of the nerve-cell on which they were lodged Alterations of this character were observed in the sections of the paracentral lobe. These spherical cellular corpuscles were found scattered in the white matter but far less abundantly and disappeared altogether in the deep layers of certain cerebral regions. When in cases of long standing the inflammation spread to the dura mater adhesions were formed between it and the subjacent meninges and connective tissue of new formation but sufficiently vascularised was found this formed the composition of certain mulberry like productions which were met with on the upper border of the hemispheres Nothing certain and special could be found out about minute cytological changes Alongside cells which preserved the normal arrangement and aspect of the nucleus nucleolus and chromophil corpuscles of Nissl were seen other cells the outlines of which were always clear but the diffused colouration of the protoplasm did not permit the aforesaid granulations to be distinguished. In others again, these granules were decidedly reduced in size and their colouration did not show the intensity which it had in normal cells The general appearance of the majority of the nerve cells did not indicate grave lesions of those elements

The search for micro-organisms gave in one respect important results. The diplo-streptococcus existed in considerable quantities in the vessels of the pia mater in the cerebral and medullary capillaries, in the lymphatic sheaths of the vessels and also in the intra-cellular nerve-substance In a bronchial gland extracted from the same body there were numerous diplo-streptococci these were the only micro-organisms constantly disclosed by the investigations made ante and *post mortem* In the preparations made with the cephalo-rachidian fluid obtained by lumbar puncture with the juice of the engorged glands extracted during life or at the necropsy and with the meningeal exudation, micro-organisms were found arranging themselves in pairs more or less rounded, at times slightly elliptical, but in general hemispherical and with their flat sides facing one another, so that they resembled the coccus of Neisser and the diplococcus intracellularis meningitidis of Weichselbaum Almost always there was seen round them an aureola clear and thin but distinctly perceptible These forms of diplococci were commonly observed in the cephalo rachidian fluid and in the glands examined during life, but were then so rare that only two or three could be found on a slide by very careful examination In the meningeal exudation these diplococci were as a rule the only bacteria which could be observed, but occasionally in necropsies made 10 or 12 hours after death many of the diplococci were seen to be arranged in chains of two, four, eight, or sometimes more. In the exudations collected from fresh bodies the microbes were at first exclusively arranged in pairs, but after they had been kept from 20 to 24 hours in the stove at from 35° to 37° C they presented numerous diplo-streptococcic forms, evidently developed in the pathological product outside the organism. In most cases the micro-organisms were found free in the exudation, rarely some existed in the interior of the protoplasm and even in the nuclei, of the leucocytes, or in the endothelial cells of the coverings of the brain. They measured from 1 5μ to 2μ, each element measuring one-half of this The diplococci are generally much more frequent in the cerebral exudation than in the cephalo-rachidian fluid, but the proportions may be equal. They were easily coloured with different aniline dyes, they were not easily cultivated, but the fluid proposed by Martin for the cultivation of Löffler's bacillus and obtained by maceration of a pig's stomach, or still better a mixture of ascitic fluid and meat-broth in equal quantities, gave good results In the fluid medium containing peritoneal transudation, after from 18 to 24 hours at from 35° to 37° C, a slight development was shown by light and uniform turbidity, this turbidity increased steadily but never attained great intensity, at the end of four or five days there was a slight sediment of bacteria in the bottom of the receptacle and the liquid often became limpid. In the above solid medium there appeared very small colonies, rounded or oval, greyish white, fairly translucent, slightly salient and somewhat bright on the surface, their growth ceased on the third or fourth day, at which time they did not exceed from 0 2 millimetre to 0 3 millimetre, seen through the microscope under a low power they showed themselves at first to be composed of very tiny granulations and their contours were not very bright, later, two zones, one central and dark, the other peripheral and clearer, might easily be distinguished in them. Gelatin cultures were not successful This diplo-streptococcus had no great pathogenic effect on animals, if injected into the peritoneal cavity of guinea pigs or into the pectoral muscle of pigeons, even in large doses of fresh cultivations, no morbid symptoms appeared, but rabbits and mice were sensitive to it, in the former, subcutaneous injections were occasionally fatal, intravenous injections were more certain, for from one to two cubic centimetres of a cultivation 24 or 48 hours' old in liquid ascitic media caused death in a time varying from two to seven days, the micro-organisms inoculated being found in greater or less abundance in the blood and spleen. In mice doses of from 0 5 to one cubic centimetre of the culture or a few drops of the meningeal exudation injected under the skin caused death through septicæmia in from two to four days The spleens of the animals which died from this injection preserved normal dimensions and consistency, renal congestion in the rabbits which resisted the disease the longest was the only visible morbid change.

The investigations intended to clear up the etiology of the sleeping disease were made with the cephalo-rachidian fluid obtained by lumbar puncture, with lymphatic glands extracted during life or after death, with blood aspirated from the veins by a sterilised syringe, and with the meningeal exudation after death. Lumbar puncture was performed nine times and in six cases the above-described bacteria were found On three occasions glands were extracted during life and in two cases these bacteria were present The blood of four patients was examined, having been drawn off with a Debove's syringe after careful disinfection of the skin, in two cases there were no streptococci, in a third a diplo-streptococcus was found exactly answering to the above description, the fourth specimen was spoilt. In the meningeal exudation of the dead body this diplo-streptococcus was found in all the 13 cases which were examined These bacteria were named diplo streptococci because they resembled Fraenkel's diplococcus and also the streptococcus, and cannot be identified with either of these groups, which, however, are closely allied. Possibly this diplo streptococcus of the sleeping-disease may be a type of transition between Fraenkel's microbe and the streptococcus

The Commission came to the conclusion that the sleeping-disease when fully developed was a form of meningo-cephalitis and that treatment would be difficult, but might be possible in the early stages by medical remedies or surgical intervention It considered also that the isolation of the microbe might suggest a rational prophylaxis, but that the low state of civilisation of the patients and their ways of life and racial habits would make it difficult to insist on any suitable hygienic precautions in the native villages, but that in farms and industrial establishments such precautions could be more easily enforced

The report is dated from Loanda, August 10th, 1901.

The treatment of this disease in Lisbon was not very successful, for of 28 cases brought to that town by the Commission only five survived after 10 months and they were still suffering from the disease

Dr Patrick Manson says that this disease is confined to western equatorial Africa, between the valley of the Senegal on the north and that of the Congo on the south, and that it extends far into the interior of the continent, being especially prevalent in the districts of Baol and Sin on the coast of Senegambia and on the Lower Congo He adduces a case in which the disease was developed three years after removal from an infected district Natives say that it may appear after an interval of seven years Negroes over 40 years of age are exempt, but they seldom live so long One European, a Moor, and a mulatto are said to have suffered from this disease Dr Manson mentions among the symptoms of the disease enormous bed sores, choreiform movements in groups of muscles, spasm of the pharyngeal muscles rendering swallowing difficult, and rigidity of the sterno mastoid or of the extensors of the neck. He says that insanity is observed in 10 per cent of the cases from the Congo and that dulling of the sense of touch in limited patches or larger areas is often noticeable and that papulo-vesicular eruptions, especially over the front of the chest, and pustules on the face, as well as cutis anserina, were common symptoms On the authority of a missionary he mentions that the hair becomes lighter and reddish before the disease develops itself The natives believe that the saliva when thick and glutinous conveys infection. He found filaria perstans in six out of 10 cases He adduces theoretical reasons for ascribing the disease to a lesion of the pituitary gland Dr Manson says that hypodermic injections of testicular extract have been found efficacious and on lay authority that large doses of liquor arsenicalis may cure in the early stage.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE British Association met this year at Belfast from Sept 10th to 17th, under the presidency of Professor J DEWAR. The proceedings opened with the Presidential Address by Professor DEWAR, an abstract of which will be found in THE LANCET of Sept 13th, p 723 The scientific work of the association was carried on in 11 sections and the quality of the papers was well up to the standard of former years

The address in Physiology was given by Professor W D HALLIBURTON It will be found in THE LANCET of Sept. 20th, p 787

Dr W A. OSBORNE then read a paper on the Hydrolysis of Glycogen The researches were carried out with Mr S ZOBEL Glycogen when hydrolysed by a diastatic ferment gave rise to bodies very similar to those derived from starch Glycogen when acted upon by saliva gave rise to dextrine, maltose, and dextrose

Dr W PAGE MAY read a paper on the Innervation and Movements of the Stomach He showed that stimulation of any sensory nerve or mental excitement produced diminution or cessation of the movements of the stomach and that this was brought about through the vagi, which being stimulated produced first inhibition and then increase of the gastric movements. He showed that stimulation of the splanchnic nerves produced only spurious results and had *no direct* influence on the movements of the stomach or its muscular tone This result differed from those of previous observers

Dr F W EDRIDGE GREEN read a paper on the Functions of the Rods and Cones of the Retina. He claimed to have proved that the rods and cones had entirely different functions. He had found on examining the retinas of monkeys kept in a dark room for 24 hours previously to the excision of their eyes that the yellow spot, instead of being *free from* visual purple, was the reddest part of the whole retina. This purple was around, not in, the cones. He believed that light acting upon the retina liberated the visual purple from the rods and a photograph was formed the cones and optic nerve fibres conveying the impression to the brain According to this theory the cones were only sensitive to chemical changes in the visual purple and not to light itself.

Professor E A. SCHÄFER read a paper on the Diuretic Action of Pituitary Extracts. His experiments appeared to indicate that the diuretic action was not confined to extracts obtained from the infundibular part, but was also shown by extracts both watery and alcoholic, from the hypophyseal, that was, the epithelial part of the body It was interesting to learn from clinical observers that diuresis was sometimes a very marked symptom in acromegaly a disease associated with enlargement of the pituitary body and cases were sent to the hospital as diabetes.

Professor SCHÄFER then read another paper on the Relative Effects of Section of the Pyramidal Tracts and Anterior Columns in the Monkey Dr CECIL SHAW showed a rare case of Paralysis of Convergence probably of cerebral origin in a boy aged nine years Other papers read in this section were Dr C S. MYERS Determination of the Least Perceptible Tone Difference among the People of the Torres Straits and of Scotland. Dr J TURNER Some New Features in the Intimate Structure of the Cerebral Cortex. Dr PAGE MAY The Nervous System of the Camel Professor HALLIBURTON and Dr. F W MOTT Nerve Regeneration Mr J BARCROFT The Estimation of Urea in Physiological Fluids Professor J SYMINGTON and Dr CECIL SHAW A demonstration of Edinger's Apparatus for Higher Magnification and Stronger Light. Dr W A. OSBORNE The Pigments of Ox Bile. Professor F GOTCH The Indefatigability of Medullated Nerve

Professor D J CUNNINGHAM read a very interesting paper in the section for Anthropology on Cornelius Magrath, the Irish giant to which we refer elsewhere.

In the Geographical Section Mr J MILNE, F R S read a paper on World shaking Earthquakes. He showed how the position of the earthquake was localised. The results of his investigations showed that where there was the deepest water there were the worst earthquakes as, for instance, off the coast of Japan. In any part of the world, if they got an average slope of 1 in 20, they might look out for earthquakes, but where there was a gentle slope there were no earthquakes The cooling of the earth was going on every day and the result was that the outer portion folded and earthquakes occurred.

In the Mathematical and Physical Section a paper was read by Lord KELVIN on an Animal Thermostat and by Dr EDRIDGE-GREEN on the Physical Aspects of a Theory of Colour Vision.

The lectures were given by Professor J J THOMSON on Becquerel Rays and Radio-Activity and by Professor W F WELDON on Inheritance. Professor Weldon said that it was the business of a student of inheritance to find out how much they could infer about the characters of a group of animals or plants from a knowledge of their ancestry There were certain limits to the knowledge of animals or plants which they could obtain from a study of their ancestry but a study of ancestry alone neglected a whole class of circumstances on which the characters of an animal or plant depended. Every character of a living organism was determined partly by the constitution of the germ from which it was developed which contained characters transmitted to it from its ancestors, and partly by the conditions of the environment in which that development took place. Some very interesting illustrations of the effect of environment were shown, as, for instance the arrest of development of a spine in a certain species of daphnia when partially poisoned by its own excrement.

THE BELGIAN CONGRESS OF SURGERY

THIS Congress was opened on Monday morning Sept. 8th, at the Palais des Académies in Brussels. A reception was held on the previous evening at the Hôtel Métropole to welcome the foreign surgeons who had accepted the invitation of the organising committee and to introduce them to their Belgian *confreres*.

On Monday Dr CHARLES WILLEMS of Ghent, President of the Congress, supported by Dr KUFFERATH and Dr VAN HASSELL, Vice-Presidents, and Dr VERNEUIL, the general secretary pronounced the Congress open. After having thanked the foreign surgeons for leaving each his own country although science was a country common to them all, to be present at the meeting and having wished them a hearty welcome he proceeded to discuss the relations which existed between medicine and surgery at the present time Formerly Dr Willems said, it was admitted by everyone that the intervention of surgery was far less frequent than now The physician in the treatment of his cases awarded to surgery quite a *secondary* place Surgery moreover at that period held a position relatively unimportant compared to that which it occupied to-day As a matter of fact, the practice of medicine was now more fraught with peril than it was in former times, for since operative interference was able to succour so many patients who formerly had to be abandoned to their fate the physician ought to feel that a heavy responsibility rested upon him. He must be in no doubt, he must be alert, he must not remain impassive when the opportune moment arrived which would permit surgical interference to rescue from death a human being And the indications for operation were all important to him to know It had devolved upon the surgeon very largely at the present day to point out the way to the physician, although there were of the latter many who recognised with exactitude the indications for operation and who were on this account themselves surgeons although they did not wield the knife. But, nevertheless, speaking broadly medicine and surgery still were separated too widely and kept too distinct by reason chiefly of the methods by which they were taught. Each teacher isolated his course of instruction as if his subject were a separate entity—alongside others but not actually in contact with them. The influence of this method often had a deleterious effect upon a student throughout his life. The invasion of medical treatment by surgery which had taken place in so notable a degree within the last few decades clearly demonstrated after the great discoveries of Pasteur and Lister which inaugurated the development of modern surgery that a mission was imposed upon surgeons to popularise the idea of how vast importance might be the indications for surgical interference in the treatment of maladies in general.

The Congress then proceeded to the discussion of the subject for the day—that of the Treatment of Appendicitis Dr BROCA (Paris) in conjunction with Dr GALLET (Brussels) presented a paper dealing with their experience of the disease, strongly expressing a preference for operating wherever possible during a quiescent period and not during an acute attack. The paper that excited the greatest interest was that of Dr SONNENBERG of Berlin who gave the results of 1200 operations that he had performed within the last 12 years at the Moabit Hospital Berlin. He laid great stress upon the importance of observations upon the augmentation of the white blood corpuscles (leucocytosis) which bore a remarkable relation to the gravity of the lesions in appendicitis and to the reaction of the peritoneum. In many conditions leucocytosis afforded a diagnostic element of great importance more trustworthy than the pulse and temperature as an indication when to operate. Dr Sonnenberg with Dr Broca advocated operating during a quiescent period whenever possible.—Dr SOREL (Havre) took the opposite view advocating operative intervention within the first 12 or 24 hours.—In the afternoon the discussion was continued by other speakers.

Nearly 100 surgeons had assembled and almost every country in Europe was represented. In the evening the President and Madame Willems gave a musical soirée at the Hotel Mengelle where, under the influence of their genial hospitality a very enjoyable evening was spent.

On Tuesday morning the question under consideration was the Treatment of Fractures of the Limbs. Various methods of treatment were demonstrated, the principal speakers being Dr TUFFIER (Paris), Dr HANNECART (Brussels), and Dr ROTHSCHILD (Frankfort) —In the afternoon the Congress proceeded to discuss the project of the foundation of an International Society of Surgery In setting forth this project Dr WILLEMS, after referring in appropriate terms to the late illustrious Virchow, pointed out the need and utility of such a society formed exclusively of those practising surgery It would have for its work the study of some of those great questions which could only be adequately advanced by the harmonious concurrence of many workers, such as the study of new operative measures in the treatment of cancer for example This proposal was approved by Dr Sonnenberg, Dr Berger, and others, and the principle of the foundation of such an international society of surgery was adopted with unanimity A provisional committee was thus constituted Dr Broca (France), Dr Sonnenberg (Germany), Mr Reginald Harrison (England), Mr Macewen (Scotland), Dr Gussembauer (Austria), Dr Dollinger (Hungary), Dr Giordano (Italy), Dr Jacques Reverdin (Switzerland), Dr de Isla (Spain), Dr Bloch (Denmark), Dr Roswell Park (United States), Dr C Willems (Belgium), Dr Djemil Pacha (Turkey), and Dr Welliaminoff (Russia), &c

The members of the Congress dined together at the Restaurant de la Monnaie in the evening with Dr Willems in the chair, and a very pleasant evening was passed, great cordiality prevailing

Wednesday morning was given up to the discussion of Asepsis and Antisepsis in Relation to Operations, after which the President declared the session closed.

THE ETIOLOGY AND PROPHYLAXIS OF ENTERIC FEVER IN ARMIES ON FIELD SERVICE

THE author of a recently published German work[1] on this important subject sums up his views as follows —

1. During the last 40 years the most frequently observed and most widespread epidemic manifestation in time of war has been typhoid fever

2. Typhoid fever is due to the bacillus of Eberth, which was cultivated in a pure state for the first time by Gaffky, and of which the specific nature was demonstrated by the reaction of Pfeiffer, the method of Widal, and the possibility of obtaining the immunisation of the human organism by sterilised cultures.

3 It is principally in the human body that the bacilli of Eberth find their field of growth , they leave it either with the intestinal evacuations or in the urine

4 The transmission of the affection often takes place through association with patients , it occurs notably amongst those who give their services to them. The contagion also attaches itself to linen, clothing, and the articles provided for the use of the patients.

5 Epidemics of typhoid fever originate for the most part in consequence of the transmission to a large number of persons of the bacilli derived from patients affected with the disease The propagation of the germ is most frequently accomplished by means of water , sometimes also by means of food which has been soiled by the dejections of the patient. The germs of the affection are also capable of being contracted in the dwellings and in the latrines that have been frequented by patients The contamination of the surface of the ground contributes likewise to the spread of the disease

6 The outbreak of epidemics of typhoid fever is favoured by default in local hygienic measures

7 The young are particularly predisposed to contract the disease. An organism healthy and vigorous, hardened by exercise, possesses nevertheless the power of resistance in a marked degree

8 Epidemics of typhoid fever among armies in the field have often had as point of departure the manifestation of a few cases of the disease which were already implanted among the troops before the war, or which may have shown themselves among the detachments destined for reinforcement during the campaign

9 In consequence of the great prevalence of typhoid fever among civil populations, armies in the field are as much exposed to the contagion in their own country as in that of the enemy

10 An army in the field becomes liable to contagion from the moment that the disease makes its appearance among the enemy The contagion operates chiefly through the occupation of camps and cantonments which have been abandoned by them and also by means of the prisoners of war

11. The dissemination of the imported disease is favoured in armies on service by the concentration of troops, by over fatigue, and by insufficient nourishment, as well as by the difficulty, sometimes the impossibility, of applying the rules of general hygiene, including the measures of special prophylaxis suitable during an epidemic

12 The struggle against the disease is nowadays rendered more easy by the greater knowledge of its mode of extension that is being acquired

13 In order to protect troops in the field in an efficacious manner against epidemics of typhoid fever, it is of the first importance that fractions of already infected corps should not be allowed to enter into the composition of the army , and that bodies of men with sickness among them, or even suspected thereof, should not be incorporated with the troops in reserve. It becomes more easy to eliminate such dangerous elements when it is known that typhoid fever is prevalent in the localities whence they are derived.

14 For this reason, and also to prevent the introduction of germs from the civil population into the place where mobilisation is being carried out, it is necessary that the superior military authority should be informed, even in time of peace, regarding the localities where typhoid fever exists

15 When war breaks out military medical officers specially trained in questions of hygiene should be sent in advance to the place where the concentration of the troops is to be carried on It should be the duty of these officers to come to an understanding with local authorities, and also with the medical men practising in the district, in order that they may discover centres of typhoid fever and if possible render them innocuous When the troops arrive these officers should act in concert with the military authorities, as well as with the medical officers accompanying the various sections

16 On arrival in an enemy's country it is the duty of medical officers to inform themselves regarding the hygienic condition of the localities where camps are established, and to communicate their information to the military authorities who in their turn should communicate any important details that may have come to their knowledge

17 All communication between the troops and civilian patients suffering from typhoid fever should be avoided The sources of water supply which are susceptible of contamination should be guarded , and in like manner the use of all articles of food which have been exposed to the risk of soiling should be interdicted It is necessary to take every precaution in order that the contagion emanating from patients should not be spread abroad out of doors

18 Prisoners of war should be removed as soon as possible from the districts occupied by an army in the field The sufferers from typhoid fever among the prisoners of war should be treated in the same manner as those belonging to the army

19 The best protection against such germs of the disease as may have escaped immunisation on dispersal is a strict observance of the rules of hygiene

20 Cantonments, camps, and bivouacs should not be overcrowded a strict supervision of cleanliness, especially as regards the removal of night-soil, is essential.

21. Drinking water should only be taken from sources which are entirely free from suspicion If such sources are unattainable it is permissible to attempt purification from suspected germs by means of Chamberland or Berkefeld filters The simplest and most certain means is boiling In order to supply potable water in large quantity sterilisers on wheels might advantageously be used As soon as time and labour are available all existing water-sources should be improved and new ones of an irreproachable character established

22. Food supplies should be suitably protected from contamination kitchens should be adapted for cleanly cooking, which is a safeguard against noxious germs

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[1] Entstehung Verhütung und Bekämpfung des Typhus bei den im Felde stehenden Armeen Berlin: A. Hirschwald 1901 Pp 110.

23. As far as possible the troops should be saved from overwork and from intemperance.

24 In order that the struggle against typhoid fever in the army may be carried on it is necessary to search out any early cases of the disease and as far as possible to trace the contagion from them

25. Even in suspected cases isolation should be enforced and all measures adopted for the preservation of the hospital *personnel* Removal of the patients should be enjoined if possible they should be sent to the rear to isolation hospitals far from the theatre of operations

26. Troops which have occupied a cantonment where there have been cases of typhoid fever or which have been in more direct contact with them, should be isolated and placed under medical supervision until all risk of contagion has passed. In certain cases it may be permissible to inoculate a threatened corps against typhoid fever, as soon, that is, as a sure and practical method of immunisation shall have given practical proofs of its worth.

27 When a patient leaves a cantonment his clothes and and all articles made use of by him should be submitted to disinfection

28 Commanding officers should immediately be informed of the appearance of typhoid fever among the troops in order that they may assist the medical officers in their contest with the malady and prevent its extension among the other sections of the army

29 The same authorities should have at their disposal military medical officers who have been trained in practical hygiene and bacteriology and who are provided with all necessary means for conducting technical research. These medical officers should be especially instructed to seek out the points of penetration of the epidemic affection to superintend and to make technical examinations, and to prepare and to superintend prophylactic measures. It should be permissible to send them to threatened places in order that they may take part personally in the struggle against the disease

30 In order to fight successfully against typhoid fever in the field it is essential that practice should take place in time of peace with the same means and on the same scale as in war time.

Looking Back.

FROM

THE LANCET, *SATURDAY, SEPT* 25, 1824

Case of a young woman who has discharged and continues to discharge from her stomach, a number of Insects By WILLIAM PICKELLS, M B one of the Physicians to the Cork Dispensary &c.

This very extraordinary case is recorded in the last volume of the *Transactions of the Association of Fellows and Licentiates of the King and Queen s College of Physicians in Ireland* a very meritorious, valuable and spirited work and of which we shall take farther notice in some of our future numbers.

The subject of this singular case is Mary Riordan aged 28 years she is of marked sensibility and melancholic temperament, or she may be described as labouring under religious melancholy As the patient is still living and as her horrible affliction has not terminated we shall defer giving the whole of Dr Pickells detail to another opportunity – our present extracts however will be more than sufficient to point out to our readers the nature of this young woman s most appalling malady The first discharge of insects took place on the 22d of April 1822, and was preceded by a flow of blood from the mouth nose, and ears. The various insects which have been at different periods ejected from April 1822 to 1823, have been represented in the plates which accompany these *Transactions* Dr Pickells says

Of the larvæ of the beetle, *I am sure I considerably underrate* when I say that, independently of above a hundred evacuated *per annum* not less than *seven hundred* have been thrown up from the stomach at different times since the commencement of my attendance. My own reckoning during my personal attendance, gives upward of four hundred but in this calculation is not included the number thrown up during my absence of three months, a period marked by the expulsion from the stomach of such larvæ, almost daily in some instances, as reported to the amount of above thirty at a time. A great proportion were destroyed, from an anxiety to evade publicity Many too escaped immediately after having been vomited, by extricating themselves quickly from the vessel, and running into holes in the floor

Upwards of ninety were submitted to Dr Thompson s examination nearly all of which including two of the specimens of tenebrio molitor I saw myself thrown up at different times. The average size was about an inch many however, which I measured were an inch and a half in length, and four lines and a half in girth.

The larvæ of the dipterous insect, though voided only about seven or eight times, according to her account, came up almost literally in myriads. They were alive and moving None of those have been known to have been discharged within the last seven months.

The larvæ of the beetle were with few exceptions lively and vigorous in the extreme nor was it possible, without a feeling of horror to view them frisking along the bottom of the vessel in which they were preserved, occasionally expanding their jaws, and extending their denticulated feet or talons as their unfortunate victim used to call them. Some, which were apparently dead, revived upon exposure to heat

‘ Enclosed in empty pill boxes several lived upwards of a month. Mr Clear of this city has succeeded in preserving some of the earliest thrown up still alive, now after an interval of a year by keeping them in little pots filled with clay and so secured as not to exclude the air Some specimens of the larvæ of blaps, which I gave to Mr Clear when kept in flour were observed to be continually running to the surface as if impatient of their situation, and seemed not to thrive but when placed in clay, quickly buried themselves, and seemed to enjoy their native element." 209

Dr Pickells having been desirous to ascertain by what mode these insects or their ova, were introduced into the stomach the patient, in reply to his interrogatories stated, that

When she was about fifteen years of age, it appears that two much respected clergymen of her persuasion having died she was told by some old women that if she would drink daily during a certain period of time, a portion of water imbued with clay, taken from the graves of these clergymen she would be secured for ever against both disease and sin She accordingly walked to Kinsale, a distance of twelve miles, where one of the clergymen was interred and succeeded in bringing away an apron and pocket-handkerchief full of clay from his grave. To this she added, upon her return a handkerchief and some mugs full of clay obtained from the grave of the other clergyman, who was buried in this city Her practice was, to infuse water from time to time, according to the exigency in a vessel containing a proportion of clay so collected the mixture having been always allowed to rest until the grosser particles of clay fell to the bottom." 212.

We would, in conclusion merely hint to Dr PICKELLS, the necessity which often exists of taking particular care to guard against imposition It appears to us to be required in the present instance.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8914 births and 5053 deaths were registered during the week ending Sept. 20th. The annual rate of mortality in these towns, which had been 15 9 and 16 4 per 1000 in the two preceding weeks further rose to 17 7 per 1000 last week. In London the death rate was 17 3 per 1000, while it averaged 17 9 in the 75 other large towns. The lowest death rates in these towns were 5 5 in Hornsey 5 6 in Handsworth, 6 8 in Bournemouth, 8 0 in West Hartlepool, 9 2 in Burton upon Trent, 9 3 in Wolverhampton, 9 5 in Coventry and 9 8 in Croydon the highest rates were 22 6 in Stockport, 23 4 in Manchester 23 7 in Salford 24 1 in Birkenhead 24 3 in Great Yarmouth 25 5 in St. Helens, 25 7 in Middlesbrough and 26 0 in Liverpool The 5053 deaths in these towns last week included 1188 which were referred to the principal infectious diseases, against 743, 895, and 1062 in the three preceding weeks of these 1188 deaths 868 resulted from diarrhœa, 75 from whooping-cough, 72 from measles, 64 from "fever" (principally enteric), 54 from diphtheria, 52 from scarlet fever, and three from small-pox. No death from any of these diseases was registered in Bournemouth, Burton-upon Trent, Coventry, West Hartlepool, and Tynemouth, while they caused the highest death rates in Nottingham, Leeds, Liverpool, Cardiff, Middlesbrough, West Ham, Preston, Wigan, and Birkenhead The greatest proportional mortality from measles occurred in Reading, Birkenhead, and Newcastle upon Tyne, from scarlet fever in West Bromwich, from diphtheria in Bury, from whooping-cough in Cardiff and Huddersfield, and from diarrhœa in Middlesbrough, Birkenhead, Wigan, and Preston. The mortality from "fever" did not show a marked excess in any of the towns Three fatal cases of small pox were registered in London, but not one in any other of the 76 large towns. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 109 95, and 71 at the end of the three preceding weeks further declined to 47 at the end of last week, four new cases were admitted during the week, against 11, 12, and seven in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, which had been 2651, 2713, and 2669 on the three preceding Saturdays, further declined to 2657 on Saturday, Sept 20th, 309 new cases were admitted during the week, against 295, 333, and 311 in the three preceding weeks The deaths referred to diseases of the respiratory organs in London, which had been 139, 123, and 134 in the three preceding weeks, further rose last week to 139, but were 27 below the corrected average number The causes of 50, or 1 0 per cent, of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner All the causes of death were duly certified in Portsmouth, Bristol, Leicester, Nottingham, Bolton, Bradford, Leeds, Newcastle upon Tyne, and in 46 other smaller towns, the largest proportions of uncertified deaths were registered in Bootle, Ipswich, Warrington, and Stockton upon Tees

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 14 0, 13 9, and 14 8 per 1000 in the three preceding weeks, fell again to 14 1 per 1000 during the week ending Sept 20th, and was 3 6 per 1000 below the mean rate during the same period in the 76 large English towns The rates in the eight Scotch towns ranged from 12 5 in Perth and in Aberdeen and 13 7 in Edinburgh to 15 1 in Greenock, 15 4 in Paisley, and 15 9 in Leith The 456 deaths in these towns included 21 which resulted from diarrhœa, 10 from whooping cough, four from "fever," three from diphtheria and from measles, and two from scarlet fever In all, 43 deaths were referred to the principal infectious diseases last week, against 45, 54, and 52 in the three preceding weeks These 43 deaths were equal to an annual rate of 1 3 per 1000, which was 2 9 per 1000 below the mean rate last week from the same diseases in the 76 large English towns The fatal cases of diarrhœa, which had been 14, 31, and 21 in the three preceding weeks, were again 21 last week, of which 11 occurred in Glasgow The deaths from whooping-cough, which had been eight and seven in the two preceding weeks, rose again to 10 last week, and included four in Glasgow The fatal cases of measles, which had been four, six, and seven in the three preceding weeks, declined again to three, two of which occurred in Edinburgh The deaths from "fever" numbered four, and included two in Glasgow The deaths referred to diseases of the respiratory organs in these towns, which had been 54, 61, and 82 in the three preceding weeks, declined again to 57 last week, and were 24 below the number recorded in the corresponding period of last year The cause of one death (registered in Aberdeen) was not certified either by a registered medical practitioner or by a coroner

HEALTH OF DUBLIN.

The death rate in Dublin, which had been 22 7 and 19 1 per 1000 in the two preceding weeks, rose again to 22 3 per 1000 during the week ending Sept. 20th. During the past four weeks the death rate has averaged 21 2 per 1000, the rates during the same period being 16 7 in London and 13 6 in Edinburgh The 162 deaths of persons belonging to Dublin registered during the week under notice included 41 which were referred to the principal infectious diseases, against 28 and 30 in the two preceding weeks, of these 20 resulted from diarrhœa, 13 from measles, four from diphtheria, two from scarlet fever, and one each from whooping cough and from "fever," but not one from small pox. These 41 deaths were equal to an annual rate of 5 6 per 1000, the death-rates last week from the same diseases being 3 9 in London and 1 3 in Edinburgh The fatal cases of measles, which had been 11, 10, and six in the three preceding weeks, rose again last week to 13. The deaths from diarrhœa, which had been seven, 10, and 19 in the three preceding weeks, further rose to 20 last week. The deaths from "fever," which had been three in each of the two preceding weeks, declined to one last week. The 162 deaths in Dublin included 51 of children under one year of age and 27 of persons aged upwards of 60 years, the deaths of children and of elderly persons both showed a slight increase as compared with the numbers in the preceding week. Three inquest cases and one death from violence were registered, and 63, or nearly two fifths, of the deaths occurred in public institutions The causes of four, or 2 5 per cent, of the deaths registered in Dublin were not certified.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified —Fleet Surgeon W M Lory to the *Unicorn* Staff Surgeons Robert Hardie to the *President* for three months' course of hospital study Frederick Fedarb to the *Intrepid* on commissioning, Henry J Hadden to the *Empress of India*, John H. Whelan to the *Resolution*, and R T A Levinge to the *Pyramid* Surgeons Thomas B Shaw to the *Empress of India*, Robert W Hall to the *Resolution*, William E. Ruttlege to the *Grasshopper*, and W G Westcott to the *Northampton* for the *Calliope*

ROYAL ARMY MEDICAL CORPS.

Major M. W H. Russell is appointed to the Home District for duty at the War Office. Lieutenant-Colonel R. J Fayle has joined at Pembroke Dock for duty, vice Lieutenant-Colonel H. Hathaway, who shortly embarks for service in India Major R. J Anderson Durant is appointed for duty in the Western District

Robert Joseph Franklin to be Lieutenant on probation, vice G T Collins, deceased Dated Sept 1st, 1902, but not to carry pay prior to Sept 6th, 1902

INDIA AND THE INDIAN MEDICAL SERVICE.

Surgeon Major General P S Turnbull, retired, to be Honorary Surgeon to His Majesty, vice Surgeon General S W Hunter, K C M.G, deceased Dated Sept 20th, 1902

IMPERIAL YEOMANRY

The undermentioned officer resigns his commission and receives a new commission subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority, viz. —

Fifeshire and Forfarshire Surgeon-Lieutenant Macdonald

VOLUNTEER CORPS

Royal Garrison Artillery (Volunteers) 1st Aberdenshire Surgeon-Lieutenant W A. Macnaughton to be Surgeon-Captain 1st Edinburgh (City) Surgeon Major G R. Gilruth resigns his commission, and is granted the rank of Surgeon Lieutenant-Colonel, with permission to wear the uniform of the corps on retirement 1st Cumberland Surgeon Captain J H Dickson to be Surgeon Major

Rifle 3rd Volunteer Battalion the Queen's (Royal West Surrey Regiment), Surgeon Captain R J M Coffin to be Surgeon-Major 6th Volunteer Battalion the King's (Liverpool Regiment) The undermentioned Surgeon Captains to be Surgeon-Majors —J W Ellis and E W Barnes 2nd Volunteer Battalion the Lincolnshire Regiment Surgeon Captain H P Berry to be Surgeon Major 1st Volunteer Battalion, the Royal Scots Fusiliers Surgeon Lieutenant W M Boyd resigns his commission 1st Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment) Surgeon Captain E Vaudrey to be Surgeon Major 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment Surgeon Captain E. Evans to be Surgeon-Major

The undermentioned Surgeon Lieutenants to be Surgeon Captains —L. R. Williams and P A Lloyd. 2nd Volunteer Battalion the King's (Shropshire Light Infantry) Surgeon Lieutenant O E. Baddeley resigns his commission with permission to retain his rank and to wear the uniform of the battalion on retirement. 1st Volunteer Battalion the Durham Light Infantry Surgeon Major J W Blandford to be Surgeon Lieutenant-Colonel. 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders Surgeon Lieutenant W G Mitchell to be Surgeon Captain

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY

South Yorkshire Surgeon-Captain D G Newton, from 1st Volunteer Battalion the York and Lancaster Regiment, to be Surgeon Captain.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS)

Glasgow Companies Captain C C Fleming D S.O R.A.M C to be Adjutant, on increase of establishment.

THE GORDON HIGHLANDERS MEMORIAL INSTITUTE AT ABERDEEN AND SIR GEORGE WHITE.

On the occasion of Sir George White's opening the Gordon Highlanders' Memorial Institute at Aberdeen the late defender of Ladysmith it will be remembered, dwelt upon the advantages arising from habits of temperance in the army and the need that existed for the provision of places where the soldier could enjoy social intercourse without having to manifest his good fellowship by indulgence in alcoholic drinks It is not, as he was careful to point out, that the soldier is a more intemperate man than the civilian, for it is probable that the contrary is the fact, but he is much more exposed to temptation in that respect, especially on returning to this country at the end of a war General White also seized the opportunity of alluding in a few graphic touches to the conspicuous part which the Gordon Highlanders had played in the late war With regard to Sir George White himself we may say that throughout his army career he has always studiously regarded the soldier's health and interest. In whatever light the future military historian may be disposed to view the "entanglement" of Ladysmith the fact cannot be overlooked that the siege of that place had a disastrous effect on Boer strategy When the complete history of the late war comes to be written and the characters and work of the men engaged in it have to be weighed and judged, we venture to prophesy that Sir George White will stand out conspicuously for high mindedness. He disarmed criticism by chivalrously accepting responsibility he knew when to maintain a dignified reserve, and in all that he has said and done he appears to have been careful to think and to speak of others and not of himself.

THE MEDICAL EXAMINATION OF CANDIDATES FOR ARMY COMMISSIONS.

The *Army and Navy Gazette* of Sept. 20th in a paragraph referring to the medical and physical examination of candidates for Woolwich and Sandhurst makes some pertinent and useful remarks To begin with attention is called to the absolute necessity which exists for the parents and guardians of intending candidates to make themselves acquainted beforehand with the published regulations on the subject. In order to prevent much trouble and disappointment to all concerned it should obviously be ascertained in the first place whether a candidate fulfils, or is likely to fulfil, the requirements laid down These are set forth with quite sufficient clearness in the regulations to enable medical practitioners to give an opinion on the subject. The duty of the medical officers constituting the army medical board when it finally comes to them to decide as to the fitness or otherwise of any candidate has, of course, to be guided by the official instructions issued for their information—in fact for the information of all concerned. Of late—and probably in order to meet any complaints and to shift the responsibility of having to settle them—a "board of appeal" for rejected candidates for the army has been appointed to which our service contemporary objects on the ground that no such system obtains in the case of the Admiralty or the India Office The appeal board consists we believe, of the Director General of the Army Medical Service (as president) a retired medical officer with army experience, and a well-known ophthalmic surgeon.

THE TRANSPORT SCANDAL

It will be remembered that a commission was appointed to inquire into the alleged overcrowding of transports conveying colonial troops from South Africa. It is only right to state that the practical result of the investigation is reported to be in vindication of the Imperial Government authorities. The sickness and deaths on these transports were not caused by overcrowding but were, broadly speaking attributable to laxity of discipline and neglect of sanitary arrangements and personal hygiene on the part of the comparatively untrained troops on board.

THE INCREASED PAY OF MEDICAL OFFICERS SERVING IN INDIA

The *Pioneer Mail* of Sept. 5th says that until the Secretary of State's despatch sanctioning increased pay and charge pay for junior officers of the Royal Army Medical Corps has been received no formal action can be taken in regard to the Indian Medical Service. But it is practically certain our Indian contemporary adds that whatever concessions are granted to officers of the British Medical Service will be subsequently extended by the Government of India to officers of the Indian Medical Service.

STUDY FEES FOR NAVAL MEDICAL OFFICERS.

The fees (not exceeding £25) of the naval medical officers who undergo a three months course of study at metropolitan hospitals are now paid by the Admiralty in addition to travelling expenses, with lodging and provision allowances according to scale.

PRESENTATION TO MR. F M. FARMER, L.D S.

Surgeon-General Sir William Taylor K.C B. Director General of the Army Medical Service, has, on behalf of Mr Brodrick, presented to Mr Francis M. Farmer L.D S. R.C S. Eng a silver tea and coffee service in recognition of the valuable dental services rendered by him in South Africa during the late war

DEATHS IN THE SERVICES

Lieutenant George Berkeley Butt, I.M.S. in his twenty fifth year at Malakand, Frontier Provinces, India, on August 28th.

H.M S. *Terrible* which arrived at Plymouth on Sept. 16th had on board Surgeon C C Macmillan D S O R.N Staff Surgeon E. C Lomas, D S O R.N left the *Terrible* about 18 months ago and is now serving on the Mediterranean station.

Correspondence.

"Audi alteram partem."

THE VACCINATION CONTROVERSY

To the Editors of THE LANCET

SIRS,—The profession can ill afford to neglect public opinion on this subject, and I therefore ask you to publish the following remarks on it.

There is no more frequently repeated argument in the lay press than the following which I extract from a daily paper — "The fact that before vaccination was introduced the average small pox fatality rate amongst a wholly unvaccinated population was only 16 to 18 per cent. shows clearly that there must be other causes for the higher mortality in the unvaccinated, and that the want of vaccination has nothing whatever to do with it." This argument is constantly appearing in the papers in one form or another and I wish to draw attention to the untrustworthiness of this calculation which depends entirely on the correctness of the statistics of the eighteenth century Chicken pox was for the first time fully described in England in 1766, and my contention is that all calculations made previously to that date are rendered almost valueless from the necessary confusion between this disease and small pox. If the two diseases are classed together it is clear that supposing them equally prevalent, we should get a mortality little more than half that of small pox alone.

It is surprising that in the report of the Royal Commission there is no reference to this possible source of error although Bernouilli who wrote in 1760-65, is quoted, and his calculations are treated as if they were based upon reliable data. The fatality assumed by him was about 16 5 per cent and it seems highly probable that half the cases upon which this supposition was founded were chicken pox. This consideration alone appears to me to be sufficient to explain the discrepancy between the calculations of the eighteenth century and those of the present day

Again, we find in the report of the dissentients among the Commissioners that "the view that second attacks of small-pox occurred was held by Sydenham, also by Diemerbroek, who observed that the eruption was more severe in second attacks than the first. The case of Louis XV has been often quoted, he had a first attack at 14, and died of a second attack at 64" (§ 14) I ask what evidence is there to show that these so-called first attacks were not merely chicken pox? The observation of Sydenham that they were mild is very significant and it seems strange that Sir William Collins and Mr J A Picton should attach importance to such statements

Turning to the statistics of the present day, I would advocate a different method of presenting the facts in drawing up tables of statistics instead of the clumsy way often followed at present, in which those who have been vaccinated six months are often classed with those who have not been vaccinated for 60 years

The interests of truth do not require us to hide as much as possible the real meaning of the figures, and it is significant that anti-vaccinationists almost invariably ignore the lapse of time between vaccination and a subsequent attack of small pox. To give an example from a daily paper —"It is of the utmost importance to note that Dr Priestley admits that out of a total of 404 cases 325 were vaccinated Could there be a stronger indictment of vaccination?" How many readers of this will stop to inquire whether the 20 per cent of the cases who thus appear to have been unvaccinated correctly represent the unvaccinated proportion of the population? The figures as given have absolutely no significance to those who do not know the percentage of the population generally who are unvaccinated. The method I suggest for presenting the facts to the public should be somewhat as follows All persons to be divided into three classes thus (1) the protected—viz., those who have been vaccinated within 10 years, (2) the half protected, who have been vaccinated between 10 and 20 years, and (3) the unprotected, who have not been vaccinated within 20 years. We should then have results presented to us as follows, taking a table of statistics covering the first 1015 deaths of the present epidemic and excluding doubtful cases Deaths from small-pox among (1) the protected, one (certified to have been imperfectly vaccinated), (2) the half protected—between 19 and 26 (I am unable to give the exact number as I cannot get at the facts, although the table I am employing is to all appearances a very elaborate one), and (3) the unprotected, 905

I submit that such a method of presenting the facts is much simpler than those usually adopted at present, and better adapted to make popular the real meaning of the figures we have to deal with

I am, Sirs, yours faithfully,
Tollington park, N, Sept 20th, 1902. C E SCUDAMORE.

THE IMPUDENCE OF CERTAIN ADVERTISING DRUGGISTS

To the Editors of THE LANCET

SIRS,—I read in THE LANCET of Sept. 20th (p 836) the comment made by Sir William H. Broadbent upon a certain advertisement appearing in the *Medical Bulletin*, of which I am the editor, in Philadelphia, U S A. In answer to the criticism I would say that in the advertising pages of the *Medical Bulletin*, and, in truth in all medical publications in the United States of America, the editors of the journals are in no way responsible for the advertisements sent in by advertisers of preparations, drugs, or other material that have been accepted as legitimate, or that come within the scope of medical ethics I can assure Sir William Broadbent, as well as your readers, that the *Medical Bulletin* and its editor appreciate most thoroughly the facts set forth by him of the unauthorised use of his name and his endorsement of the preparation referred to in his letter

Just as soon as I return home after my holiday in England is over, where I take pleasure in coming every year to see your great hospitals and your medical and surgical development, I will see that the unauthorised use of Sir William Broadbent's name is corrected. It is too frequently the case that advertisers on both sides of the Atlantic use without authority the names and endorsements of distinguished professional men, thus misleading the readers of medical journals Every journalist will be only too glad to correct any unauthorised use of a physician's name in his journal

Yours respectfully,
JOHN V SHOEMAKER.
De Keyser's Royal Hotel London, E C,
Sept 22nd 1902.

A PLEA FOR THE MORE FREQUENT USE OF CHLOROFORM IN LABOUR

To the Editors of THE LANCET

SIRS,—As a general practitioner one is much interested in Dr T W Parkinson's letter in THE LANCET of Sept. 20th (p 835) concerning the administration of $CHCl_3$ in labour and one thoroughly endorses all contained in his letter As, however, one is often from unpreventable circumstances singlehanded while attending cases of labour the mode of the administration of the chloroform becomes a matter of prime importance. As it is impossible in these cases to be at the patient's head attending to the $CHCl_3$ and at the same time following carefully the course of the labour one is often obliged to allow the patient to give herself the anæsthetic. I consider the following one of the safest ways of giving $CHCl_3$ in these cases It is the method suggested by Mr W J Image of Bury St. Edmunds, and quoted in Sir Lauder Brunton's text-book of "Pharmacology, Materia Medica, and Therapeutics" in order to produce first stages of the action of anæsthetics Get an ordinary tumbler and put in the bottom of it some absorbent cotton wool, on this put a few drops of $CHCl_3$ and give to the patient to put over her nose and mouth to inhale while the pains are on, between the pains she should place the tumbler inverted on the bed The tumbler does not fit accurately over the face so that free access for admixture of air is allowed. If the patient holds the tumbler in her own hand she will not put herself too deeply under the influence of the anæsthetic as she will drop the tumbler before that effort is produced, but she will be able to give herself quite sufficient to dull sensation without dropping the tumbler This useful method does not appear to be widely known amongst general practitioners, hence my reason for calling attention to it.

I am, Sirs, yours faithfully,
T M CALLENDER, M D, C M Edin.,
Late Resident Surgeon Royal Maternity Hospital,
Sidcup, Sept 22nd, 1902 Edinburgh

DEATH FROM THE BURSTING OF A TONSILLAR ABSCESS

To the Editors of THE LANCET

SIRS —Mr Alexander Lyons[1] has drawn attention to a comparatively rare accident in cases of quinsy—viz, the bursting of the abscess with discharge of the pus into the larynx, causing death from suffocation Almost all the writers on diseases of the throat mention the possibility of this occurring and a few cases are scattered about in medical literature. There is one, for example, in Sajous's "Annual of the Universal Medical Sciences," 1889, vol. iv, E 13 I examined for my colleague, the late Dr Sturges, a young woman suffering from quinsy who died suddenly the following night, and at the necropsy the larynx was found to be full of pus In most of the fatal cases the abscess was ruptured during sleep The risk of this accident occurring emphasises the importance of incising the tonsil in cases of suppurative tonsillitis

I am, Sirs, yours faithfully,
F DE HAVILLAND HALL, M.D Lond
Wimpole-street, W Sept. 22nd 1902.

THE ELECTION OF A DIRECT REPRESENTATIVE TO THE GENERAL MEDICAL COUNCIL

To the Editors of THE LANCET

SIRS,—Your anonymous correspondent, "F R C S," need not distress himself as to the members of the Incorporated Medical Practitioners' Association being kept in ignorance of important facts relating to the nomination of Mr Joseph Smith as a candidate for election to the General Medical Council. They have been kept fully informed of every fact in connexion therewith. Mr Smith was not adopted officially as the candidate of the association and any members of our association who have supported him have done so only in their individual capacity The funds of the association have not been used to promote his candidature, so F R.C.S." may rest his soul in peace on that score Every member of the association has had full liberty of action to support either Sir Victor Horsley or Mr Smith. With regard to the personality and professional position of Mr Smith and of myself I am not disposed to discuss these with one who conceals his own personality under a *nom de plume* —I am, Sirs yours faithfully

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[1] THE LANCET Sept. 20th, 1902, p 812

GEORGE BROWN

Hon Sec. Incorporated Medical Practitioners' Association.

Gibson-square N., Sept. 24th, 1902.

P S —What does F R.C S." mean by his reference to Mr Smith causing the profession the expense of a contested election? The expenses are paid by the General Medical Council with the exception of the personal expenses of the candidates.—G B

THREADWORMS AND APPENDICITIS

To the Editors of THE LANCET

SIRS,—Referring to the correspondence which has appeared in your columns on the above subject, it may be of interest to report that about three months ago I removed an appendix from a youth which contained two threadworms, both females and both full of eggs so that in all probability the appendix would soon have been crammed with threadworms as in the case related by Mr J Hutchinson, jun. The appendix was a particularly long one and its tip was fixed in the pelvis

I am Sirs, yours faithfully

J LIONEL STRETTON

Senior Surgeon Kidderminster Infirmary and Children's Hospital.

Kidderminster Sept. 21st, 1902.

THE BATTLE OF THE CLUBS

(FROM OUR SPECIAL COMMISSIONER.)

The Dispute at Chesterfield —Action of the Midland Medical Union.—A Minimum Rate for Contract Work.—United Front of the Medical Profession.—The Points at Issue

THE Midland Medical Union is at present involved in a struggle that interests the whole profession and it is necessary that the main points at issue should be as promptly and as widely known as possible. Some two years ago the medical practitioners in the neighbourhood of Mansfield and of Chesterfield began to hold meetings and to organise. There already existed a medical union at Nottingham and ultimately a general amalgamation was brought about, comprising the counties of Derby and Nottingham under the title of The Midland Medical Union. Mr J G Shea of Chesterfield was elected president. In his district the club or contract work was conducted in anything but a satisfactory manner Most of the clubs paid only 3*s* a year per member to their medical officers, while outside the town there were some clubs that did not pay more than 2*s* 6*d*. per member As soon as the Midland Medical Union was formed it was determined that an effort should be made to raise the subscription for medical attendance to 5*s* a year Considering the great increase in the cost of medical education and of medicines, and that unqualified assistants could no longer be employed, this demand was moderate enough and some of the better clubs at once assented to these terms. Nevertheless in regard to the generality of the clubs it represented too large an increase and after some negotiations the medical practitioners realised that it was not practical to enforce its general application Therefore on second thoughts they decided to content themselves with a uniform demand of a minimum of 4*s* a year There are 14 practitioners in Chesterfield and 13 of these have joined the Midland Medical Union.

The members of the clubs are divided in opinion. Many of the older members have become attached to their medical attendants and consider the increase of subscription demanded to be quite reasonable under the present and altered conditions of medical practice. It is among the younger and less experienced members that most of the disaffection is manifested and there are also certain committee men and leaders who in organising resistance seek to increase their personal influence and popularity These men have conceived a vast and far reaching scheme Not content with attending to the affairs of their own town they are striving to bring about joint action in one or two counties and to form under their directorship medical institutions which shall secure the exclusive services of several medical practitioners to be imported from outside so as to render the members of the clubs absolutely independent of the local practitioners. Fortunately the medical men at Chesterfield, in any case, are not absolutely dependent on club practice. It constitutes an important item in their incomes but if they lost all the clubs they would still be able to exist, though in somewhat reduced circumstances. Seeing that the medical practitioners are now organised and in union the medical union is able to hold its own against the clubs and to negotiate with them at least on a footing of equality Many meetings have been held between the medical practitioners and the representatives of the clubs and the points at issue have been discussed in a friendly manner But recently the Chesterfield practitioners were asked to meet delegates from outside and comparatively distant localities. Naturally they replied that they had no personal concern with those districts and that delegates of the clubs in these outlying districts should negotiate with their own local practitioners But the members of the clubs wanted to enlarge these conferences and by that means to increase the number of delegates on their committee, thus paving the way for a wide-spread amalgamation The Chesterfield practitioners thought it their duty to resist this tendency and the clubs retorted by a threat that a notice to quit would be served on all their medical officers in a week's time if they persisted in refusing to meet the larger delegation. Nevertheless this notice has not been given and indeed, by the terms of the agreements a three months notice must be given. As, however the quarter-day is approaching it is thought that perhaps a three months notice will be served. Indeed, negotiations are at a standstill, for the language recently employed by the representatives of the clubs was of so offensive a character that the members of the Chesterfield branch of the Midland Medical Union met and decided that they would not enter into any further conferences.

The two principal friendly societies at Chesterfield are the Druids and the Oddfellows The chief difficulty with the Oddfellows is that they wish to introduce women and children into their lodges. This is the old difficulty which exists in many towns and has been explained on several previous occasion The medical officer is willing to attend at club rates the bread winner who is a member of the Oddfellows. because when he is ill he has to forsake his business But when the Oddfellow is well and at work he can afford to pay for the medical attendance needed by his wife and family As it is, there is abuse enough without extending this to the women and children. For instance one of the Oddfellows at Chesterfield owns several shops and there are many tradesmen and others who could well afford to pay medical fees but who nevertheless come upon their club medical officer and expect to receive advice and medicine in exchange for the paltry 4*s* per annum which they pay These individuals are often ashamed to draw sick allowance from their club because this is entered in the books and receives a certain publicity But they can go to the club medical officer without anyone knowing anything about it Yet in all fairness it must also be said that a few Oddfellows when calling on their medical officer informed him that they did not come as club patient but that he was to charge them individually and at the usual rates

It is in respect to the Druids that the main difficulty has arisen. It appears that in the neighbouring town of Sheffield the Druids pay only 2*s* 6*d* per member per annum for medical attendance, and consequently many of them object to pay 4*s* at Chesterfield and argue that the medical men are very well off and make a very good thing out of the clubs If therefore, the men were to organise on a large scale they would be able to secure medical attendance at a much cheaper rate Accordingly some among them have determined to start a medical institute at Chesterfield, and though there is much division in their ranks they have attempted to advertise for a medical officer The medical press has refused to insert these advertisements and it is very important that the profession at large should know that in responding to such demands they will be helping to reduce the minimum of 4*s* established at Chesterfield to the half-crown level prevalent at Sheffield Some 15 years ago a similar effort was made and a medical officer was engaged by some benefit societies at Chesterfield, but it proved a miserable failure Debts were incurred and the medical officer was never paid the sums due to him To day the scheme does not give promise of much success and the advertisements for a medical officer were sent out before a house had been secured for the business of the medical institute which it is proposed to establish Then many of the lodges are not at all satisfied that this is a wise project, so that while the members of the profession present a united front there is division in the ranks of their adversaries

On June 12th, 1901, the Nottingham branch of the Midland Medical Union met and adopted and confirmed the two following resolutions which had been already carried by the Chesterfield and the Mansfield branches —

> First: "That in the event of any medical man receiving notice from any club through asking for an increase in fee no other practitioner should take the same even if offered to him "
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> Secondly: ' That no member of this union shall assist by consultation or otherwise any practitioner in the counties of Nottingham and Derby who is declared by the Midland Medical Union to be opposed to the objects of the union '

Further, it was explained that at meetings held at Chesterfield and Mansfield it was unanimously resolved that a fund should be created to aid financially any of the members who might need such help in consequence of their adhering loyally to these rules The levy for this fund was not rendered obligatory, but it was decided that if any member who had not subscribed to the fund applied for relief it should be left to the discretion of the president and the vice president as to whether such relief should be given. Also it was resolved that the members should be asked to guarantee a maximum sum of five guineas and that they should be called upon to pay such proportion of the five guineas as might be needed to indemnify victims Thereupon sums amounting in all to 300 guineas were promised. From this it will be seen that there are all the elements necessary for making a good fight. Should any practitioner accept the offers made by the clubs and lend his services to the formation of a medical institute his position will not be an enviable one. If he should need a second opinion he will not readily find a consultant willing to help him He will be ostracised by all the members of the profession and will have for absolute master committees composed for the most part of working men whose language, manners, and mode of procedure are not always what a gentleman belonging to a liberal profession has a right to expect It is to be hoped that no member of the profession will lend himself to this endeavour to keep down the remuneration for professional work to a few halfpence per consultation. There are numerous medical charities available for the poor and all those who do not belong to the residuum of the extreme poor can well afford a penny per week, or the 4*s* a year minimum, demanded by the Chesterfield medical practitioners

SALE AND PURCHASE OF A MEDICAL PRACTICE

(FROM A LEGAL CORRESPONDENT)

AT some stage of his career nearly every medical practitioner has to consider the sale or purchase of a practice Whether he be vendor or purchaser it is useful that he should know something of the duties and responsibilities which are involved in such a transaction, and if he be vendor he should realise the legal nature and effect of the restrictions which he places himself under

The sale of a medical practice involves an agreement in restraint of trade which, unless limited, is contrary to public policy and which is *primâ facie* illegal If a man deliberately sells the right which all men have to the exercise of their calling he deprives the public of the benefit of his skill and experience, while he abandons what may be his means of livelihood A principle of law has therefore been evolved and clearly enunciated in the famous case of Mitchell *v* Reynolds (decided in 1712), to the effect that contracts in restraint of trade are void and must not be enforced by the courts In accordance with this principle if a medical man at the present day were to enter into a bond which prevented him from practising anywhere for the rest of his natural life no court of justice would enforce its performance While, therefore, contracts in total restraint of trade are void, it has become a well settled rule that if the restriction is limited as to area and if there is "consideration" for the bargain the goodwill of a medical practice, or, indeed, of any other business, may be made the subject matter of a valid contract of sale Hence the well known restrictive covenant into which the vendor of a practice enters is recognised in, and will always be enforced by, a court of justice Were it otherwise the sale of a connexion would be rendered impossible, as nothing could operate to prevent an out-going practitioner from interfering with the practice for which he himself has already received a substantial sum of money

It has been pointed out that the restriction must be limited as to space It would be wholly unreasonable, for instance, to prevent the vendor of a practice from exercising his calling anywhere in the British Isles Thus a general practitioner in London could not interfere with a Liverpool connexion, nor could a practice in Scotland be in any way prejudicial to an Irish practice Many cases have arisen in the courts as to what is a reasonable limit In Horner *v* Graves[1] it was held to be unreasonable to restrict a dentist from practising anywhere within 200 miles from York. On the other hand, to borrow an instance from the legal profession, a covenant preventing a solicitor from practising as such anywhere in England for 20 years was held to be reasonable and capable of enforcement (Whittaker *v* Howe[2]) It follows, therefore, that in marking the border line the court will be influenced in a large measure by the nature of the business The available means of communication are also important. By means of railways, telephones, &c., a practice can be extended over a much wider area at the present day than could have been possible at the close of the eighteenth century, so that a restriction which would have been held unreasonable in those days might now be considered capable of enforcement With regard to time there does not appear to be any restriction Nevertheless, if a man binds himself not to practice for a limited period the area of restriction may receive a slight extension The rule by which the boundary should be determined was thus expressed in the case of Horner *v* Graves (*ubi supra*) "The restraint must be such only as to afford a fair protection to the interests of the party in favour of whom it is given and not so large as to interfere with the interests of the public "

The consideration, an essential feature of every agreement for the sale of a practice, next requires attention So long as the court is satisfied that there is a consideration which is not merely colourable the contract will be enforced The adequacy of the consideration is left entirely to the parties themselves It would obviously be impossible for any tribunal to decide what is a reasonable price to pay for a medical practice Many instances could be cited to show what has been held to be a reasonable consideration In the case of Sainter *v* Fergusson[3] the engagement of the defendant as assistant was held to be sufficient consideration for an undertaking on his part not to practise within a radius of seven miles after the termination of his employment

Having made an attempt to indicate the features which are essential to every contract for the sale of a medical practice we now propose to consider what constitutes a breach of such a contract In most deeds the covenant is in the following form "The vendor undertakes that he will not [within certain limits] at any time hereafter directly or indirectly, and either alone or in partnership with, or as assistant to, any other person or persons, carry on the profession or business of a surgeon " A further clause prohibiting practice "in open competition" sometimes finds its way into the deed The question naturally arises What constitutes practising? Most medical men will be able to answer this question without any difficulty but doubtful points arise from time to time In the case of Palmer v Mallet[4] it was decided that a person acting only as a salaried assistant was carrying on the profession of a surgeon and that in doing so he was committing a breach of covenant The words open competition" were discussed in the case of Rogers v Drury[5] There the vendor agreed not to practise within a certain radius or directly or indirectly to compete with the purchaser He visited certain patients within the prohibited area at their own request. These patients moreover, had refused to call in the purchaser on any account. This was held to constitute an infringement of the covenant which the court said was not confined to active competition According to the legal maxim *Qui facit per alium facit per se* practice by an assistant is equivalent to practice by his principal. In the absence of any express authority upon the point it is probable that the vendor of a practice could be restrained by injunction from permitting his assistant to see patients in the proscribed district The establishment of a place of business such as a surgery is also unlawful. In the case of Newington v Bloxham (Feb. 6th 1897) the defendant, who had been an assistant of the plaintiff agreed not to practise within a five-mile radius after the termination, whether by notice or otherwise of his period of service He established a surgery within the five-mile radius The late Lord Chief Justice granted an injunction to restrain him from keeping the surgery open We have seen that to visit *quondam* patients even at their solicitation is a breach of contract. It would be otherwise if the patients were to travel to see the vendor in his new district, or probably if they saw him in consultation with and by the consent of the incoming practitioner Where partners in a firm have private" patients it seems that a member of the firm may be entitled to attend such patients after his retirement. So in the recent case of Harris v Mansbridge[6] the plaintiff practised as a dentist in partnership with the defendants. By the articles of partnership in the event of the death or retirement of any of the partners the partnership should continue between the surviving or remaining partners. By a subsequent agreement the plaintiff agreed to retire from the firm, the defendants taking over the management and control of the practice and the plaintiff agreed that he should not, during the term, see any of the patients of the defendants without their consent It was decided that this did not preclude the plaintiff from attending on those persons who had been his own patients exclusively while he had been a partner

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[1] 7 Bing 735

[2] 3 Beav 383

[3] 7 C B 716

It must not be supposed however that every interference with a purchaser's practice constitutes a breach of covenant. The following case will serve to show how the court is likely to interpret the covenant where the vendor has interfered at the request of the purchaser In Rawlinson v Clarke[7] the defendant assigned to the plaintiff his practice as a surgeon and apothecary covenanting that he should not, nor would directly or indirectly by himself or in copartnership with any other person carry on or exercise his practice or profession of a surgeon or apothecary or either of them either by residing or visiting any patient, within the distance of three miles from the then place of business of the defendant. In case of any breach he undertook to pay £500 as and for liquidated damages and not as a penalty After the execution of this deed he attended several ladies in their confinements within the three months, and from one of them he received a fee of £14 14s It was proved however that he attended these persons with the plaintiff's knowledge and consent, and in consequence of a request by the plaintiff that he should continue to visit the patients in order to keep the connexion together It was held that this did not constitute a breach of covenant. It should perhaps be mentioned that even where a contract of service as an assistant may be put an end to by either party upon giving a month s notice the covenant not to practise within the prohibited radius may still be enforced (Giles v Hart[8])

An important question sometimes arises as to whether the contract is *personal* that is to say whether the rights and liabilities connected with it pass to an assignee In Jacoby v. Whitmore[9] a shopman had covenanted not to compete with his employer for a certain period The employer sold the goodwill to a third person who retained the shopman in his service. It was held that the right to enforce the obligation passed with the goodwill. From this we may infer that if a qualified assistant enters into a contract not to practise the subsequent sale of his master's practice does not release him from his obligation In the event, therefore of his committing a breach of covenant an action would lie against him at the instance of the purchaser of his former master s practice Where two men in partnership sell their goodwill on pain of a penalty for infringement of the covenant not to practise a breach by one partner involves payment of the whole penalty[10]

Although the main object of this article is to discuss the legal as apart from the medico-ethical aspect of contracts for the sale of a practice a few instances of what has been ethically considered a breach of contract may be appended. Thus the acceptance of an invitation to lecture upon a topic of medical interest within the proscribed area is not a breach of contract either legally or morally And in the absence of any agreement or bond of any kind it is considered a breach of etiquette for a *quondam* assistant to hold himself out for practice in the district frequented by his former principal although, of course, there is no legal remedy available against him Further although there is no implied legal undertaking on the part of a locum tenent not to practise in the immediate neighbourhood after his employment comes to an end, his doing so immediately is not considered honourable—but it is otherwise if he waits for a period of two or three years.

Having considered the various acts and defaults which are likely to constitute a breach of the contract the consequences of such a breach remain to be considered For this purpose it is necessary to refer to the form of penalty clause which is inserted in the deed. It usually runs That in case of any breach of the foregoing covenant he will forthwith pay to the plaintiff £2000 not in the nature of a penalty but as ascertained liquidated damages " Before citing any cases where the whole penalty has been enforced it is necessary to allude to the policy of the law with regard to penalties In all cases an action for damages lies for breach of contract provided the contract is legal and in proper form Sometimes however for the purpose of ensuring the due performance of an agreement the parties fix the damages beforehand and quote the figure as a penalty in the body of the contract. Nevertheless, a court of justice will occasionally go behind the express covenant and say Nay it is clear that the plaintiff has not suffered damage to this extent the enforcement of this penalty would be unjust as the exact injury suffered is capable of easy estimation." This rule is applied although the parties have agreed to regard the sum as liquidated—i.e. as ascertained damages. But where the proper measure of damages is difficult, if not impossible, to ascertain the court will, as a rule, enforce the covenant according to its very letter The latter expedient is usually adopted in the case of a contract for the sale of a medical practice. According to what scale it is asked could the value of a thing so shadowy be estimated? Bearing this in mind the vendor must be prepared to pay the entire sum agreed upon if he is found to be at fault unless indeed he is willing to consent to an injunction granted by the court at the instance of the purchaser with whom he has interfered for it was decided in the case of Carnes v Nesbitt[11] that the recovery and payment of a liquidated amount prevents an injunction being obtained the liquidated sum being regarded as the value of the practice for the stated period.

We have only alluded to the form of an ordinary bond for the purpose of showing the general nature of the restrictive clause. Other terms are sometimes added. Thus in the case of Reynolds v Bridge,[12] in addition to the ordinary covenant it was provided that notwithstanding the clause lastly hereinbefore contained, the defendant may after the determination of the term act in consultation with other medical gentlemen in W or elsewhere the defendant may also if he think fit, after the determination of the term attend midwifery cases in W and within 20 miles thereof but he shall pay one half of the fees which he shall receive for each of such midwifery cases unto the plaintiff so long as he shall continue to practice in W " It was decided in this case that the non payment of the midwifery fees would not be within the covenant, and failure to pay them would not have involved the defendant in liability to pay the penalty

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[4] 36 Ch D 411

[5] 57 L. J Ch 504

[6] 1900 17 T L R 21

[7] 11 M & W 187

[8] 1 L T 154

[9] 49 L T 335.

[10] Mercer v Irving El. Bl & El 50

[11] 7 H & N 678.

[12] 6 E & Bl [illegible]

It is fortunate for the medical profession that disputes with regard to the interpretation of these covenants are few and far between. Indeed, the cases above referred to well nigh exhaust the list which can be made out after a search through the law reports In conclusion, it may be well to remind the intending purchaser of a goodwill that any breach, however slight, on the part of the vendor gives him the right to claim the penalty, while a false representation as to the value of the practice, if its falsity can be clearly proved, entitles him to demand rescission of the contract

MANCHESTER

(FROM OUR OWN CORRESPONDENT)

Manchester Royal Infirmary

A SPECIAL meeting of the Manchester Infirmary Board was held on Sept. 22nd, Sir F Forbes Adam being in the chair, when "22 out of 24 present members of the board expressed their intention to place their resignation in the hands of the trustees as soon as arrangements could be made for the proper appointment of their successors" It was thought that this course "would obviate the danger of misunderstanding and delay in the resettlement of the rebuilding problem." The present board will, however, remain in office and will continue to manage the affairs of the Royal Infirmary, the Royal Lunatic Asylum, and the Barnes Convalescent Home until the new board has been elected. According to the present rules this election can only take place at the annual meeting in February, so that a special meeting of the trustees will have to be called to pass a new rule authorising the election of a new board This action of the members of the present board seems to be in accordance with the general feeling It would be a misfortune, however, if none of them were chosen (and consented) to act on the new board Individually they are deservedly respected and would no doubt act loyally towards the scheme for rebuilding elsewhere, while the loss of their experience in the somewhat complicated details involved in the management of the three large institutions under their care would be most unfortunate. It is to be hoped, therefore, that while new blood is plentifully introduced there will not be the total loss of the old. The disposal of the present infirmary site is a matter of some difficulty The sum of £400,000 which the present board invited the corporation to give for it is prohibitive if it is regarded either as an open space or as partially occupied by a new reference library and art gallery, but it is said that two proposals are to be submitted to the new board one or other of which it is hoped may provide a way out of the deadlock with which we have been so long familiar

Public Washhouses

One of the conditions unfavourable to cleanliness and therefore to health among the poor of our large towns is that the appliances for the family wash are usually very imperfect and inconvenient, or perhaps in the poorest tenements scarcely existent After struggling with difficulties more or less unsuccessfully many a poor woman gives way in the end and resigns herself to a state of domestic dirtiness that would have shocked her when she first exchanged the country for the town. But after a time she becomes "acclimatised" and accustomed to dirt and so loses her wish for a better and brighter home Still even among these torn down and perhaps somewhat helpless women the provision of a public washhouse in their midst revives old feelings, and they soon become glad to make use of it In May last a public washhouse provided by the corporation was opened in Ancoats and up to the present has been used by 1650 women of the district. It was built at a cost of £700, but has probably been already paid for in the improved health and domestic comfort of the people There is accommodation for 20 workers at once and the average number for the week is 110 The charge made to each person is 1½*d* per hour It would be well for the community if inexpensive baths and washhouses were provided for the whole of the poor districts of Manchester Moss Side, adjoining, but municipally independent of, Manchester, is considering the question of building a swimming-bath and laundry for the district. The suggestion is to place the building on land immediately adjoining the refuse destructor, from which would be obtained the heat requisite for the baths and washhouse It is to be hoped that the scheme will be carried out, but with common sense and economy instead of the extravagance that has so often been a temptation to the spenders of public money to provide unnecessarily costly buildings, "which will be a credit and ornament to the city and worthy of Manchester" The poor and not the well to do should be more considered as their need is the greater

Epileptic Children and the School Boards

At the meeting of the Manchester School Board held on Sept 22nd it was decided that the board should take steps to carry out a scheme for providing a boarding school for epileptic children. It was explained that in conjunction with the Salford School Board it was intended to carry out the provision of the Elementary Education (Defective and Epileptic Children) Act, 1899, in so far as it related to those children who were unfit by reason of severe epilepsy to attend the ordinary public elementary schools It is proposed to place this joint boarding school as near Sandlebridge as practicable, with accommodation for 60 children. It is said that there are 40 cases in Manchester and, in proportion to the population, a greater number in Salford, but this probably is an under estimate. The land, buildings, furniture, &c., are expected to cost £14,400, while the annual charges for maintenance for the first 30 years, during which period the capital would be paid off, is estimated at £2354, and after that they would be £1618 This venture is undertaken in the hope that if these cases are dealt with in early life the disease may be arrested and cured, as indicated by "medical testimony and experience gained in Germany at Bielefield" But should this hope be disappointed and the school treatment prove ineffective, "the proximity of the site of the projected building to Sandlebridge, where the David Lewis Trust were erecting an epileptic home on a large scale, would enable the board by arrangement with the trustees to transfer the children to their care when they reached the age of 16" The guardians of the Manchester and Chorlton unions are about to provide both for young and adult epileptics, but it is doubtful if they would meet the case of the children under the care of the school board and the latter would not be pauperised by the scheme of the board As to the board being moribund, the proposer of the resolution said that it was not yet certain that it was moribund, but if the city council became the educational authority it would be grateful for not having to deal with the question *de novo*

A Strange Idea

An inquest was held at Heaton Moor a week ago on the body of a man who had drowned himself in the Mersey which illustrated an idea not uncommon among the half-educated classes The widow said that her husband thought that the police were after him for theft, but she did not think that he was going out of his mind, nor did she consult a medical man This was unfortunate enough, but the conduct of the next witness deserves special notice. He said that he saw the man in the Mersey and he seemed to be standing with his head and shoulders in the water When asked by the coroner he said that he did not try to get him out. "I did not know whether we could touch him before letting the police know, but I thought, 'Well, if he was struggling we might help him out, but this man was still.'" From what was stated it was clear that the deceased could not have been in the water many minutes and might possibly have been brought round if there had been proper help It is pretty certain that now and then a life is lost from the prevalence of this idea that a body must not be touched without the sanction of the police Both witnesses were disallowed their expenses, which may do as much towards educating the male witness as the admonitory remarks of the coroner who "was surprised there was such ignorance on the part of people."

Sept 23rd

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

South Dublin Union Hospital

A MEETING of the South Dublin rural district council was held on Sept 17th when a motion recommending the appointment of a committee to consider the advisability of changing the union hospital into a district hospital in which the patients would be permitted to wear their own clothes was passed. Mr Molloy, in opposing the motion, said that the existing hospitals in the city were more than sufficient to meet all the requirements of the people, except in the case of an epidemic, and inasmuch as they were most efficiently worked the board should be slow to cast any slur on their management It is notorious that Dublin is very largely supplied with general hospitals in comparison with London or with any other city in the United Kingdom As regards accommodation, the Mater Misericordiæ Hospital heads the list with its 330 beds filled at all times except during the vacation and cleaning season. There are eight other large clinical hospitals available for the citizens. They are all clinical hospitals of high class, efficiently managed and well known to all the medical profession in Ireland and to the public as well In reference to epidemic disease in Dublin the committee will find from the Registrar General s recent report that deaths from measles which numbered 20 16, 11 and 11 respectively during the four weeks ending on Sept. 6th fell to six in the week which ended on Sept. 13th. There is no epidemic disease in Dublin at present The committee will doubtless come to the conclusion that it is not advisable that the union hospitals should try to supplement the general hospitals in providing accommodation for the artisans of Dublin. A glance at the report of the Dublin Hospitals Commission will make it clear that the city is more than adequately supplied with hospitals suitable for the artisan

The British Association for the Advancement of Science

The meeting in Belfast of the British Association for the Advancement of Science which began on Sept. 10th came to a conclusion on Sept. 17th. It cannot be said that the proceedings of this year s meeting were marked by any very striking features. No new discoveries were brought forward no remarkable address was delivered and no great traveller genuine or not (like de Rougemont) appeared At the last meeting in Belfast in 1874 the numbers attending were 1951 in 1902 they were only 1620 notwithstanding the greatly increased population of the city In 1874 Tyndall and Huxley gave addresses which provoked the greatest criticism and were epoch making in their suggestiveness while the opening remarks made by Sir John Hooker in the Botanical Section on Pitcher and Carnivorous Plants were at that time quite new and original In 1874 owing to the great exertions of one of the most distinguished citizens of Belfast, the late Professor Thomas Andrews, Vice President of Queen s College, as well as those of Professor Peter Redfern, the Right Hon. Thomas Sinclair and Sir William Ewart, Bart. (the honorary secretaries of the meeting) the citizens of Belfast took the deepest interest in the work of this great scientific meeting This year the executive committee somehow failed to arouse the necessary enthusiasm, due it may be, as pointed out by a Belfast Citizen," in a letter to the local press, to the lack of business management on the part of the local organisers and paid officials." It would seem that the members of the ordinary committee (338 gentlemen) were never summoned to meet everything was left to the executive, finance, and hospitality committees, and on none of these was there a lady s name. As a result, many of the members of the general committee have, owing to the way in which they were slighted left the meeting severely alone and have neither joined the Association as pointed out by the Belfast Citizen " nor assisted in any way whatever As a result, unfortunately the people of Belfast did not take the interest they otherwise would have done (as was shown in the 1874 meeting) when they were appealed to by their own well known citizens One of the best sections was that of Education and as might be expected in Ireland, a discussion on any department of education in that country is lively Dr Starkie, the resident commissioner on national education (and one of the commissioners on university education) presented an indictment of Irish primary education but, owing to the remarkable papers and addresses of Dr W A. McKeown and others he found himself and his own department so freely discussed and condemned that he was in the position of defender and not of attacker From a medical point of view the paper by Dr W Graham (resident medical superintendent of the Belfast Asylum) on the Mental and Moral Characteristics of the People of Ulster attracted a good deal of interest and the smoking concert given by the members of the Ulster Medical Society on Sept. 15th at which about 250 gentlemen were present, was a great success. Professor W D Halliburton, the President of the Physiology Section gave an able introductory address on the Present Position of Chemical Physiology, and in the same section there were animated discussions on a paper by Professor Schäfer on the Diuretic Action of Pituitary Extracts, and on a paper by Dr J Turner on Some New Features in the Intimate Structure of the Human Cerebral Cortex.

Sept. 23rd.

BERLIN

(FROM OUR OWN CORRESPONDENT)

Professor Virchow's Successor

NOTHING has yet been decided as to the successor of Professor Virchow in the chair of pathology at Berlin University and in the directorship of the Pathological Institute. It will be some time before any steps are taken in the matter because this is the season of the University vacation and it will not be until the end of October that the faculty of medicine will meet for the purpose of selecting candidates to be recommended to the Government. Professor Virchow's successor will therefore, not enter on his duties until the beginning of the summer semester and meanwhile the lectures will be delivered by Professor Virchow s assistants as during the time of his last illness. Some of the non medical journals state that owing to the great development of pathology since the time of Professor Virchow's entrance on his professorship the Government intends to divide the duties and to appoint two successors, one for the chair of pathological anatomy and the other for the chair of general pathology Undoubtedly this change would be in every way desirable. The daily papers, though of course, no authentic information is available, already give the names of probable successors, suggesting that Professor Orth of Göttingen, Professor Marchand of Marburg and Professor Ziegler of Freiburg will be candidates for the chair of pathology and that Professor Oscar Israel Professor Virchow's first assistant, will be a candidate for the chair of pathological anatomy There is also another vacancy in the Berlin Medical Faculty—namely the chair of clinical medicine held by Professor Gerhardt who died a few months ago.

Malaria on the Lower Elbe

Two years ago in his report on malaria Professor Koch pointed out that at that time disease hardly existed in Germany sporadic cases only being met with. Dr Mühlens, of the Institute for Tropical Diseases at Hamburg writing to the *Deutsche Medicinische Wochenschrift* now states that there is a form of malaria in the district of Ritzebüttel, near Cuxhaven Malaria in the epidemic form disappeared from this locality about 30 years ago and from 1898 to the end of 1900 no case occurred but in 1901 the disease reappeared and from February to July 1902, the two local medical men had no less than 130 cases to attend. The actual number of sufferers was, however considerably more than this, as most of them took quinine without seeking medical advice, and there was also a superstitious belief among the people that the disease, which they know as spring fever ought not to be treated in any way The medical men are of opinion that 30 per cent. of the population suffer from malaria or its effects and that no village or farm is free. Hitherto the disease has been of a mild character no death having occurred Anopheles maculipennis was stated to be present everywhere in the rooms of the dwelling houses as well as in the buildings occupied by domestic animals The houses are very unhygienic, the beds being placed as a rule in recesses from which fresh air is carefully excluded by curtains and in which the anopheles was found in great abundance. The cause of the sudden increase of the disease could not be ascertained.

Sept. 22nd.

EGYPT

(FROM OUR OWN CORRESPONDENT)

Prisons Department

THE annual report by Coles Pasha of the Egyptian prisons shows a series of well thought-out successful reforms due chiefly to the fact that money has been forthcoming from the Government for changes which have been badly wanted for the last 20 years of British rule There are now three convict, 13 central, and 80 local prisons accommodating altogether over 10 000 prisoners 16 men were executed during the year 1901 and 103 managed to escape, though nearly all of them were recaptured The general mortality shows a total of 17 per 1000, instead of 23 in the previous year Typhus fever broke out in the Alexandria prison and was traced back to some few cases in a small village prison, where there had been both overcrowding and underfeeding The mortality at Ghizeh, a large prison standing between Cairo and the Pyramids, is as high as 39 per 1000, and 17 out of the 29 deaths were accounted for by tubercle It is to be hoped that Dr Hodson, the newly appointed medical officer to the Prisons Department, will be able to prevent this high mortality in the future The reformatory for boys received 26 young criminals from Cairo judges during the year but only one boy was sent from the other big towns, showing that the provincial native judges have not yet discovered the advantage of not sending juvenile offenders to prison with the men Anyone who now visits the new prisons in Egypt can hardly believe how bad they were a few years ago

Medical Practitioners in Egypt

The number of Greek medical men is always increasing, and, of course, the British have increased greatly in numbers since the beginning of the occupation A list recently compiled at the central office of the Sanitary Department shows that there are now 1211 medical men of all nationalities in Egypt 604 are Europeans, 85 hold a Persian or a Turkish diploma from Teheran or Constantinople, 45 are natives with a European diploma, and the remaining 477 are natives educated in Cairo at the one medical school of the country It will be noticed that the foreigners considerably outnumber the Egyptians, though there are 90 times more of the latter than the former residing in Egypt The last published statistics give 38 9 per 1000 as the native birth rate throughout the whole country and 21 8 as the death rate As might be expected, the lowest mortality is in the desert districts and the highest is in the largest towns

Cairo Sept 15th

CANADA

(FROM OUR OWN CORRESPONDENT)

The Small-pox Records of Toronto and Montreal Compared

SINCE Jan 1st there have been 500 cases of small pox in Montreal and only 28 in Toronto There have been no cases in Toronto for some time but Montreal has still four cases. The number of deaths in Montreal was 11, in Toronto one In Montreal 432 of the patients had never been vaccinated

Health of Toronto for July

The vital statistics for July show 425 births, 222 marriages, and 245 deaths, compared with 352 births 241 marriages, and 303 deaths for the same month of last year The total births to date for 1902 are 2899, an increase of 318 over the figures of 1901 The increase in the number of births is in large measure due to the stricter regulations with regard to the registration of births adopted by the civic authorities

Laval University, Montreal

Two professors of Laval University sailed on August 21st for Rome to attend the fourth international congress of the professors of gynæcology and obstretrics They are Dr L. N Delorme and Dr M. T Brennan of Montreal —Dr Telesphore Parizeau has been appointed professor of pathology and clinical surgery to succeed the late Dr J A. S Brunnelle Dr Parizeau is a graduate of Laval University and after receiving his degree he spent several years in the hospitals of Paris He is a member of the visiting staff of Nôtre Dame Hospital, Montreal

The Toronto Asylum for the Insane

The Government of Ontario has in contemplation the removal in the near future of the Toronto Asylum for the Insane On account of the increased value of the present property—which is in the very centre of the western portion of the city—owing to the progress westwards of large manufacturing concerns, it has been thought that it would be profitable to the public and to patients alike if the institution were removed to a point some miles beyond the city limits. The present site, although large, is not considered sufficient for the employment of 800 inmates, and the proposal is to secure a farm of 300 acres whereon to erect new buildings on the cottage plan In addition the provincial authorities have in contemplation the introduction of physical culture as an educational factor into all the asylums of the province This innovation will first be experimented with in the Asylum for Idiots at Orillia, Ontario

The Unborn Child Co-heir with other Children

Mr Justice Lount of Toronto has recently rendered a judgment both unique and interesting Some few years ago a resident of western Ontario died leaving a widow and four children Four months after his death a fifth child was born. The case arose over the division of a $2000 insurance policy which according to the will was to be equally shared among the widow and children The administrators applied to the courts for advice as to whether or not the infant child born after the death of the father was entitled to a share in the insurance money Mr Justice Lount ruled that a child, although unborn, is still a child in law, and takes rank as a child living at the death of its parent. The case is said to be the first of its kind ever tried in Canada.

Canadian Criminal Statistics

The Dominion Statistician has recently issued a bulletin on the criminal statistics of Canada for the year ending Sept. 30th, 1901. The number of charges for indictable offences was 128 less in 1901 than in 1900, being 8291 in the former year and 8419 in the latter The convictions were 5638, or 130 less than in 1900 As regards the abuse of alcohol and crime, in 1899 the immoderate drinkers numbered 33 5 per cent of the convicted criminals, in 1900 25 1 per cent., and in 1901 nearly 30 per cent About one-third of the criminals were persons addicted to drinking Crime has increased disproportionately amongst juveniles of the male sex. This is reckoned to be the most serious item in the records of crime in Canada for the year 1901.

Montreal General Hospital

The revenue for the second quarter of the year 1902 at the Montreal General Hospital amounted to $18 660 and the expenditure to $23,995 For the first six months of the current year the revenue was $7500 less than for the corresponding time last year During the quarter 716 patients were admitted into the various wards, while in the outdoor departments the number treated amounted to 8108

French Medical Society of North America

The first meeting of this newly-organised medical association of the French practitioners of the United States and Canada was held in Quebec city in the latter part of June. There were over 200 delegates present to listen to and to discuss 80 papers The next meeting is to be held at Montreal in 1905 under the direction of the following officers —President, Dr Foucher, Montreal , first vice president, Dr Ahern, Quebec , second vice president, Dr Petit, Nashua, Newhaven, U S A. , third vice-president, Dr Rouleau, Calgary, North West Territory, Canada , general secretary, Dr Le Sage Montreal , secretary for Quebec, Dr A. Simard , treasurer, Dr Boucher, Montreal

Toronto Sept 12th

NEW YORK.

(FROM OUR OWN CORRESPONDENT)

Suicide Record of 1901 in the United States

SELF DESTRUCTION is gradually increasing in the United States Mr Frederick Hoffman, a well known expert on the subject, gives in the *Spectator* tables of comparative statistics of suicide It is shown by one of these tables that the average mortality from suicide during 1891–1900 was equivalent to a rate of 15 7 per 100,000 of population During the year 1901 the rate was 16 6, an increase of 0 9 per 100,000 of population During the year 1901 the suicidal frequency was not exactly the same as established by the 10 year average, but generally speaking the cities subject to an excessive mortality from suicide maintained their respective ratios during successive years Of the 50 cities in the United States tabulated by Mr Hoffman, 31 show an increase in the rate, while 19 show a decrease when the year 1901 is compared with the average for the preceding decade. The city having the highest ratio during 1901 was Hoboken, N J , while the city having the lowest was Fall River, Mass. The 10 cities with the largest suicidal frequency are St. Louis, Mo , Chicago, Ill., Hoboken, N J , Oakland, Cal , New York city proper , Millwaukee, Wis Cincinnatti, Ohio , Newark, N J New Orleans La. and Brooklyn N Y If the aggregate returns of 50 cities are compared for individual years since 1890 it is shown that the increase in the suicide rate has been quite gradual and persistent. The rate for 1890 was 12 0 per 100 000 of population increasing to 15 6 by 1895 and to 16 6 by 1901 The rates however, were highest during the two years 1897–98. If the rate prevailing during the first six years be compared with the last six years it is shown that the average mortality from suicide was 14 4 per 100 000 during 1890–95, against 16 5 during 1896–1901. Thus, no other conclusion can be reached than that a further increase in the rate of suicidal tendency in the cities of the United States may be anticipated during the coming decade. It would be interesting for the sake of comparison to collect the statistics of suicide in Great Britain and the European continent.

Reorganisation of the Public Hospitals of New York City

The public hospitals of New York City during the past few years have been subjected to much adverse criticism by the medical and lay press, on account both of their construction and management These hospitals are four in number—Bellevue and three subsidiary ones Gouveneur Harlem and Fordham The chief scandals have emanated from Bellevue, an institution which usually accommodates about 950 in-patients and has perhaps the largest out-patient department in the world The strictures passed by the press on the establishments, together with a strong public feeling of indignation aroused by accounts of the ill treatment and neglect of patients eventually decided the authorities to appoint trustees to report to the mayor of New York the condition of affairs and to propose remedies for the same. The trustees are 10 citizens of good standing the president being a physician of wide experience in hospital matters. The first report has just been handed in and deals with the inadequate facilities for the reception and examination of patients the overcrowded sleeping rooms of the house staff, the dark and unwholesome quarters of the employées, the indecent conditions in the prison wards the unsatisfactory methods of cooking and serving the food to the patients, and the antiquated and insanitary character of the plumbing throughout the hospital This report refers especially to Bellevue. It says "Some of these conditions we have been able to improve , others in spite of all our efforts, remain practically unchanged. They can only be remedied in our opinion, by the erection of an entirely new Bellevue Hospital in the place of the collection of buildings that has borne the name for so many years." When it is said that the main structure, which contains 718 of the 939 beds in the whole hospital, was erected in 1817 and was used as an almshouse until 1846 the justice of the report will be clearly apprehended The report enters fully into the inconvenient and insanitary conditions which prevail at Bellevue and its allied hospitals and then gives an account of the improvements which the trustees have been able to effect. Two administrative changes of great importance which have been introduced in Bellevue are given in detail, one being the reorganisation of the nursing service and the other changes in the pavilion for the insane. The nursing service at Bellevue has been hitherto divided between two schools, the New York Training School for Women Nurses and the Mills Training School for Male Nurses. The former school has had charge of the wards for women and children and the latter school of the wards for men. The trustees have concluded that there should be a woman head nurse in charge of every ward in the hospital with the exception of the male prison ward, the male alcoholic ward and the male genito-urinary wards. Male nurses will be trained and graduated as before but in somewhat smaller classes. A committee on nursing consisting of two members of the medical board and two members of the board of managers of each of the training schools will supervise the general policy of the nursing service of the whole hospital. Many changes have been enforced in the pavilion for the insane, which however cannot be here particularised for lack of space The trustees especially dwell upon the crying need of a new Bellevue Hospital and urge upon the municipal authorities that as the construction of a hospital of such magnitude will necessarily extend over several years it should be authorised at once. In a later letter I will refer again to this matter as it is one of far more than local interest.

Sept. 17th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT)

Public Health of Victoria

THE bubonic plague seems to have died out, for the present at all events No fresh cases have been reported in any of the States during the past month. Influenza is again prevalent and deaths from pneumonia have increased. The Board of Public Health of Victoria has decided that the diseases known as pyæmia, septicæmia, puerperal fever metria, and pelvic abscess shall be deemed to be dangerous, infectious, or contagious diseases for the purposes of any Act relating to the public health

The Milk-supply of Melbourne

Dr Norris, assistant medical inspector of the Board, has recently submitted a report on the milk supply of Melbourne. He had inspected 1104 premises in 564 of which 4865 cows were milked. Of these cows 1023 were grazed on open unfenced land. In 155 premises no special precautions were used to ensure cleanliness. In 360 the cow yards and in 287 the cowsheds, were unsatisfactory from a sanitary point of view The provision for the storage of the milk was unsatisfactory in 50 per cent. of the registered dairy premises. The unsatisfactory conditions bore an inverse ratio to the degree of attention bestowed on the subject by the local sanitary authorities. Defects were less general in districts where inspections had previously been made by officers of the board

Lunacy Department in Victoria.

Mr McCreery inspector-general of lunatic asylums for Victoria, has presented his annual report He maintains, with force that the control of the asylums should be placed under one body with undivided authority instead of being as at present, distributed among the chief secretary the master in lunacy the Public Service Board the Tender Board, the Department of Public Works and the Crown Law Department. The present system means loss of time and of money and is detrimental to the patient's interests, while the powers of the inspector and of the official visitors to make inquiries are of little use, because no provision is made to give administrative effect to the results of their inquiries. He recommends that the Kew Asylum should be reserved for patients likely to recover and that the chronic cases should be sent to other asylums. He adds that if the much needed pay cottages were built the improved treatment of many cases would be made possible

Deaths in Melbourne Gaol of non Criminals.—Censure of Medical Men.

Quite recently two men quite innocent of any offence against the laws were taken to the Melbourne Gaol and there died The first case was that of a man who was taken to the Melbourne Hospital and was refused admission owing to want of room and who by a series of misunderstandings and blunderings, was handed over to the police and taken to the gaol, where he died. At the inquest the jury in a rider censured the hospital authorities. The hospital committee censured the resident medical officer concerned. In the second case a lunatic who had been running about the streets unclothed was brought before the magistrates and remanded to gaol on a charge of "insulting behaviour" The medical officer of the gaol, Mr O G Godfrey discharged him to the police as a proper subject for a lunatic asylum , he was brought before the court and again remanded to the gaol, where he died two days later The coroner in summing up at the inquest, said that the cause of death was very clearly proved to be broncho-pneumonia. He could not see that any material error had been made in connexion with deceased's treatment but it was for the jury to say whether they considered that the arrangements made for the treatment of persons who, innocent of crime, were yet liable to be sent to the gaol were satisfactory It was obviously the duty of the authorities to provide a fit place for the reception of persons supposed to be suffering from insanity The jury found that the man's death was accelerated by the action of the medical officer of the gaol and they found him guilty of manslaughter The verdict was unanimously regarded as ridiculous and the Crown entered a *nolle prosequi*

The Profession and the Press

When the cablegrams concerning the illness of the King and the operation upon His Majesty reached the various cities in Australia, almost all of the newspapers published opinions from leading surgeons concerning the nature of the case and its probable result. In Sydney alone has any disapproval been expressed of the action of the medical men who allowed their opinions to be published. At a meeting of the New South Wales branch of the British Medical Association held on July 25th, Dr R. Worrall moved the following addition to the articles of association —

> No member of the New South Wales Branch of the British Medical Association engaged in private practice shall allow himself to be interviewed on professional matters by representatives of the lay press without a written undertaking that his identity shall not be disclosed

The meeting was largely attended and the matter was freely discussed. Dr Fiaschi challenged Dr Worrall to show any precedent for such a resolution and he proposed as an amendment that medical men should not give interviews to the lay press on medical subjects unless they were of national or public importance. He spoke very vigorously in favour of absolute freedom of speech and contended that medical men should not sink their individuality A prolonged discussion followed, the general feeling being that the interviews in reference to the King's illness were given under such circumstances of public interest as to warrant the action of the medical men who gave them. Dr Fiaschi's amendment was negatived by one vote Dr Wilkinson then moved that, as there were evidently two sides to the question and opinions were nearly equally divided, "the whole question be allowed to lapse" The chairman, Dr Rennie, declared this motion lost, but Dr Wilkinson called for a division which resulted in a large majority for his motion. The matter has been much discussed in the Sydney press and the proposal to "gag the profession," as it is termed, condemned The newspapers claim that the public has a right to information in such cases, and as the press looks to acknowledged leaders of the profession for such information, it is also right that the public should know who gives the opinion and what weight it carries

Attempt to Amend the Medical Act of New South Wales

On July 15th the second reading of the Medical Practitioners (Amending) Bill was moved by a private member in the Legislative Assembly of New South Wales It was a bold attempt to legislate for an individual who wished to be registered but was precluded by the present Act as he had just fallen short of the three years' course prescribed Fortunately the attempt failed and the Bill was left in a curious position, the motion "that the Bill be read a second time" being left with the word "that" standing alone, and unless another amendment is moved it lapses

Hospital News

The annual meeting of the governors of the Melbourne Hospital was held on July 24th. The report of the committee stated that by economising and by adopting new means of raising revenue the deficit had been nearly wiped out. The number of patients who have received treatment during the year had been 21,474 and of these 4444 were admitted to the wards and 17,030 were treated in the out-patients' department There had been 726 deaths, 245 of which occurred within 72 hours after admission. Several improvements had been effected in the building and other improvements and alterations were proposed.—The annual meeting of St. Vincent's Hospital, Melbourne, was largely attended and the reports which were read were very satisfactory The total receipts amounted to £3321 and the expenditure to £3205 The first section of the new buildings is in course of erection and will accommodate 80 patients 496 major operations were performed with a death-rate of 3 per cent. and 10,440 patients were treated during the year—The report presented at the annual meeting of the Victorian Eye and Ear Hospital stated that the total number of in patients treated during the year was 805, and the out-patients (distinct cases), 5549, this being an increase of 131 over the previous year The number of attendances of out patients was 30,017, being an increase of 1226 The number of operations performed was 1124 The revenue derived from all sources was £3750, and the expenditure was £3501 The necessity for enlarging the accommodation for out patients, referred to in the previous report, still existed, and was, in fact, becoming more and more accentuated There was also urgent need for more accommodation for in patients as at present many patients who ought to be admitted to the wards had to be refused. The most urgent of these cases had to come every morning to the hospital to be treated during the day as in patients, returning to their homes or to lodgings for the night.—The Sydney Harbour Trust Commissioners gave notice to quit to the committee of the recently established King Edward Hospital, and as the committee did not remove an ejectment was executed on July 10th The patients were conveyed to the Sydney Hospital and the Coast Hospital in ambulances under the supervision of the medical officer of the Board of Health, the medical superintendent of the Sydney Hospital, and the medical officer of the Coast Hospital, who were satisfied that the patients were fit to be removed The Harbour Trust Commissioners then took formal possession of the building

Death of Mr T Westbrook.

The death is announced of Mr Talbot Westbrook, M.R.C S Eng, L.A.H Dub He studied medicine at Guy's Hospital and completed his course in 1871 He practised in England until 1890, when he came to Nunnukah, in Victoria, and subsequently removed to Narrendua, in New South Wales His health failed and he relinquished practice some two years ago

August 18th

Obituary.

ADOLFO TARGIONI-TOZZETTI

Full of years and honours the emeritus professor of "comparative anatomy and the zoology of the invertebrates" in the Florentine medical school has gone over "to the majority" He died at Careggi, at the Villa Corradi, on Sept. 18th, and was followed to the grave by a funeral *cortège* which included representatives of nearly every association in Italy devoted to medicine and nature study Not the least distinguished of a family in which scientific and literary predilection seems hereditary, Adolfo Targioni-Tozzetti was born on Feb 13th, 1823, in Florence, and after the usual preliminary instruction enrolled himself as a student in the medical faculty of the local seat of learning In 1848 he graduated with the highest honours and on the same day, being then 25 years of age, he was appointed assistant professor of botany and materia medica in the Scuole di Farmacia e di Materia Medica attached to the great hospital of the Santa Maria Nuova. Even before graduation his ardour and distinction in nature study were recognised far beyond the precincts of the Florentine school, securing him, among other honours, that of corresponding fellow of the Accademia Medico Fisica of Milan. He was an admirable lecturer, gifted with a power of lucid exposition and vivid expression that led to his appointment to various commissions under Government, such, for example, as that instituted by the Ministry of Commerce and Agriculture to inquire into the fishing industry and its conditions in Sweden and Norway These engagements proved a welcome interlude to his indefatigable work in the laboratory, particularly with the microscope, alternating, on occasion, with zealous intervention in patriotic duty, as in the cholera epidemic of 1854, when he acted as "medico straordinario" and in the war of independence in 1859 when, as regimental surgeon, he worked not less energetically and usefully

In 1855 by "sovereign rescript," he succeeded his illustrious kinsman, Antonio Targioni Tozzetti, in the chair of botany and materia medica—the post in which he had been assistant, thereafter he was appointed professor of natural history as applied to the industrial arts, and, further, was promoted to the chairs of pharmaceutical botany and materia medica in the Royal Istituto Tecnico and of Clinica Agraria in the Agrarian Institute at the Cascine. By this time honours from European universities, academies, and learned societies flowed in upon him apace, till the list numbered between 20 and 30 "corresponding fellowships" In 1860 he was nominated in the Reale Istituto di Studi Superiori to the post which he held with brilliant acceptance till 1900, when severe illness laid him aside—the professorship of comparative anatomy and the zoology of the invertebrates, a department in which he turned out year by year accomplished and enthusiastic scholars many of whom are now professors of the same subject in the various medical schools of Italy Always practical in his activity he took the deepest interest in mology in its agricultural bearings and laid the wine l olive culture of Tuscany in particular under lasting gations. To him indeed the Stazione di Entomologia aria di Firenze owes its origin and from 1875 till year when illness suspended all his work he took leading part in its investigations and reports In B, on completing his seventieth year the occurrence commemorated by a *festa* in which his colleagues, pupils, and his fellow-citizens, without distinction creed or party put on record their appreciation of his work and their admiration and love of him as a man. m London from Stockholm and St. Petersburg from ris, from Berlin, and from Vienna, to mention the leading itals, he received congratulatory messages from the atest *savants* of the day attesting the value of his dis- eries, of his improvements on accepted doctrine, and of his tributions generally to the cause of nature-study On that asion the old man eloquent" made worthy acknowledg nt of the distinction conferred upon him and returned to e laboratory and to the professorial chair with an energy d enthusiasm surprising in one of his years But as the ntury drew to a close signs of senile degeneration gradually clared themselves, resulting in the acute illness to which, ter struggling nobly against it for many months, he finally ccumbed in the well-earned repose of the Villa Corradi.

ARTHUR BARRY BLACKER, M.D, B.S. DURH L.R.C.P LOND, M.R.C.S ENG

WE regret to have to announce the death of Dr thur Barry Blacker which occurred on Sept. 17th thur Blacker was the son of the late Rev Maxwell acker who was well known as a scholar and an admirable anslator of mediæval Latin hymns. His son was educated the Merchant Taylors School where he remained until he tered at St. Thomas s Hospital as a medical student In 83 he became a Licentiate of the Society of Apothecaries London and a Member of the same corporation in 1891. e received the Member s diploma of the Royal College of rgeons of England in 1884 and graduated at the University Durham as M.B in 1885 proceeding to the degree of M.D 1890 In November 1889 he went to Egypt and acted resident physician at Mena House Cairo, for two nters He held various appointments at St. Thomas s Hospital and for some time acted as assistant electrician to St. Bartholomew s Hospital Soon after the introduction of he x rays he was made superintendent of the x ray department at St Thomas s Hospital and also at the hospital for nsumption at Brompton and in this department of ientific knowledge he did a great deal of useful work. For some six months before his death he was unable to do ctive work although he saw patients up to the month of June.

Arthur Barry Blacker was an earnest and devoted Churchman. He took much interest and did a great deal of unostentatious and valuable work in the parish of St. Barnabas, Pimlico. He was one of the church wardens and for some time physician to the Dispensary of St. Paul and St. Barnabas, a charitable institution which was supported by the parishioners. He was buried on Sept. 20th at Putney Vale Cemetery In the early morning there was a private celebration of the Eucharist, attended by the members of the family and the first part of the burial office was sung in the church at 11.30 The building was quite full and many went on to the cemetery Among the wreaths were those sent by the staff of St. Thomas's Hospital and a special one from the x ray department, by the Roentgen Society by the Clinical Society and by the St. Barnabas Orphanage. The coffin was covered with the beautiful pall belonging to the church The vicar and the Rev C. O Becker for some 17 years assistant curate of St. Barnabas, together with the choir accompanied the body to the cemetery and there were laid to rest the mortal remains of one of whom it may well be said—

And full of kind deeds simply done
Were all his days"

THE PREVALENCE OF SMALL POX.—Only two ases of small pox have been admitted to the hospitals of the Metropolitan Asylums Board since Saturday Sept 20th—namely 1 on Sept. 22nd and 1 on Sept 24th.

THE ELECTION OF A DIRECT REPRESENTATIVE ON THE GENERAL MEDICAL COUNCIL

As we go to press we are informed that the result of the election for a Direct Representative on the General Medical Council is as follows —

SIR VICTOR HORSLEY	7672
MR. JOSEPH SMITH	3105

Medical News

UNIVERSITY OF DURHAM —At the examinations for the degree of Bachelor in Medicine held in September the following candidates satisfied the examiners —

FIRST EXAMINATION

Elementary Anatomy and Biology Chemistry and Physics —Second-class Honours: Frederick Charles Pybus, College of Medicine, Newcastle-upon Tyne. Pass List: Horsley Drummond and Walter Nicholas Johns, College of Medicine, Newcastle-upon Tyne; Hector Graham Gordon Mackenzie, M.A. Edinburgh Medical School and George Robert Philipson and David Ranken College of Medicine, Newcastle-upon Tyne.

Elementary Anatomy and Biology —Helen Young Campbell, London School of Medicine for Women; Lewis Augustus Clutterbuck, L.R.C.P & S Ed., L.R.C.P I., Catholic University Dublin and College of Medicine, Newcastle-upon-Tyne; Hamilton Drummond, College of Medicine, Newcastle-upon Tyne; Camilla Lucy Heek rath London School of Medicine for Women; Florence Barrie Lambert and Jessie Jean Martin Morton Edinburgh Medical School; Jessie Margaret Murray London School of Medicine for Women; Norman Spedding, College of Medicine, Newcastle-upon-Tyne; and Eric Frushard Waddington Yorkshire College Leeds.

Chemistry and Physics —Vincent Edgar Badcock, College of Medicine, Newcastle-upon Tyne; Thomas Henry Bishop, M.R C.S., L.R.C.P Edinburgh University; George Edward Peckett Davis, George Denholm Neville Avory Eddlestone John Charles Norman, Geoffrey Pybus Richard Woodward Swayne and Lionel Langford Westrope College of Medicine, Newcastle-upon-Tyne; Frank Whitby St Bartholomew s Hospital; and Thomas Leathard Wormald, College of Medicine Newcastle-upon-Tyne

SECOND EXAMINATION

Anatomy, Physiology and Materia Medica.—First-class Honours: James Glenny Gibb St. Bartholomew's Hospital. Second-class Honours: Lillie Johnson B.Sc. College of Medicine, Newcastle-upon Tyne; William Edward Hopkins University College, Liverpool; Arthur Alan Miller M R C.S., L.R.C.P Guy s Hospital; and Francis Henry Moxon, College of Medicine, Newcastle-upon-Tyne. Pass List: Arthur Edward Clayton L.R.C.P and S. Edinburgh School of Medicine James Henry Cooke, B Litt., William Cowden, Hugh Boyd Cunningham, William Ernest Falconar Arthur Beresford Jones Cyril Claude Lavington, William Ernest Craven Lunn Ernest Martin and Charles Duncan Relton, College of Medicine, Newcastle-upon Tyne; Oswin Shields, M.R.C.S. L.R.C.P St. Mary s Hospital; and Richard Geoffrey Shaw Simpson, Frank Tomlinson Simpson Edward Tate, and Tys Visser College of Medicine Newcastle-upon Tyne.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna* Dr P L Gardini has been recognised as *privat docent* of Midwifery and Gynæcology —*Budapest* Dr J Böke *privat-docent* of Otology has been promoted to an Extra ordinary Professorship —*Gratz* Dr Erwin Payr *privat docent* of Surgery has been promoted to an Extraordinary Professorship —*Innsbruck* Dr Oscar Zoth of Gratz has been appointed to the chair of Physiology vacated by Professor von Vintschgau who is retiring —*Kiel* Dr R. O Neumann has been recognised as *privat-docent* of Hygiene.—*Lausanne* Dr Casimir Strzyzowski has been appointed Extraordinary Professor of Clinical Medicine.—*Philadelphia (Jefferson College)* Dr Thomas G Ashton and Dr. Julius L. Sallinger have been appointed Professors of Clinical Medicine.—*Prague (German University)* Dr H Schloffer *privat-docent* of Surgery and Dr Kleinhaus and Dr Knapp, *privat docenten* of Midwifery and Gynæcology have all been promoted to Extraordinary Professorships.—*Strasburg* Dr A. Stolz has been recognised as *privat-docent* of Surgery —*Turin* Dr Gasparo D Urso of Rome has been appointed to the chair of Surgical Pathology —*Vienna* The rank of Ordinary Professor has been conferred on Dr S. von Basch Extraordinary Professor of Experimental Pathology on Dr L. Oser Extraordinary Professor of Medicine and on Dr Aloi Monti Extraordinary Professor of Pædiatry Dr A. Schattenfroh *privat-docent* of Hygiene, has been promoted to an Extraordinary Professorship —*Warsaw* Dr Gendre of St Petersburg has been appointed Extraordinary Professor of Physiology

South Devon and East Cornwall Hospital, Plymouth.—The new out-patient department of this hospital has just been opened The building, which was much required, has been erected at a cost of £2000

Hospital for Sick Children, Great Ormond-street—The Emperor of Germany has, through the German Ambassador, accepted from Mr Richard N Speaight for his private library a copy of "Children's Portraits" which he lately compiled with the object of raising £1000 towards the funds of the Hospital for Sick Children, Great Ormond street, W C The copy was specially bound in vellum and Russia leather similar to the one presented to the Queen Messrs F and R Speaight still have a few copies left, which may be obtained for half a guinea each on application at their studio, 178, Regent-street, London, W

The Lucas Bed at the London Temperance Hospital.—The members of the National British Women's Temperance Association have endowed a bed in the London Temperance Hospital, Hampstead road, to perpetuate the memory of Mrs Margaret Lucas sister of the late Mr John Bright. Mrs Lucas was the first president of the association, an ardent worker in the cause of temperance, and a munificent benefactor of the London Temperance Hospital The £1000 necessary for the endowment of the bed have been raised through the efforts of the members of the branches of the association, aided by Miss Orme, late the matron of the hospital, to whom the movement owes in a great measure its origin Some £600 have been previously handed over to the board of management and the final instalment was given to them on Sept. 23rd The proceedings took place in the board room of the hospital The members of the association, of which Lady Henry Somerset is president, were cordially welcomed by Mr Alderman T Vezey Strong, chairman of the hospital, who in a brief speech alluded to the warm interest evinced by Mrs Lucas in the institution Mrs Aukland, honorary vice president of the association having briefly narrated the origin of the scheme, Lady Henry Somerset handed to the chairman a cheque for £400 in completion of the endowment She referred to the unceasing labours of the sister of the distinguished statesman and expressed her conviction as to the great importance of the coöperation of women in the multifarious work associated with hospital management Mr Alderman Strong, in accepting the gift on behalf of the hospital, tendered the hearty thanks of the board to the members of the National British Women's Temperance Association for the spirit that had animated them, which, he hoped, might be emulated by others —The proceedings were brought to a close by the singing of the National Anthem

Presbyterian Mission Hospital, Miraj—The Presbyterian Mission Hospital at Miraj, in the southern Mahratta country, was established in 1892 in connexion with the Western India Mission of the Board of Foreign Missions of the Presbyterian Church in the United States of America. The report for 1901 states that the attendance of in patients was 92 less than that of 1900, which was attributable to the presence of plague in the town of Miraj for the greater part of the year Of the patients treated 507 were males, 212 were females, 500 were entered as surgical (which includes all eye cases), and 219 as medical. The average duration of treatment was 21 days. The average daily attendance was 51. The average distance travelled by each patient in coming to the hospital was 43 9 miles There were 55 deaths—namely, 25 among the surgical patients and 30 among the medical patients, the latter included seven deaths from plague and four from malignant types of fever 702 operations were performed, 33 of them being abdominal, of the remainder, the greatest numbers under separate headings were 170 cases of extraction of cataract, 56 of iridectomy for leukoma 31 of litholapaxy for vesical calculus, 27 of osteotomy for necrosis and caries, and 10 of division of anal fistula. There were also three cases of rhinoplasty for contracted nares, and in connexion with this it is mentioned that some years ago a man who had lost his nose as the result of 'an enemy's grudge" came to the hospital for the purpose of having a new one made He had been wearing a wooden nose made by a carpenter and painted the colour of the skin, it was not a bad imitation and was set over the nasal cavities in place of the absent nose, being held in position by a string tied round the head The wearing of a pair of blue spectacles completed the artistic

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institut and others possessing information suitable for this column, invited to forward it to The Lancet Office directed to the Editor not later than 9 o clock on the Thursday morning of week for publication in the next number

Alexander T D, M.B, B Ch, B A O Dubl has been appoi Certifying Surgeon under the Factory Act for the Porth District of Glamorgan

Askew J R, L R C P & S Edin L F P S Glasg, has been appoi Medical Officer of Health for the Fochabers Ward of the B Parish Aberdeen

Beaton **Wm Leslie** M B Ch B Aberd has been appointed Ju House Surgeon to the West Ham and East London Hospital E

Booth Clarkson James L R C P, L R C S Edin late Medical Of in charge of Troops for the District of Molteno Cape Colony, been appointed District Surgeon and Health Officer for the Dis of Umzinto Natal

Brown J M B Ch B Vict has been re-appointed Medical Offic Health for the Borough of Bacup

Casey E M D Lond has been re appointed Medical Officer of He to the Windsor Town Council

Crowther Smith S F M B Lond has been appointed Certif Surgeon under the Factory Act for the Liss District of Hants.

Dods J E M B B S Edin has been appointed Medical Office Brisbane Queensland Australia Health Officer for the Por Brisbane, and Visiting Surgeon to the Prisons at Brisbane, to Fortitude Valley Police Gaol, to the St Helena Penal Estab ment, to the Lock Hospital at Brisbane and to the Dun Benevolent Asylum

Eden W A, L R C P Lond M R C S L S A has been appoi Honorary Medical Officer to the Wadebridge (Cornwall) Brigade

Fooks E V R M R C S, L R C P Lond has been appoint Public Vaccinator in South Australia.

Grant J W G, L R C P Lond M.R C S has been appoi Certifying Surgeon under the Factory Act for the Llanwrtyd W District of the county of Brecon

Haycock H E, L R C P Edin M R C S has been appoi Certifying Surgeon under the Factory Act for the Alfreton Dis of the county of Derby

Ick, T E, M B Melb has been appointed Officer of Health at B Arrow, Western Australia

Jenkins A W M.B B S Lond has been re appointed Me Officer of Health to the Hinckley Urban District Council

Kelsall H T M D Lond, has been appointed a Member of Victoria Public Library and Museum Committee, Wes Australia

MacDonald, H M B M S Edin has been appointed Resident C missioner Rotuma and Stipendiary Magistrate and Health Of for the District of Rotuma New Zealand

McDonald M M B B S Dubl, has been appointed Certif Surgeon under the Factory Act for the Portaferry District of county of Down

Macnicol R R M B B S Glasg has been appointed Certif Surgeon under the Factory Act for the Taynuilt District of Ar shire.

Morrison J T J M A Cantab M Sc Birm F R C S Eng, been elected Honorary Surgeon to the Queen s Hosp Birmingham

Ratcliff Gaylard J M D Brux L R C.P & S Edin L F P S Gl has been appointed Medical Officer and Public Vaccinator for St Clement District by the Truro Board of Guardians

Reissmann C H, M B B C Cantab, has been appointed a Pu Vaccinator in South Australia

Senior, A M.B B C Cantab has been re-appointed Medical Of of Health to the Esher and Dittons Urban District Council

Sheen **William** M S, M D Lond F R C S Eng has been appoi Honorary Surgeon to the *Hamadryad* Seamen's Hospital Card

Soltau A B M B Lond has been appointed Medical Officer to Plymouth Public Dispensary

Spencer W, L R C P & S Edin, has been appointed Certif Surgeon under the Factory Act for the Bolsover Distric Derbyshire

Turnbull P M M B Ch B Aberd has been appointed T Assistant Medical Officer to Bethnal Green Infirmary, Camb Heath, N E

Vacancies.

For further information regarding each vacancy reference shou made to the advertisement (see Index)

Birkenhead Borough Hospital—Junior Male House Sur Salary £80 per annum with board and washing

Birmingham Parish of—District Medical Officer Salary £350 annum rising to £400

Blackburn and East Lancashire Infirmary—Junior Hous geon Salary £70 per annum with board washing &c.

Cancer Hospital London—Pathologist Salary £250 per annum

Cheltenham General Hospital—Junior House Surgeon, married Salary £70 per annum, with board lodging, washing

Chester County Asylum—Third Assistant Medical Officer, married Salary £160 per annum, with board lodging washing

County Lunatic Asylum Lancaster—Assistant Medical Officer, married Salary £150 per annum with board &c.

Croydon Union Infirmary Mayday road Croydon—Resident As ant Medical Superintendent and Dispenser Salary £120 annum increasing to £150 with apartments rations and wash

DOWN DISTRICT LUNATIC ASYLUM Downpatrick.—Junior Male Assistant Medical Officer unmarried Salary £100 per annum with apartment board washing fuel light, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN Shadwell E.—Officer for the Electrical Department

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION —House Surgeoncy Salary £100 per annum, with board lodging and washing

GOWER UNION Swansea —District Medical Officer and Public Vaccinator Salary at rate of £45 per annum

GREAT NORTHERN CENTRAL HOSPITAL, Holloway N —Pathologist and Curator to the Museum Salary 50 guineas per annum. Also Assistant Anæsthetist Honorarium 10 guineas per annum.

GUILDFORD ROYAL SURREY COUNTY HOSPITAL.—Resident House Surgeon Salary £100 with board residence and laundry

HAMLET OF MILE END OLD TOWN —Assistant Medical Officer unmarried Salary £150 per annum with board lodging and laundry

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST Brompton —Assistant Resident Medical Officer for six months. Salary £100 per annum with board and residence. Also Resident House Physician for six months. Honorarium £25.

LEITH HOSPITAL.—Medical Registrar

LIVERPOOL (near) COUNTY ASYLUM Rainhill—Assistant Medical Officer as Locum Tenens Salary £4 4s. per week with apartments and board

MACCLESFIELD GENERAL INFIRMARY —Junior House Surgeon. Salary £70 per annum with board and residence.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL —Resident House Surgeon. Honorarium at rate of £50 per annum and board

MONMOUTHSHIRE ASYLUM Abergavenny —Junior Assistant Medical Officer Salary £150 per annum increasing to £200 with board, lodging and washing

NORTH EASTERN HOSPITAL FOR CHILDREN Hackney-road N E.—House Physician, also House Surgeon, both for six months Salaries at rate of £80 per annum with board residence, and laundry

NOTTINGHAM CHILDREN'S HOSPITAL, Forest House.—House Surgeon (unmarried) for six months. Salary at the rate of £100 with board and residence.

RICHMOND UNION Surrey —Medical Officer and Public Vaccinator Salary £125 per annum and fees.

ROTHERHAM HOSPITAL AND DISPENSARY —Assistant House Surgeon. Salary £80 per annum.

ROYAL SEA BATHING HOSPITAL, Margate —Resident Surgeon to act as Junior for six months and Senior for a like period Salary of the two offices at rate of £80 and £120 per annum respectively with board and residence.

ST MARY'S HOSPITAL, Paddington W —Surgeon or Physician for Diseases of the Skin.

ST MARY'S HOSPITAL FOR SICK CHILDREN Plaistow E.—Honorary Medical Officer Also Ophthalmic Surgeon

ST MARYLEBONE GENERAL DISPENSARY Welbeck-street, Cavendish-square.—Honorary Surgeon

STOCKPORT INFIRMARY —Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing and residence

WANDSWORTH AND CLAPHAM UNION —District Medical Officer Salary £60 per annum with fees.

WESTMINSTER HOSPITAL. Assistant Pathologist and Curator Salary 100 guineas a year

WINCHESTER ROYAL HANTS COUNTY HOSPITAL.—House Physician unmarried Salary £65 rising to £75 with board, residence, &c.

YORK DISPENSARY —Resident Medical Officer unmarried. Salary £110 a year with board, lodging and attendance.

Births, Marriages, and Deaths

BIRTHS

BURTON BROWN —On Sept. 14th at Via Venti Settembre, Rome, the wife of F H. Burton Brown M.A. M.D Oxon.—twin sons.

DAMES.—On Sept. 22nd at Lambcroft, Uffculme Devon, the wife of E. S B Dames M.R C S L.R.C P Lond., of a daughter

WILLIAMS.—On Sept. 10th at the Fleet Surgeon's House Royal Marine Barracks, Plymouth the wife of Dr J C B Williams of a son.

MARRIAGES

COWIN—BYERS.—On Sept. 22nd, 1902, at Christ Church, Sunderland, by the Rev C. G Hopkinson M A Captain Douglas H. F Cowin, I.M.S, to Ethel daughter of William Lumsdon Byers.

GULLAN—GOODWIN —On Sept 17th at St Saviour's Church Oxton, Birkenhead, by the Rev E. Downing Pollock vicar, Archibald Gordon Gullan M D., M R.C.P Lond F.R.C.S Eng 37 Rodney street Liverpool, second son of the late Archibald Black Gullan of Swansea, to Agnes third daughter of Ambrose E Goodwin of Oxton

DEATHS

BUTT —On August 28th at Malakand, Frontier Provinces India, George Berkeley Butt I.M.S aged 24

COCKELL.—On Sept. 18th, at Dalston-lane Hackney Frederick Edgar Cockell M R C.S., L.M. aged 72 years

BLACKER.—On Sept. 17th at 16, West Halkin-street, Belgrave-square, S W, Arthur Barry Blacker M D son of the late Rev Maxwell Blacker aged 40 years

N.B —A fee of 5s is charged for the insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents

MEDICINE-MONEY ON LOAN

THE Wandsworth guardians appear to have inaugurated a form of medical charity which is so far as we are aware, distinctly novel Also it appears to be judicious. They have started a system by which "temporarily necessitous persons may borrow certain sums to secure medicinal necessaries." According to the conditions of the loan it must be repaid by instalments ranging from 1s to half-a-crown weekly Each case is to be dealt with by a combination of the various relief committees Presumably the opinion of a medical officer will be obtained in each case as to the nature and desirability of the "medicinal necessaries." No doubt among the poorer classes in many districts of London the difficulty of paying the druggist weighs more heavily than that of paying the medical man. It is to be hoped that extra efforts to meet the demands of one will not be accompanied by neglect of the other whose deserts are greater though his opportunity for insisting on them is less.

OCULAR SPECTRA.

To the Editors of THE LANCET

SIRS,—Will some of your readers be kind enough to explain the exact cause of the following symptoms? A few weeks ago I had been reading fine print for several hours when quite suddenly the letters appeared indistinct and only parts of them could be seen This condition became so bad I had to stop reading and on looking up saw only parts of the objects around me. There was a circle of a lightish colour dancing before my eyes most of the time. These symptoms lasted about half an hour and when they gradually disappeared I had a head ache which lasted all the evening Twenty years ago when a boy in my teens, I used to have these same symptoms regularly every few weeks but have not had any of them until the attack a few weeks ago. Twelve years ago I had my eyes examined by an ophthalmic surgeon and since then wear appropriate spectacles for myopia. I may state that when looking up at the sky or at white paper I always see "hairs" or black specks Ever since I can remember I have seen a greyish white coloured ball moving in front of my eyes when walking rapidly or exercising in the early morning If I walk rapidly in the morning and look at print parts of the letters are only seen, but this condition only lasts a few seconds. An explanation with treatment will much oblige.

I am Sirs yours faithfully

CLYMONT

Sept. 15th 1902.

FACT OR COINCIDENCE?

To the Editors of THE LANCET

SIRS,—Is it merely a coincidence that the cases of appendix trouble which have passed under my limited observation have been associated with a more or less prominent pomum Adami and is there any parallel to such experience in the observation of others? If I had to advise as to the removal of the appendix as a precautionary measure and merely on my own observations, I should go so far as to say that unusual prominence of the thyroid cartilage would induce me to recommend it. But of course, I know too well the fallacy of limited observations.

I am Sirs, yours faithfully

GEORGE H R DABBS M D Aberd

Shanklin, Isle of Wight Sept. 24th 1902.

MEDICAL ETIQUETTE.

To the Editors of THE LANCET

SIRS —I should like to have your opinion on *the following case of* "want of medical etiquette. I was attending a patient the wife of A's coachman I visited three times and the patient was going on satisfactorily On my fourth visit I was told that A had sent his own medical attendant to see the case that day (four days ago) I have had no communication from A or from his medical attendant. Was the conduct of A's medical attendant professional and gentlemanly towards a fellow practitioner?—I am Sirs, yours faithfully

DISGUSTED

Sept 24th 1902.

* * Either A or his medical attendant or both should certainly have communicated with our correspondent —ED L.

ALABONE AGAIN!

To the Editors of THE LANCET

SIRS —Will you permit me to encroach upon your valuable time to ask your advice in the following matter? My wife is suffering from consumption and having seen in the household weekly *Home Chat* an article on Dr Alabone and his cure which has excited her interest we inquired the cost of his treatment We are informed however that in addition to heavy fees an essential part of the treatment is some special inhalation apparatus which costs between £50 and £70 In view of the costliness of the cure we are anxious to know something more about the man and his system before going to such expense Being so far away there are many difficulties in our way and it has been suggested to us that you might do us the great favour to give us the great benefit of your valued advice in a matter of such vital importance to us Are Alabone and his system worthy of confidence? Is his system the best for the cure of consumption? Trusting you will be so kind as to inform me upon these points &c., for which great favour please accept our sincere and heartfelt thanks

I am Sirs yours faithfully,

Sept 17th 1902 J S

*** Alabone is a quack and we advise our correspondent to have nothing to do with him He should consult a trustworthy medical man either of his own nationality or some foreign practitioner in the town where he lives —Ed L

THE CASE OF DR RAINSBURY

To the Editors of The Lancet

Sirs —Referring to the appeal which you kindly permitted me to make through the medium of The Lancet I beg to inclose a list of the subscribers to the fund Dr Rainsbury and the Council of the Midland Medical Union desire me to express their thanks for the generous response which has been made to the appeal The amount of the judgment and costs is £182 6*s* 2*d*. The donations already received amount to £55 12*s* 3*d* It is hoped that further contributions will be received towards the balance of £126 13*s* 11*d* Will you kindly insert the list of subscribers in the next issue of The Lancet?

I am Sirs, yours faithfully

George S O'Rorke,
Secretary Midland Medical Union.

Albion Chambers, King street, Nottingham Sept 22nd, 1902.

	£	*s*	*d*
Dr H Michie Nottingham	1	1	0
Dr E H. Houfton, Shirebrook	1	1	0
Mr J G Shea Chesterfield	1	1	0
Dr W B Ransom, Nottingham	3	3	0
Dr H Handford, Nottingham	1	1	0
Dr W Windley, Birmingham. ..	0	10	0
Dr G S Foulds Nottingham	0	10	6
Dr Alex Gregor, Sutton on Trent	0	5	0
Dr C Westbrook Retford	0	10	0
Mr R Howson Nottingham	0	10	6
Mr W H Coates, Hucknall Torkard	0	10	6
Dr W H Hill, Basford, Notts	1	1	0
Mr E Simpson, Epperstone	0	5	0
Dr R C B Holland, Matlock Bath	1	1	0
Dr E B Ffennell, Nuncargate	1	1	0
Mr W G Laws, Nottingham	0	10	0
Dr F R. Cassidi Derby	2	2	0
Dr W J Le Grand, South Normanton	0	5	0
Mr J K Goodall, Chesterfield	1	1	0
Dr C E Cornwall Sneinton ..	1	1	0
Mr W C Leitch, Langwith	0	10	0
Mr W E Wyllys Great Yarmouth ..	1	1	0
Mr E V Eames Heanor	1	1	0
Mr J A. Benson Ashover	1	1	0
Mr A Wilson Shea, Chesterfield	0	10	0
Dr Walter Hunter Nottingham	1	0	0
Dr W Cecil Sharpe, Darley Dale	0	10	6
Dr A. Fulton Nottingham	1	1	0
Dr W Benthall Derby	0	10	6
Mr S W C Warneford, Darley Dale	0	10	6
Mr G A. Ferraby, Nottingham	0	10	0
Dr John Knox Bakewell	0	10	0
Dr T McClure, Chesterfield	1	1	0
Mr H W Smith Mansfield	1	1	0
Mr C J Palmer, Mansfield Woodhouse	1	1	0
Dr A Court Chesterfield	0	10	6
Dr A Cox, Gateshead	0	5	0
Mr V E Sutcliffe, Chesterfield	1	1	0
Dr J H Blight, Chesterfield	1	0	0
Dr F McKenzie, East Kirby	0	10	0
Mr W W Robinson, Chesterfield	0	10	0
Dr R A Barber Dronfield	0	10	6
Dr G Booth, Chesterfield	1	1	0
Mr T Geraty Nottingham ..	1	1	0
Mr A. Chawner, Clay cross	1	1	0
Mr Stamford and Mr Marriott Tibshelf	1	1	0
Mr J H Cox Nottingham	1	1	0
Dr W Duncan Clay cross	0	10	6
Dr J O Brookhouse Nottingham	1	1	0
Dr T Tate Mansfield	5	5	0
Dr R Irvine, Huchnall Huthwaite	1	1	0
Dr M W Oldham, Mansfield	1	1	0
Dr F R Mutch, Nottingham	1	1	0
Dr P P Gandhi Plaistow	0	5	0
Dr G Bruce Edwinstowe	1	1	0
'Anonymous, Buxton	0	1	9
Mr W B Croskery, Eckington	0	10	6
Dr W T Rowe Nottingham	0	10	0
Dr Albert Green, Chesterfield	1	1	0
County of Durham Medical Union ...	2	2	0
	£55	12	3

FICTITIOUS FAME

A remarkable paragraph anent bone-setters their 'triumphs and the case of a well known London actor has recently attracted our attention It is an instance of the manner in which our friends of the lay press only too often do a harm which they are far from intending and spread a reputation which they would be sorry to have to defend There seems to be some subtle fascination about the very word bone-setter and if in addition, a success on the part of an unqualified practitioner can be placed against a failure on that of the real medical man, then the triumph of a journalistic paragraph is ensured In the present instance we are gravely assured that 'specialists averred that the patient had not only a sprain but an American disease of the foot induced by wearing American boots and ordered complete rest for some weeks Upon this prospect of gloom and inactivity enters the leading bone-setter. Magic manipulations and an immediate cure, of course, result We should be interested to hear more about the American disease of the foot" Probably, too, a knowledge of the names of the 'specialists and of the "leading bone-setter" would enable a shrewd guess to be made into the truth underlying the paragraphist's sensational little story

FOREIGN BODIES IN THE LEGS

We cull the following flower from our contemporary the *Westminster Gazette* of Sept 22nd Our contemporary's diagnosis is we should say, one of the many examples of a true word spoken in jest:—

> Railway travelling, as everyone knows is always attended by more or less risk to life and limb The injury received on this account, however and mentioned in the current number of the *Army and Navy Gazette* is surely unique:
>
> An AGED GENTLEMAN (widower, no children) WILL BE REQUIRING soon an experienced Pensioned ARMY or NAVY HOSPITAL VALET His health is perfectly good but he has been severely injured by the upsetting of an express train in his legs He wishes help when he gets out of his bath, and dresses and also in undressing at night. Any applicant must be a member of the Church of England, and state whether married or single.—Apply &c
>
> Considering that an express train has been "upset in them it is remarkable that the advertiser has any legs left at all Clearly a case of locomotor ataxy

CYCLING DURING PREGNANCY

To the Editors of The Lancet

Sirs,—I shall be glad if any of yours readers will give me their experience as regards cycling for women who are pregnant. I have been in the habit of advising cycling so long as no undue discomfort is caused, when of course it is discontinued I have a patient now between three and four months pregnant and she is anxious not to give up cycling as it causes her no inconvenience to ride, say, from 10 to 15 miles Many of her friends say she ought not to cycle

I am, Sirs, yours faithfully,

Sept 23rd, 1902 Regimen

DETAILED MEDICAL ACCOUNTS

To the Editors of The Lancet

Sirs,—I am afraid I cannot agree with your correspondent in The Lancet of Sept. 20th, p 844, when he says that it is the duty of every medical practitioner to render a detailed account when requested; it is all a matter of opinion Already our profession in many parts of this country is rapidly being degraded into a mere trade The difficulty comes in of course when a detailed account is demanded that unless one is prepared to render it redress in the county-court is out of the question, supposing the account to be disputed. However, in my humble opinion patients who are worth having are not the sort who demand details, and it is better to let the others go keep one's self respect, and try to uphold a high standard for the profession There can be no objection to an offer to inspect the ledger at the surgery, as mentioned in "Whitaker," but honourable people know pretty well how much medical attendance they have had and are willing to pay for it.

I am, Sirs, yours faithfully,

Edward Jones, M R C S Eng

St. Columb, Cornwall, Sept 22nd, 1902.

THE REINTERMENT OF THE BODIES OF THOSE HANGED AT NEWGATE

To the Editors of The Lancet

Sirs —A statement has appeared that it is proposed to reinter in Bow cemetery the remains of those executed at Newgate Is it possible, in the interest of science, before the reinterment, for the skulls to be properly examined?

I am, Sirs, yours faithfully,

Leyton E, Sept 24th, 1902. Robert D Sparks

TO MEDICAL FREEMASONS

The executors of the late Lieutenant Colonel S J Flood, R A.M.C. (Mr Richard F Flood of Bundoran and Mr Arthur Tuffield of 5 Brunswick place, Cambridge) earnestly appeal to all medical Freemasons and especially to those connected with the Royal Army Medical Corps, to give their votes to Samuel Basil Flood, youngest son of the above-mentioned Lieutenant-Colonel Flood a nomination having been granted in his favour for election to the Royal Masonic Institution for Boys voting for which takes place on Oct. 10th The late Lieutenant-Colonel Flood had seen much active service including service on the West Coast of Africa He was a most ardent Freemason having been connected with many lodges in this country and in India. He died at the early age of 42 years leaving four young children very inadequately provided for Votes will be gratefully received by Mr Arthur Tuffield at the address given above

◆

E. R S L. would be glad to know the experience of any fellow practitioner who has any knowledge of 'Turvey Treatment of the Tacquaru Company Amberley House, Norfolk street, Strand

Inquirer.—Our correspondent should consult his usual medical attendant who will be both willing and able to give the required information

Mr C Parr.—The laws referring to the practice of dentistry will be found in the Dentists Act, 1878.

During the week marked copies of the following newspapers have been received.—*Windsor and Eton Express Guy's Hospital Gazette, Surrey Advertiser Ayr Observer Grantham Journal, Western Morning News, Hertfordshire Mercury Herts Advertiser Malvern Advertiser Beverley Recorder Nottinghamshire Free Press Newbury Weekly News, Rochester and Chatham Journal and Mid Kent Advertiser Wakefield Express Isle of Man Examiner Fraserburgh Advertiser St. Pancras Gazette, Freeman's Journal, &c.*

METEOROLOGICAL READINGS

(Taken daily at 8.30 a m. by Steward's Instruments)

THE LANCET Office, Sept. 25th, 1902.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Sept. 19	30·36	WNW	...	80	63	5	48	49	Foggy
" 20	30·35	ESE	..	106	66	7	50	52	Foggy
" 21	30·21	S E.	..	95	67	47	52	56	Hazy
" 22	30·07	S	...	107	76	53	58	60	Hazy
" 23	29·88	S.E.	..	106	71	59	57	60	Cloudy
" 24	30·04	W	0·01	103	69	43	53	56	Fine
" 25	30·32	N	...	106	66	50	49	52	Hazy

Medical Diary for the ensuing Week.

OPERATIONS

METROPOLITAN HOSPITALS

MONDAY (29th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) St. George's (2 P.M.) St. Mary's (2.30 P.M.) Middlesex (1.30 P.M.) Westminster (2 P.M.) Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians 2 P.M.) Soho-square (2 P.M.) Royal Orthopædic (2 P.M.) City Orthopædic (4 P.M.) Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Royal Free (2 P.M.), Guy's (1.30 P.M.)

TUESDAY (30th).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.) West London (2.30 P.M.) University College (2 P.M.) St. George's (1 P.M.) St. Mary's (1 P.M.) St. Mark's (2.30 P.M.) Cancer (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.) Throat, Golden-square (9.30 A.M.) Soho-square (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.) University College (2 P.M.) Royal Free (2 P.M.) Middlesex (1.30 P.M.) Charing-cross (3 P.M.) St Thomas's (2 P.M.) London (2 P.M.) King's College (2 P.M.) St. George's (Ophthalmic, 1 P.M.) St. Mary's (2 P.M.) National Orthopædic (10 A.M.) St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.) Gt. Ormond-street (9.30 A.M.) Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.) St. George's (1 P.M.), London (2 P.M.) King's College (2 P.M.), Middlesex (1.30 P.M.), St Mary's (2.30 P.M.) Soho-square (2 P.M.) North-West London (2 P.M.) Chelsea (2 P.M.) Gt. Northern Central (Gynæcological, 2.30 P.M.) Metropolitan (2.30 P.M.) London Throat (9.30 A.M.) St. Mark's (2 P.M.) Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), Guy's (1.30 P.M.)

FRIDAY (3rd).—London (2 P.M.) St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.) Guy's (1.30 P.M.) Middlesex (1.30 P.M.), Charing cross (3 P.M.) St. George's (1 P.M.) King's College (2 P.M.), St. Mary's (2 P.M.) Ophthalmic (10 A.M.) Cancer (2 P.M.) Chelsea (2 P.M.) Gt Northern Central (2.30 P.M.) West London (2.30 P.M.) London Throat (9.30 A.M.) Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.) City Orthopædic (2.30 P.M.) Soho-square (2 P.M.)

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.) Charing-cross (2 P.M.) St. George's (1 P.M.), St Mary's (10 P.M.) Throat, Golden-square (9.30 A.M.) Guy's (1.30 P.M.)

At the Royal Eye Hospital (2 P.M.) the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

SOCIETIES.

WEDNESDAY (1st).—OBSTETRICAL SOCIETY OF LONDON (20 Hanover-square, W.)—The Ordinary Meeting of this Society has been postponed until Wednesday Oct. 8th at 8 P.M.

FRIDAY (3rd).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary Greenwich road, S.E.).—8.45 P.M. Clinical Evening

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr G Little: Clinique. (Skin.)

TUESDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street W.C.).—4 P.M. Dr H. Campbell: Clinique. (Medical.)

WEDNESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr J Berry: Clinique. (Surgical.)

THURSDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street W.C.).—4 P.M. Mr Hutchinson: Clinique (Surgical.)

FRIDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street W.C.).—4 P.M. Mr R. Clarke: Clinique (Eye.)

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